

Lwarp

L^AT_EX HTML⁵

The lwarp package

L^AT_EX to HTML

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GitHub: <https://github.com/bdte/lwarp>

Abstract

The `lwarp` package converts L^AT_EX to HTML by using L^AT_EX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 L^AT_EX packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF L^AT_EX, LuaL^AT_EX, XeL^AT_EX; by several CJK engines, classes, and packages; or by customized systems such as `pertex` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports `latexmk`. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with M^IK^TE^X) and PERL. Detailed installation instructions are included for each of the major operating systems and T_EX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include L^AT_EX expressions in the alt tags. MATHJAX may be used with advanced equation numbering under the direct control of `lwarp`.

Complicated tables are supported, which copy/paste well into LIBREOFFICE WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T_EX is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in L^AT_EX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T_EX. HTML5 and CSS3 are leveraged to provide advanced features such as `booktabs trim`, `multicolumns`, side-by-side minipages, and JAVASCRIPT-free navigation.

For a quick-start tutorial, see [section 5, Tutorial](#).

For a list of supported features, see [table 2: Supported packages and features](#).

To update existing projects, see [section 1: Updates](#).

Need help? See the [General Index](#) or the [Troubleshooting Index](#).

Lwarp is still in development. Changes are likely.

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Support T_EX development

T_EX and related projects:

- are mostly open-sourced and a volunteer effort;
- benefit students, academics, scientists, engineers, and businesses;
- help drive education, public and private research, and commercial activity;
- are used in the fields of mathematics, science, engineering, and humanities;
- are international in reach;
- span decades of development;
- are enduring — many older packages are still actively used and maintained;
- are largely backwards compatible;
- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
- require no yearly subscription fees;
- and are supported by an active community of knowledgeable volunteers.

Please consider helping by joining and/or contributing to the T_EX Users Group, a United States 501(c)(3) tax-exempt charitable organization. Contributions are accepted by credit card, check, or Pay Pal, via the United Way, or by USA or European bank transfer. Membership in TUG supports the development of T_EXLive, the major T_EX distribution.

Donations may be directed towards individual projects:

TUG Bursary Fund: Assistance for attending annual TUG meetings.

CTAN: The Comprehensive T_EX Archive Network — Central storage for T_EX.

TeX Development Fund: Support for specific projects.

EduTeX: Teaching and using T_EX in schools and universities.

GUST e-foundry fonts: Enhanced for math and additional language groups.

LaTeX Project: Modernizing the L^AT_EX core.

Libre Font Fund: Fonts, tools (FontForge), and distribution (the Open Font Library).

LuaTeX: Combining the PDF T_EX engine and the Lua language.

MetaPost: Postscript graphics.

MacTeX: T_EX for Mac.

PDF Accessibility: Modern PDF standards.

Other: Additional projects may be specified.

To make a contribution: <https://www.tug.org/donate.html>

For country-specific T_EX users groups: <http://tug.org/usergroups.html>

For users of MiK_TE_X: <https://miktex.org/donations.html>

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1 Updates

The following is a summary of updates to `lwarp`, highlighting new features and any special changes which must be made due to improvements or modifications in `lwarp` itself.

For a detailed list of the most recent changes, see the end of the Change History on page [1376](#).

v0.919: Package updates.

- Updated `extramarks`, `fancyhdr`, `fvextra`, `minted`, `nameauth`, `nicematrix`, `pdfpages`, `pythontex`, `siunitx`.

v0.918: Package updates.

- Added an automatic vertical scroll bar to the `sidetoc`.
- Updated `mathtools`, `mismath`, `siunitx`.

v0.917: Improved `alt` tags.

 **New labels**

- Due to changes in cross referencing, **execute `lwarpmk clean` before recompiling.**

 **New images**

- Due to changes in how automatically-generated `svg` image file names are computed, after `lwarpmk html` use `lwarpmk cleanimages` a single time, and then `lwarpmk images` to generate the new images.
- Improved `alt` tag `HTML` sanitization.
- Updated `backref`, `extramarks`, `fancyhdr`, `fancyvrb`, `fvextra`, `lipsum`, `listings`, `minted`, `musicography`, `orcidlink`, `pdfpages`, `siunitx`, `witharrows`, `xr`.

v0.916: Now allows duplicate section names for file breaks.

- Adjusts file names to allow duplicate section names. See section [8.4.4](#).
- Fixed `LATEX3` key/value option handling.
- Fixed `\<space>` at end of a line.

v0.915: `HTML` list classes, meta tags.

- `LATEX` lists now given the class `itemize`, `enumerate`, `description`, `hanging`.
- `LATEX` list labels now given the class `listmarker`.
- Added `\HTMLKeywords` for the `keywords` meta tag.
- Added `\HTMLMeta` and `\HTMLAddMeta` for custom meta tags.
- Added `data-nosnippet` to `MATHJAX` customization `<div>s`.
- Updated `pdfpages` to `v0.5y`.

v0.914: Detects changing packages.

- Now verifies many definitions before patching, warning of possible problems if the original has changed.
- Fix: `fontawesome5` for `XYLATEX`, `LuaLATEX`.

v0.913: HTML sanitization for verbatims.

- Now at GitHub: <https://github.com/bdte/lwarp>
- Added bibliography usage info to docs and tutorial.
- `\verb` now uses a CSS class of `verb` instead of `texttt`.
- Improved HTML sanitization for hyperlinks, `fancybox`, `fancyvrb`, `fvextra`, `minted`.
- Updated `fancyvrb`, `fvextra`, `simplebnf`.
- `siunitx`: Updated, and improved complex `i,j`.
- Added `doipubmed`.

v0.912: Updated for new L^AT_EX label system.

 New labels

- Due to changes in cross referencing, **execute `lwarpmk clean` before recompiling.**
- Fixed for updated kernel label system, name and back references.
- Updated `memoir`, `tcolorbox`.
- `nameref`: Now allowed to load before `lwarp`, such as by `memoir`.

v0.911: Updated `mismath`, `tcolorbox`.

v0.910: Updated `fvextra`, `minted`.

v0.909: `\ref` fix.

- Fixed `\ref*`, `beamerarticle`, `lyluatex`, `realscripts`.
- Updated `mismath`, `nicematrix`, `pablance`, `pdfpages`, `simplebnf`, `tagpdf`.

v0.908: Bug fix.

- Fixed obscure cross-reference issue, seen in some citations.

v0.907: Bug fix.

- Fixed SVG images for WINDOWS.

v0.906: Screen readers

- For each `tabular`, add a hidden HTML header cell to convince screen readers that the tables are data not layout. Also hide from the screen reader any final row used only to produce bottom borders.
- Adjusted SVG math for a margin change in `pdfcrop`.
- Added `\Ref`.
- Added docs regarding math in custom environments. See section 8.7.

v0.905: Bug fixes, internal improvements.

- Fixed conflict between `cleveref` and `splitidx`.
- Improved coexistence with `\AtEndDocument`.
- `acronym`: Updated to v1.47, added hyper links.

v0.904a: Fixed missing `lwarp-common-mathjax-siunitx` package.

v0.904: Added siunitx v3.

- Fixed HTML tags inside non-Latin text.
- MATHJAX now defaults to SVG rendering.
- Added siunitx v3. Updated siunitx-v2. See section 8.7.15 for limitations.
- Updated caption, chemmacros, fbox, hyperref, multicol, wrapfig2.

v0.903: Various updates and improvements.

lwarpmk

- Error if *pdftotext* not available. Ensures that POPPLER programs are installed.

core

- *ps2pdf*: Allow transparency due to recent changes in *ps2pdf*.

⚠ New images

- Due to changes in how automatically-generated SVG image file names are computed, after `lwarpmk html` use `lwarpmk cleanimages` a single time, and then `lwarpmk images` to generate the new images.

- Improved back refs.

- Fixed `verbatim*`.

- Various internal updates for recent L^AT_EX release.

packages

- `cuted`: Updated to v2.0.

- `flushend`: Updated to v4.0.

- `mathalpha`: Updated for v1.14+.

- `minted`: Updated to v2.6.

- `cases`: Updated to v3.2.

- `siunitx` with MATHJAX: Improved `\per`, `\numlist`, `\SIlist`, comma decimal points.

- Added `showlabels`, `wrapfig2`.

v0.902: beamerarticle, footnotes, paragraph tags.

core

- Fixed footnotes inside descriptions, `minipages`, `amsthm`, `\nameref`.

- Improved various paragraph tags.

packages

- Improved `parnotes`, `symptex`.

- Added `beamerarticle`.

- Updated `luatexko`, `xetexko`, `tagpdf`.

MATHJAX

- Added missing standard international text symbols for MATHJAX.

v0.901: Tabular columns, float caption CSS, MATHJAX packages.

core

- Added `warpsvg` to isolate SVG math, as opposed to `warpMathJax`.

- Improved float caption CSS for newer browsers.

- Improved emulation of `\newcolumnntype`.

- Added `\HTMLnewcolumnntype`. See section 7.6,

- `>\centering\arraybackslash`, etc. now sets HTML CSS `text-align`. Also detects `\itshape`, `\bfseries`, and `\bfseries\itshape`. See section 8.10.1.

MATHJAX

- Now uses MATHJAX 3.2 packages for `centernot`, `colortbl`, `gensymb`, `mathtools`, `textcomp`, `upgreek`.

packages

- `dcolumn`: Now works inside a `lateximage`.

- Added `mwe`.

- Added `ltjp-tascmac`, which fixed `ascmac`.

v0.900: Package updates.

core
packages

- Fix for detecting `\usepackage{lwarp}`.
- `amsmath`: Fixed `alignat` with `MATHJAX`.
- `changes`: Updated to v4.2.1.
- `froufrou`: Updated to v1.4.0.
- `lipsum`: Updated to v2.3.

v0.899: Minor updates.

core
packages

- `lwarpmk`: Warns if `\usepackage{lwarp}` is not detected.
- `graphics`: Added support for `keepaspectratio`.
- `keyfloat`: Fix: `lw` with `h`.
- `multicol`: Improved `css`.

v0.898: Minor updates.

- Fewer `underfull \hbox` warnings.
- `wrapfig`: Improved integration with `keyfloat`.

v0.897: `siunitx` rollback.

docs

- Added a table of file extensions to use with `\includegraphics`. See table 9.

core
packages

- Added tests for additional incompatible packages.
- `siunitx`: Supports rollback to v2. Does not yet support v3.
- `fixme`: Improved to work if the user modifies layouts.
- `float`: Improved integration with `newfloat`, `keyfloat`.
- Added `centerlastline`, `decorule`, `fancypar`, `froufrou`, `pbalance`.
- Verified works as-is with `fnpct`.

v0.896: Back references, accessibility.

△ New labels

- Due to changes in cross referencing, **execute `lwarpmk clean` before recompiling.**
- Increased sectioning nesting stack depth. Error if overflow stack.
- Fixed footnotes at the end of the document, or inside a description label.
- Added an error if using braces inside `\usepackage` options.

MATHJAX
theorems

- Fixed footnotes in bracket display math with `MATHJAX`.
- `LATEX` `theorems`, `amsthm`, `ntheorem`, `theorem`: Print theorem footnotes following theorems.

accessibility

- Added HTML `<main>` element to each page.
- Added `ARIA` `math` role to `SVG` math images, and `note` role to margin notes, footnotes, etc.

packages

- Improved citation backreferences for various packages.
- `chemfig`: Updated to v1.6a.
- `bigdelim`: Updated to v2.8.
- `xetexko`: Updated to v3.1.
- `hyperxmp`: Fix: Accept and discard additional keys.

- hyperref: Fix: Added `*autorefname` macros.
 - biblatex: Fix: Back references.
 - tocloft: Fix: `\cftpagenumbersoff`, `\cftpagenumberson`.
 - threeparttablex: Fix: `\TPTL@tnotex`.
 - amsthm: Fix: Footnotes inside environment optional argument.
 - listings: Fixed labels. Accepts but ignores escapes w/o error.
 - pdfscape: Fix: Added landscape environment.
 - Added `ccicons`, `classicthesis`, `orcidlink`.
 - Added `enotez`.
 - Verified support for `doi`, `doipubmed`.
- v0.895:** Vector packages, greatly improved MATHJAX for siunitx.
- core
- Fixed quotes in HTML tags while using old font packages with X_YL^AT_EX and Lua^AT_EX.
- MATHJAX packages
- Added `\ifblank` and `\ifstrequal` to MATHJAX emulation.
 - multirow: Allow `\par` per v2.7.
 - acro: Updated to v3.5.
 - fancyhdr: Updated to v4.0.
 - changes: Updated to v4.0.1.
 - epsfig, rotating: Now work inside `lateximage`.
 - amscdx: Verified to work with `svg math`. Warning added about use with MATHJAX.
 - Added MATHJAX emulation for `isomath`, `mattens`, `maybemath`, `skmath`, `tensor`.
 - Improved MATHJAX emulation for `siunitx \ang`, `\num`, `\SI`.
 - Added `epsf`, `imprnattypto`, `isotope`, `lpic`, `luavlna`, `mdwmath`, `pinlabel`, `rlepsz`, `tikz-imagelabels`, `xevlna`.
 - Verified to work as-is: `tensind`.
- v0.894:** MATHJAX additions and improvements.
- MATHJAX packages
- Improved warning message for enabling `svg graphics` for select math expressions while using MATHJAX.
 - Accept and ignore a star for `\hspace`.
 - Ignores `\arabic`, `\number`, `\noalign`.
 - Added MATHJAX emulation for `backnaur`, `colortbl`, `nicematrix`.
 - `booktabs`: MATHJAX emulation now absorbs and discards `trim`.
 - `menukeys`: Updated to v1.6.1.
- v0.893:** Minor fixes, more packages.
- MATHJAX packages
- Added MATHJAX emulation for `\mathnormal`.
 - Fixed `pstricks pspicture*`.
 - Fixed `tikz font macros`.
 - `braket`: Now uses the MATHJAX extension.
 - Added `esvect`, `fixmath`, `keystroke`, `mathastext`, `menukeys`, `picinpar`, `plimsoll`, `repltext`, `selectp`, `seqsplit`, `simplebnf`, `statistics`, `swfigure`.
 - Added MATHJAX emulation for `mathspec`.
 - Verified to work as-is for `apxproof`, `syntaxdi`, `venndiagram`.

v0.892: minted, fvextra, MATHJAX $\left/\right.$.

- MATHJAX
 - fourier, libertinustlmath, newpxmath, newtxmath, newtxsf, unicode-math: Added MATHJAX $\left/\right.$ support for additional delimiters.
- packages
 - textpos: Updated to v1.10.
 - xcolor: Fixed optional args for \fcolorbox and related.
 - Added fvextra, minted.

v0.891: MATHJAX additions and improvements.

- core
 - Now displays inline \verb text as \texttt .
 - Fixed alltt and verbatims with L^AT_EX lists.
 - Now generates an error if nested each of warpHTML, warpprint, warpMathJax inside itself.
- MATHJAX
 - Added MATHJAX *textmacros* extension, allowing formatting inside \text .
- packages
 - biblatex, hyperref: Added back page references.
 - fancyvrb: Fixed BVerbatim with a label.
 - listings: Fixed MATHJAX with captions, improved HTML sanitation.
 - babel-french: Fixed \textorpdfstring conflict.
 - Now honors Greek package options for mathdesign, mathpazo, mathptmx, newpxmath, newtxmath.
 - Improved MATHJAX for colonequals, mathdesign, mathdots, mathfixs, mathtools, multiobjective, nicefrac, shuffle, units.
 - unicode-math: Added Greek macros, as well as macros for the first several categories listed in **texdoc unimath-symbols**. Improved symbol shape macros with Greek. Improved documentation.
 - Added bussproofs, cmbright, fourier, kpfonts, kpfonts-otf, libertinustlmath, scalerel, txgreek.

v0.89: Additional MATHJAX support.

- core
 - Adapted to upcoming L^AT_EX kernel changes.
 - Allows load of amsmath before lwarp.
- lwarpmk
 - Also removes *.bbl when cleaning aux files.
- MATHJAX
 - MATHJAX: Neutralized \protect , \mathcode and related, ligatures. Fixed nested environments.
- packages
 - caption: Updated for v3.5, fix for label sep.
 - thmtools: Updated for v0.72. Fixed swapnumber, margin.
 - Improved MATHJAX for centernot, mathtools, mismath, Slunits, siunitx, statmath.
 - Added MATHJAX emulation for accents, hepunits, htensor, mathalpha, mathdesign, mathpazo, mathptmx, mleftright, newpxmath, newtxmath, newtxsf, pxfonts, shuffle, txfonts, upgreek, ushort.
 - Verified to work as-is: authoraftertitle.

v0.88: Indexing, boxing, theorems.

- Now has programmed support for more than 500 packages and classes, of which more than 60 also support MATHJAX.
- core
 - Fixed: `\ref*`, and also added MATHJAX emulation.
 - If starting a new paragraph, `\hrulefill` creates a `<div>` with a thin horizontal line across the page. Use instead of `\hrule`.
 - Fixed: Use `\chaptername` where appropriate.
 - Fixed: Inline links causing extraneous paragraphs.
- lwarpmk
 - Added `lwarpmk -v` to print the version number.
- indexing
 - Added the `IndexRef` option to control the display of index entries. See section 7.5.
 - Added `\IndexPageSeparator` and `\IndexRangeSeparator` for custom index styles.
 - Added support for `gindex`, `xindex`.
 - Verified to work as-is with `varindex`.
- packages
 - `cleveref`, `varioref`: Fix for starred macros.
 - `varioref`: Removed page-related text from HTML output.
 - `xfakebold`: Updated to v0.08, using `pdfrender`.
 - `caption`, `scrextend`: Fixed `\caption*`.
 - Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.

v0.87: MATHJAX, bibliography packages.

- core
 - Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
 - Fixed `\bibliography` to use the HTML version's `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- MATHJAX
 - Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.7.
- Removed `\DeclareIfstar`
 - packages
 - `physics`: Now supports the MATHJAX v3 extension.
 - `mathtools`: Improved `\underbracket`, `\overbracket` for MATHJAX.
 - `nccmath`: Improved `\underrel` for MATHJAX.
 - `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
 - `cancel`: Now supports the MATHJAX v3 extension.
 - `embrac`: Neutralized kerning for improved HTML conversion.
 - Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
 - Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

v0.86: MATHJAX major updates.

- core
 - Fixed: Filename if named files with `*`, parens, period in section name.
 - Fixed: Labels in `eqnarray`, `lateximage`.
- MATHJAX
 - Updated to MATHJAX v3. New repository.
 - Fixed forward references for MATHJAX.
 - Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.7.

packages

- Added `\DeclareIfstar` to define starred T_EX macros in MATHJAX. See section 8.7.7.
- Generates an error if `\MathJaxFilename` file does not exist.
- `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
- `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
- `xcolor`: Fixed `\textcolor` with `babel-french`.

v0.85: fontspec

packages

⚠ acro formats

- `fontspec`: Fixed core font change macros for world languages.
- `acro`: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

v0.84: Previous/next page links, numerous fixes.

docs

⚠ home page footer changed

- Added documentation of `BlockClass` and `\InlineClass` for `css <div>s` and `s`. See section 7.8.
- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.
- Improved coexistence with `comment`, support for nested environments.

core

⚠

- No longer requires but still supports the `caption` package.
- Improved filenames and HTML titles when using special characters.
- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in tabbing.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into L^AT_EX kernel.
- Fixed `\itshape`, etc. Adapted to L^AT_EX fontaxes integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about X_YT_EX logo and `graphics` if actually used `\Xe`.
- `lwarpmk clean` also removes `comment_*.cut`.
- `scrextend`, `scartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- `titling`: Fixed `\printthanks`.
- `memoir`, `abstract`: Fixed for updated memoir.
- `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.
- Fixed or improved: `amsthm`, `backref`, `biblatex`, `fixme`, `nfssect-cfr`, `ntheorem`, `parcolumns`, `realscripts`, `rotfloat`, `titling`.
- Added `boxedminipage`, renamed from `boxedminipage2e` per author.
- Verified to work as-is with `mcite`.

lwarpmk packages

v0.83: memoir fixes.

- packages
- memoir: Various fixes and updates.
 - physunits: Updated to v1.0.4.

v0.82: MATHJAX notes, xpinyin improvements, various updates.

- MATHJAX
- Improved footnotes with MATHJAX.
 - Added MATHJAX emulation for endnotes, marginnote, nccfoots, pagenote, parnotes, sidenotes.
- packages
- xpinyin: Added pinyin with modern HTML.
 - luatexko: Added `\dotemph`, `\ruby`, `\uline`, etc.
 - soul: Fixed `\<`.
 - chemfig: Updated to v1.5.
 - draftwatermark: Updated to v2.0.
 - ulem: Fixed: `\dashuline`.
 - amsmath: Fixed: `\intertext` with MATHJAX.
 - endnotes: Fixed: Marks in print mode.
 - tocvsec2, tableof: Verified to work as-is.
 - Added etoc (nullified).

v0.81: MATHJAX speedup and additional emulations.

- core
- Improved warning regarding SVG math sizing/baselines and `graphics/graphicsx`. See section 8.7.
- MATHJAX
- Improved MATHJAX emulation processing speed.
 - Added MATHJAX emulation for `accsupp`, `axessibility`, `colonequals`, `decimal`, `dotlessi`, `econometrics`, `engtlc`, `multiobjective`, `physunits`, `Slunits`, `stackrel`, `statmath`.
- packages
- `axessibility`: Updated to 2020/01/08 version.
 - `gridset`: Updated to v0.3.
 - `Slunits`: Fixed for math mode.
 - Added `DotArrow`, `nolbreaks`, `luamplib`, `returntograd`, `statex2`, `tagpdf`.
 - Verified to work as-is with `icomma`, `mathpunctspace`, `textualicomma`.

v0.80: MATHJAX, biblatex.

- MATHJAX
- Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.7, [Customizing MATHJAX](#).
 - Added MATHJAX emulation for `accessibility`, `autobreak`, `centernot`, `extrarrows`, `fouridx`, `gensymb`, `leftidx`, `mathcomp`, `mathdots`, `mathfixs`, `mismatch`, `nccmath`, `noitcrul`, `pdfcomment`, `relsize`, `rmathbr`, `subsupscripts`, `xfrac`.
 - Improved MATHJAX emulation for `unicode-math`.
- packages
- `biblatex`, `url`: Now create hyperlinks.
 - `amsmath`: Fix to center starred environments.
 - `xcolor`, `graphics`: Made more macros robust.
 - `colortbl`: Fix: Rule color in a `lateximage`.
 - `chemmacros`: Updated to v5.10.
 - Added `fewerfloatpages`, `ghsystem`, `hline`, `mismatch`, `nccmath`.

v0.79: MATHJAX, nested tabular.

- MATHJAX**
 - Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
 - Warn if using certain packages not supported by MATHJAX.
- core**
 - tabular: Now may be nested.
 - minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
 - Uses new iftex.
- packages**
 - graphicx: Fix: Negative angles.
 - caption: Fix: \captionlistentry with longtable.
 - multirow: Fix: Centered vertical alignment.
 - siunitx: Fix: \square, \cubed.
 - booktabs: Fix: memoir with lateximage.
 - babel and polyglossia: Added troubleshooting warnings.
 - fontawesome, fontawesome5: Supports text color and size.
 - transparent: Fix: lateximages.
 - epigraph: Updated to v1.5e.
 - xurl: Updated to v0.08.
 - subcaption: Fixed with memoir.
 - floatrow: Fix: \linewidth. No longer require float, graphics.
 - floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
 - Added widetable, witharrows, steinmetz.
 - Added awesomebox, catoptions.
 - Added svg, supports svg-extract.
 - Added parcolumns, pdfcolparcolumns,
 - Added parallel, pdfcolparallel.
 - Added pdfcol, pdfcolfoot, pdfcolmk.

v0.78: Fixes for support files, alt tags, hyperlinks, and the 2019/10 L^AT_EX release.

- docs**
 - Docs: Improved documentation regarding package options. See section 8.1.
 - Fix to overwrite existing support files using new filecontents environment.
- packages**
 - breqn: Previously broken by the 2019/10 L^AT_EX update, but now working again.
 - graphics: Fix for \includegraphics alt tags.
 - babel-french: Fix for hyperlinks.
 - media9, movie15, multimedia: Fix for the 2019/10 L^AT_EX update.
 - accessibility: Added.

v0.77: Updates to fix recently-broken packages.

- booktabs: Updated to v1.6180339.
- chemformula: Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

docs
MATHJAX
packages

- Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.18.
- MATHJAX: Updated to v2.7.6.
- xr: Updated to v5.05.
- xr-hyper: Updated to v6.1.
- Verified works as-is with xcite.
- acro: Updated to v2.10.

⚠ broken

- Currently broken in print mode by the 2019/10 L^AT_EX update, and waiting for fixes: breqrn, grffile, multimedia, movie15.

v0.75: keyfloat, wrapfig

packages

- \minipage: Fix for \linewidth.
- keyfloat: Improved color control.
- wrapfig: Fix for \linewidth.

v0.74: Docs, SVG math, *lwarpmk*, HTML alt and title text, lyuatex

docs

- Added to the tutorial the section **What next?**. See section 5.20.
- Added documentation about localization options. See section 7.1.
- Added documentation about accessibility options. See section 7.2.
- Renamed and updated HTML alt text macros:

⚠ HTML alt text
changed names

Old	New
(hard coded as “image”)	\ImageAltText
\mathimagenam	\MathImageAltText
\packagediagramname	\PackageDiagramAltText

- Added \ImageAltText for the default HTML alt text for an image. See section 7.6.
- Added \ThisAltText, which may be used to assign a one-time HTML alt tag to the very next image generated by *lwarp*, such as a `lateximage`, `picture`, `tikzpicture`, an image generated by various chemistry or engineering packages, or an SVG math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.

SVG math

- Adjusted \LateximageFontSize default from .75 to 1.
- Fix: Font control for SVG math.

misc

- Fix: Ignores negative \hspace.
- Warning if SideTOCDepth < FileDepth.

lwarpmk

- *lwarpmk*: **lwarpmk clean** removes additional files.
- *lwarpmk*: **lwarpmk epstopdf** and **lwarpmk pdftosvg** now honor directories.

packages

- lyuatex: Split images by system or per fullpage, improved margins and scaling.
- Tested to work as-is with mathspec, unicode-math.

v0.73: `\include`, `memoir`, `koma-script`, `caption`, `xy`, `datatool`, music scores.

packages

- Fix for `\include`.
- Warning for a `tabular` inside a ``.
- `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
- Improved many HTML tags, reducing *tidy* warnings. See Change History.
- `memoir`: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
- `koma-script`: Fix for starred captions in the toc.
- `caption`: Fix for starred captions.
- `datatool`: Added pie, bar, and plot charts.
- `threeparttable`: Added `measuredfigure`.
- `intopdf`: Updated to v0.2.1.
- `tocdata`: Updated to v2.03.
- `quotchap`: Updated to v1.2.
- `versionotes`: Updated to v0.4.
- `backnaur`: Now uses SVG images. Updated to v3.1.
- `xy`: Fix for `\xybox`, improved `xy`, also now compatible with `qcircuit`.
- `fancyvrb`: Fix for label HTML tags.
- Added `stackengine`.
- Added `lyluatex`. (Music scores.)
- `musicography`: Updated to 2019/05/28. Added support for `lateximages`.

music

v0.72: Font control, `\multicolumn`, `xr` and `xr-hyper`.

 images

- Due to internal changes, images for inline SVG math and `lateximages` will have new hash values, and will have to be regenerated using

```
Enter ⇒ lwarpmk cleanimages
```

and

```
Enter ⇒ lwarpmk images
```

- Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by `lwarp`.
- `\multicolumn`: Fix for paragraph columns.
- `xr`, `xr-hyper`: Fixes for references, `\externaldocument`.
- `soulutf8`: Fix: Loads `soul` for emulation.
- `boxedminipage2e`: Added support for `lateximages`.
- `zhlineskip`: Updated to v1.0e.
- Added `fontaxes`, `slantsc`, `tabfigures`.
- Added `nfssect-cfr`, thus supporting `cfr-lm` and several other font packages.
- Added `backnaur`, `hypbmsec`, `minibox`, `pdfcrypt`, `shapepar`.

packages

v0.71: Error handling, multimedia, tabular.

- tabular: Added support for ‘*’ columns. Fix for paragraph tags.
- quotation: Fix for HTML tag.
- Docs: Added a section about error conditions tested by lwarp. See section 13.1.
- *lwarpmk*: If file *lwarpmk.conf* is an older version, or the incorrect operating system, displays the print command to use to recompile.
- packages • chemfig: Updated for v1.4.
- endfloat: Updated for v2.7.
- textpos: Updated for v1.9.1.
- multimedia • Added media9, movie15, multimedia.

v0.70: Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to *lwarpmk* *limages* until recompile first.
- Fix: If Computer Modern font is used, ensures *cm-super* or *lmodern* is used.
- Fixes for *\makebox*.
- Fixes for *\parbox* inside a **.
- MATHJAX: Updated to v2.7.5. Loads the *autoload-all.js* extension. Added *\MathJaxFilename* to select custom scripts.
- packages • textcomp, xunicode: Fix for *\textinterrobang*.
- mhchem: Works with MATHJAX. See section 417.
- changes: Updated to v3.1.2.
- Added *autonum*, *changelayout*, *inputtrc*, *mathtools*, *metalogo*.

v0.69: Error handling, many fixes, improved keyfloat / tocdata.

- Fix for HTML corruption of *lateximage* displays.
- *\makebox*, *\framebox*: Fix for (*<width,height>*) arguments.
- *fminipage*: Honors *\minipagefullwidth*.
- packages • array, longtable: Fix for *\tabularnewline*.
- tabularx, tabulary: Fix to require the array package.
- supertabular, xtab: Fix to clear caption after use.
- graphics: Added a warning if used the *\includegraphics* scale option.
- multirow: Added an error if didn’t use *\mrowcell* or *\mcolrowcell* when using *\multirow* or *\multicolumnrow*.
- keyfloat: Updated for v2.00, additional improvements.
- Added *ctable*, *eqlist*, *eqparbox*, *ftcap*, *listliketab*, *minitoc*, *tocdata*, *topcapt*.

v0.68: Error handling, tabulars, footnotes.

- *lwarpmk*: Improved error handling for image generation if compile was incomplete.
- tabular: Fix for *\warpprintonly*.
- packages • longtable: Improved flexibility for *\endhead*, etc. Improved error reporting if *\endhead*, etc. incorrect for *lwarp*.

- `threeparttable`: Fix for caption type.
- `hyperref`: Fix for options with braces.
- `morefloats`: Fix to be loaded early for print output.
- `listings`: Updated for v1.7.
- Added `bigfoot`, `fnpara`, `footnotebackref`, `manyfoot`, `tablefootnote`, `threeparttablex`.
- Added `layouts`, `niceframe`, `perpage`, `showtags`.
- Prevented `alg`, `algorithmic`, `pdfcpot`, `fncylab`.

v0.67: Filename generation, symbol fonts.

docs

- Documentation fix for `<project>-images`, `<project>-images.txt`.
- Added discussion regarding section names. See section 8.4.

filenames

- Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
- Core, `textcomp`, `xunicode`: Nullified additional symbols during filename generation.

packages

- `color`: Fix for version number warnings.
- Added `academicons`, `bbding`, `dingbat`, `eurosym`, `fontawesome`, `fontawesome5`, `marvosym`, `pifont`, `typicons`.
- Added `changes`, `easyReview`, `fitbox`, `foreign`, `gloss`, `karnaugh-map`, `multicap`, `nomencl`, `notes`, `struktex`, `umoline`, `xfakebold`.
- Tested to work as-is with `askmaps`, `curves`, `euro`, `karnaughmap`, `tikz-karnaugh`.

v0.66: `xr`, multiple projects, image names/directory, HTML formatting

⚠ Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

lateximage

- Adds options `ImagesDirectory` and `ImagesName` to assign directory and name prefixes for `lateximage` images. The new defaults include the jobname, allowing the image directories for multiple projects to coexist.

⚠ existing projects

- To reuse existing `lateximage` directories, add `lwarp` options

```
\usepackage[
  ImagesDirectory={lateximages},
  ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing `lateximages` directory and `lateximages.txt` file may be removed.

filenames

- Added `\FilenameLimit` to control the maximum length of the filenames generated by `lwarp`.

⚠ Possible filename changes

- Improved filename generation when special characters or macros are used in section names.

WINDOWS

- Fix for `lwarpmk cleanlimages` with WINDOWS.

floats

- Fixes for floats in the home page.

lists, table notes

- Improved css for definition lists, table notes.

tabular

- `tabular`: Fixes for `\par` in column specifier, `minipage` inside `tabular`.

indexing

- Indexing: Fix for a long line of multiple entries.

minipage

- `\minipagefullwidth`: Fix for global changes.

- Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.
- colors
 - Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- HTML
 - Improved HTML output formatting.
- docs
 - Added discussion regarding invalid HTML. See section 8.1.1.
 - Added discussion regarding math in section names, `\imagegraphics` scale option. See section 6.
 - Added discussion regarding international languages in section names. See section 8.14.
- packages
 - `caption`: Fix for options clash.
 - `xr`, `xr-hyper`: Now compatible.
 - `subcaption`: Improved horizontal spacing.
 - `multicol`: Fix for minipage inside `multicols`.
 - `multicolrule`: Updated for v1.2.
 - `tocbasic`: Minor update.
 - `acronym`: Fix for acronym in float caption.
 - `kotexutf`: Patch with *pdflatex* and new lwarp labels.
 - `extramarks`, `fancyhdr`: Updated for v3.10.
 - `memoir`: Added docs regarding version numbers. See section 8.13.
 - `zref`: No longer required.
 - Added `ar`, `ed`, `indentfirst`, `nameauth`, `truncate`.
 - Verified to work as-is with `changelog`.
 - Prevented `colortab`, `epsf`, `hyper`, `picinpar`, `picins`, `sistyle`, `ucs`.
- v0.65: css layout, alt tags, Japanese.
- page layout
 - Moved the sideroc to the left side, allowing improved css for margin notes.
 - Improved page layout css.
- image alt tags
 - `graphicx \includegraphics`: Added the alt key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
- duplicate HTML files
 - Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
- fixes
 - Fix for `tabular*`.
 - Fix for tabular border colors.
 - Fixes `\quad`, `\enskip`, and figure captions to pass validation.
- Japanese
 - Added `ltj*` classes, `bounddvi`, `gentombow`, `ltjtext`, `plarydshln`, `plext`, `plextarydshln`, `plextcolortbl`, `pxatbegshi`, `pxeveryshi`, `pxftnright`, `pxjahyper`, `tascmac`.
 - Verified to work with `plarray`, `plautopatch`, `plextarray`, `plextdelarray`, `pxgentombow`, `plsiunitx`, `pxpdfpages`, `pxpgfrcs`, `pxpgfmark`.
- packages
 - Added support for `fontspec \textsi` and `\sishape`.
 - Added `multicol`'s `\docolaction`.
 - Added `embrace`, `footnoterange`, `multicolrule`, `versionotes`.

v0.64: Koma-Script, Japanese, Chinese.

- Japanese
 - Added `utarticle` and related classes.
 - Improved `ujarticle` and related classes.
- Chinese
 - Fix for `biblatex` with `CTEX` and other classes.
- Koma-Script packages
 - Fixes for `sclayer`, `sclayer-scrpage`.
 - `addlines`: Updated to v0.3.
 - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.

v0.63: `mdframed`, Chinese, Japanese, Korean

- localization
 - Added `\linkhomename`: A user-definable name for the **Home** link.
 - Documented `\sidetocname`: A user-definable name for the `sideroc`.
- fixes
 - Fix: `\LinkHome` for print output.
- optimizations
 - Moved package load checks to the `lwarp` core to reduce the number of `lwarp-*` files.
- packages
 - `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
 - Fixes for `xeCJK`.
 - Added `xpinyin`, `zhlineskip`.
 - Verified to work with `ckjpunct`, `upzhkinsoku`, `zhspacing`.
- Japanese
 - Verified to work with `zxjatype`, `luatexja`, `luatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltsarticle` and related classes.
 - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bxckjatype`.
- Korean
 - Verified to work with `kotex`, `xetexko`, `luatexko`.

v0.62: `MiKTeX` docs, `HTML` title, `CTEX`, `xeCJK`, `bitpattern`.

- docs
 - Docs: Setting a UTF-8 locale. See section 9.9.
- `MiKTeX`
 - `MiKTeX`: Docs for *MiKTeX Console* and `miktex-poppler-bin`.
- `HTML <title>`
 - `HTML` subpage titles: Added `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection` to select whether the `HTML <title>` displays the website name before or after the section name. See section 7.6.
- fixes
 - Fix for package options handling.
 - Fixes for horizontal white space between `fminipage`, `fcolorminipage`, `colorboxBlock`, `fcolorboxBlock`.
 - Logos: Fix for `XYTEX` logo, improved css, made robust, improved search-engine optimization.
 - `\[$1]`: Additional `HTML
` if $\$1 > 0$ pt.
 - Fixes for `\includgraphics` filename, and with `FormatWP`.
 - Fix: css for `\textup`.
 - Fix: Added `\slshape`.
- Chinese
 - Added `ctex` package and related classes, `xeCJK`.
 - Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.

- packages**
- **chemfig**: Docs for new macro `\polymerdelim`.
 - **asymptote**: Docs for compilation.
 - **chngepage**: Fix to load `lwarp-changepage`.
 - **algorithm2e**: Fix with non-book classes.
 - **register**: Updated to v1.8.
 - **nicefrac**: Improved font control and css, honors `nice` and `ugly`.
 - **units**: Improved font control and css, honors `tight` and `loose`.
 - **xfrac**: Improved css.
 - **textcomp** and **xunicode**: Fix conflicts with `\textcircled`.
 - **ulem**: Improved compatibility with `CJKulem`, `lateximage`.
 - **MATHJAX** and **siunitx**: Removed inoperable extension.
 - Added `bitpattern`, `pdfcomment`, `pdfmarginpar`, `tram`, `unitsdef`, `xexchangebar`.
 - Added `musicography`, `octave`, `semantic-markup`.
 - Added `2in1`, `flippdf`, `notespages`, `rviewport`, `twoup`.

v0.61: Custom compilation, EPS-related packages, documentation, indexes.

- docs**
- Split index into multiple indexes.
 - Improved documentation regarding font selection. See section 7.4.
 - Added documentation regarding debugging options. See section 37.
 - Added documentation regarding HTML entities inside program listings. See section 8.2.1.

- custom compiling**
- Added options to specify the shell commands to execute for `lwarpmk print` and `lwarpmk html`, allowing the use of `lwarp` with `perltex`, `pythontex`, etc. If not specified, these are set automatically depending on the L^AT_EX engine, `--shell-escape`, and `lwarp` options. See section 9.

-  **changed names**
- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

- fixes**
- Fix: Paragraph tags in a tabular.
 - Fix: `supertabular` and `xtab` captions.
 - Fix: DVI L^AT_EX `\includegraphics` EPS images.
 - Fix: `newfloat` lists.
 - Fix: css footnotes text align, `minipage` tabular and footnote margins.

- packages**
- Added `epsfig`, `psfrag`, `psfragx`, `pstool`.
 - Added `copyrightbox`, `pdfprivacy`, `thinsp`, `threadcol`, `uspace`.
 - Added `chkfloat`, `cmdtrack`, `dprogress`, `lua-visual-debug`, `refcheck`, `srcltx`, `srctex`, `vpe`, `xbmks`.

v0.60: Fixes for `longtable`, listings.

- fixes**
- `longtable`, etc.: Fixes for slowdown and memory management for very long tables.
 - `listings`: Fix for HTML entities, and also when used inside a list.
 - `diagbox`: Fix for incorrect HTML par tags.

- packages**
- Added `2up`, `booklet`.

- Added bophook, drafftfigure, fullminipage, grid-system, layaureo.
- Added leading, widows-and-orphans.
- Added fancytabs, thumb, thumbs.

v0.59: DVI *latex*, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.

⚠ Reset the configuration

lwarpmk

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.

- Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
- Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.

- Added

```
lwarpmk epstopdf <list-of-EPS-files>
```

to quickly convert a document's EPS images to PDF or SVG. See section 8.8.

DVI latex

- Added support for DVI *latex*. See section 7.5.

latexmk

- Fix for `--shell-escape` with *latexmk*.

math

- Updated MATHJAX script to v2.7.4.
- Fix: MATHJAX chapter number removed from non-numeric tagged equations.
- Added MATHJAX support for nicefrac, units.
- Fix for `\[` and `\]` with `\displaymathnormal`.

images

- Fix for `\includegraphics` filename expansion.
- `\includegraphics` now works with `.pdf` and `.eps` filename extensions.

packages

- Moved `amsmath` out of the *lwarp* core.
- Fix for `chemformula \NMR`.
- Added `asymptote`, `pdftricks`, `pstricks`, `pst-eps`.
- Added `breqn`, `Slunits`.
- Added `bxpapersize`, `canoniclayout`, `draftcopy`, `fnbreak`, `nccfancyhdr`.
- Added `accsupp`, `axessibility`.
- Added `xunicode`.
- Improved and now supports `epstopdf`.
- Tested to work as-is: `eepic`, `sepfootnotes`.

docs

- Added information about setting up a development version of *lwarp*.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.

⚠ Reset the configuration

lwarpmk

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdflatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.

glossaries

- *lwarpmk*: Added the `-p` option to specify the project name.
- *lwarpmk*: Now uses `makeglossaries` for glossary generation, allowing the processing of multiple glossaries at once.

index and glossary

- Added `lwarp` option `GlossaryCmd` to specify the shell command used by `lwarpmk printglossary` and `lwarpmk htmlglossary`. Defaults to `makeglossaries`.
- Docs: Extra indexing options. See section 8.6.15.
- Added support for `makeindex`. (Previously supported only `xindy`.) Also added indexing packages listed below.
- Added `lwarp` options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `lwarpmk printindex`, `lwarpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy` `lwarp` options. See section 7.5.
- Added `lwarp` options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added `lwarp` option `makeindexStyle` to tell `lwarpmk` to use a custom style instead of `lwarp.ist`. See section 8.6.21.

misc. fixes

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal `print/HTML` macro selection improvements.
- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.

packages

- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvinde`.

v0.57: `algorithm2e`, float styles, tabular packages, internal improvements.

MathJax

math macros

dynamic math

△ new name

lateximage alt tags

- Added support for `MATHJAX` equations with `\footnote`, `\footnotemark`.
- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.9.
- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to `svg` math images even when `MATHJAX` is enabled. See section 8.7.10.
- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.
- Improved localization for `lateximage` `HTML alt` tags. For `svg` math images, the `alt` tag under some conditions will be set to `\MathImageAltText`, which defaults to `math image`. For packages, the `alt` tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex:

(-xy- diagram)

See section 7.6.

misc. fixes

- Fix: Improved `print/HTML` macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.

- packages
 - Fixes: Colored `\rule` and `\boxframe`.
 - `float`, `rotfloat`: Adds support for float styles ruled and boxed.
 - `float`: Fix: Do not create `\l@<type>` until `\listof` is used.
 - `marginnote`: Fix: Long optional argument.
 - `ellipsis`: Adds `\midwordellipsis`.
 - `breakurl`: Fix for text catcodes.
 - Added `algorithm2e`, `register`, `ltablex`, `xltabular`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.
 - Prevents `glossary`.
 - Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

v0.56: Shell escape, tabular packages.

- lwarpmk*
 - Added
 - `lwarpmk pdftosvg <list-of-PDF-files>`
to quickly convert a document's PDF images to SVG, for use with HTML.
See section 8.8.
 - Added support for `--shell-escape`. See section 7.3.

- tabular
 - Added support for array `w` and `W` columns.
 - Fix: `\multicolumn` parameter handling.
 - Added support for double `\hlines`, `\midrules`, and vertical rules.
 - Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `svg math array`.

- misc. fixes
 - Fix: `\thinspace`.
 - Fix: `paralist` compact environments.

- packages
 - Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
 - Added `bibunits`.
 - Tested to work as-is with `babelbib`, `bodegraph`, `fast-diagram`, `nicematrix`, `structmech`.

v0.55: Various fixes.

- misc fixes
 - Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
 - Fix: Float optional argument regression.
 - Fix: `\ForceHTMLTOC` with `\phantomsection`.
 - Fix: Overfull boxes in `lateximages`.
 - Fix: QED symbols in `lateximage`.

- packages
 - `koma-script`: Fix: Figure with `\centering`, etc.
 - Added `clrdblpg`.

v0.54: Float `\centering`, improved image checks.

⚠ Reset the configuration

- lwarpmk*
 - Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.
 - `lwarpmk limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.

BibTeX
polyglossia

macros in section names

document encoding

⚠ New and revised
encoding options

floats with `\centering`, etc.

misc. fixes

⚠
packages

documentation

SVG math

- *lwarpmk*: Improved error message if configuration file does not exist.
- Added documentation for avoiding error with BibTeX and `\etalchar`. See section 8.6.9.
- Added documentation regarding polyglossia. See section 8.15.4.
- Added documentation regarding the use of macros in section names. See section 8.1.
- Renamed and added package options:

Old Package Option	New Package Option
<code>xdyFilename</code>	<code>xindyStyle</code>
<code>IndexLanguage</code>	<code>xindyLanguage</code>
–	<code>xindyCodepage</code>
–	<code>pdftotextEnc</code>

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section 7.4.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

- `tikz`: `\pgfpicture`, `fit`, `align`, `font`.
- `ragged2e`: `\centering` etc.
- `hyperref`: `\hypertarget` was creating duplicate of `\label`.
- `hyperref`: Active chars inside `\hyperref`, `\hyperlink`.
- `hyperref`: `\ref` inside `\hyperlink` caused a nested HTML link.
- `glossaries`: Fix when not using `babel` or `polyglossia`.
- `textcomp`: `\textperthousand`.
- L^AT_EX core verse environment: line spacing.
- Removed `\citetitle`, adjusted `\attribution`.
- `memoir`: Minor update for v3.7g.
- Added `inputenx`, `bibunits`, `chnpage`, `forest`, `magaz`, `gridset`.
- Prevents loading `ae`, `aecc`, `tlenc`, and `wasysym`.

v0.53: Improved image checks.

lwarpmk

- *lwarpmk*: Added a warning about corrupted images due to the need to recompile the document one more time.
- *lwarpmk*: Added the `lwarpmk cleanimages` command.
- Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.

v0.52: Improved footnotes, SVG math.

- Improved install instructions regarding `lwarp_baseline_marker.png`.
- Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section 8.5.4.
- Added documentation regarding font selection when using X_YL^AT_EX or Lua^AT_EX with `fontspec` and traditional font packages. See section 7.4.
- Fix: Limit the number of background tasks when generating `Lateximages`.

- Added user-adjustable svg math font scaling. See section 86.3.
 - Added warnings if `lwarp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
 - Improved `\ensuremath` hashing expansion.
 - Fix: `equation*` with `split`.
 - `tabbing` now works inside a `lateximage`. Use for math in `tabbing`.
 - Fix: `MATHJAX` script was not executing in some conditions.
 - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
- MathJax**
- Fix: Footnote numbering when using `HTMLDebugComments`.
- footnotes**
- Fix: Footnote paragraph tags.
 - Fix: `FootnoteDepth` defaults to `\subsubsection`.
- misc. fixes**
- Fix: `\kill` in a `lateximage`.
 - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
 - Fix: `\texorpdfstring` in a section name.
- packages**
- `hyperref` emulation: Fix for `#`, `%`, `&`, `~`, `_` characters in URLs.
 - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.
 - `nicefrac`: Added with fix for `\ensuremath`.
 - `graphicx`: Fix for option defaults. Added `v1.1a/b` options.
 - `endfloat`: Updated for `v2.6`.
 - `url`: Fixes for active characters.

2 Introduction

The `lwarp` project aims to allow a rich \LaTeX document to be converted to a reasonable `HTML5` interpretation, with only minor intervention on the user's part. No attempt has been made to force \LaTeX to provide for every `HTML`-related possibility, and `HTML` cannot exactly render every possible \LaTeX concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the `HTML` conversion.

Several “modern” features of `HTML5`, `CSS3`, and `SVG` are employed to allow a fairly feature-rich document without relying on the use of `JAVASCRIPT`. Limited testing on older browsers shows that these new features degrade gracefully.

`lwarp` is a native \LaTeX package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in \LaTeX , `lwarp` has some advantages over other methods of `HTML` conversion. \TeX itself is still used, allowing a wider range of \TeX trickery to be understood. Lua expressions are still available with `LuaTeX`. Entire categories of \LaTeX packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of `PDF` output may be automatically converted to `SVG` images while using the same font and spacing as the original print document, directly supporting `TikZ` and `picture`. Numerous packages are easily adapted for `HTML` versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent `CTAN` updates, `CTAN` topics, mention in other packages, support by other `HTML` conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.¹

Assistance is also provided for modifying the `HTML` output to suit the creation of `EPUB` documents, and for modifying the `HTML` output to ease import into a word processor.

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating `HTML` output, `SVG` files are used in place of `PDF`. Other formats such as `PNG` and `JPG` are used as-is.

¹An amazing number of decades-old packages are still in use today.

svg images may be used for math, and are also used for `picture`, `TikZ`, and similar environments. The svg format has better browser and e-book support than MathML (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, svg images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the L^AT_EX source for the expression, allowing it to be copy/pasted into other documents.³ Custom L^AT_EX macros may be used as-is in math expressions, since the math is evaluated entirely inside L^AT_EX. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to svg only a single time.

The MATHJAX JavaScript display engine may be selected for math display instead of using svg images. Subject to browser support and Internet access, MATHJAX allows an HTML page to display math without relying on a large number of external image files.⁴ `lwarp` maintains L^AT_EX control for cross-referencing and equation numbering, and attempts to force MATHJAX to tag equations accordingly.

A *texlua* program called *lwarpmk* is used to process either the print or HTML version of the document. A few external utility programs are used to finish the conversion from a L^AT_EX-generated PDF file which happens to have HTML5 tags, to a number of HTML5 plain-text files and accompanying images.

`lwarp` automatically generates the extra files necessary for the HTML conversion, such as CSS and `.xdy` files, and configuration files for the utility *lwarpmk*. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects HTML output and then inputs the user's own source. This process allows both the printed and HTML versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during HTML conversion, `lwarp` first looks to see if it has its own modified version to use instead of the standard L^AT_EX version. These `lwarp-packagename.sty` files contain code used to emulate or replace functions for HTML output.

²FIREFOX has had an on-again/off-again bug for quite some time regarding printing svgs at high resolution.

³There seems to be some debate as to whether MathML is actually an improvement over L^AT_EX for sharing math. The author has no particular opinion on the matter, except to say that in this case L^AT_EX is much easier to implement!

⁴One svg image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions


Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

<code>package</code>	L ^A T _E X package.
<i>program</i>	Program's executable name.
<code>option</code>	Program or package option.
<code>filename</code>	File name in the operating system.
<code>BRAND NAME</code>	Proper name for a program, operating system, etc.
commands	Commands to be entered by the user.
<code>code</code>	Program code.
<code>\macroname</code>	L ^A T _E X macro.
<code>environment</code>	L ^A T _E X environment.
<code>counter</code>	L ^A T _E X counter.
<code>boolean</code>	L ^A T _E X boolean.
<code><element></code>	HTML element.
<code>attribute</code>	HTML attribute.
User Interface	A user-interface item.
<code>ACRO</code>	Acronym.

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

index entries Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used.

Package names are colored according to their support level:

name: Supported as-is.

name: Modified to work with HTML output, and perhaps also as print output in SVG math or `lateximage` environments.

name: Emulated for HTML output.

name: Ignored for HTML output, but provides source-level compatibility.

MJ: Supported as-is for MATHJAX, subject to limitations.

MJ: Emulated for MATHJAX using custom macros, subject to limitations.

MJ: Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L^AT_EX lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, PDF L ^A T _E X, X _Y L ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
L ^A T _E X compiling:	<i>latexmk</i> , <i>make</i> , etc.
External compiling:	<i>perltex</i> , <i>pythontex</i> , <i>symptex</i>
Classes:	article, book, report, scrartcl, scrbook, screprpt, memoir, CJK-related as listed below.
Koma-script:	scxextend , scrhack , sclayer . Others as listed below.
Memoir:	memhfixc
Beamer:	beamerarticle , but not the beamer class.
Languages:	babel , ckjpunct , impnatty , luavl , polyglossia , xeCJK , xevl .
Chinese:	CT _E X, ctex , upzhkinsoku , xpinyin , zhlineskip , zhspacing .
Japanese:	upL ^A T _E X, LuaL ^A T _E X-ja, gentombow , lltjext , plarray , plarydshln , plautopatch , plext , plextarray , plextarydshln , plextcolortbl , plextdelarray , pxatbegshi , pxeveryshi , pxftnright , pxgentombow , pxjahyper , pxpdfpages , pxpgfrcs , pxpgfmark , tascmac , zxjatype . bxjsarticle and related, ltjsarticle and related, luatexja , luatexja-fontspec , ujarticle and related, utarticle and related.
Korean:	kotex , luatexko , xetexko .

Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi , balance, blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, centerlastline, changelayout , changepage , chngpage, clrdblpg, continue, draftcopy, drafftfigure, draftwatermark, ebook, everyshi, fancyhdr , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, grid-system , gridset, layaureo, layout, layouts, leading, lscape, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel , parcolumns , pbalance, pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfscape, pdfprivacy, preview, ragged2e , returntograd, rmpage, sclayer-scrpage , scrpage2 , setspace , selectp, textarea, threadcol, thumb, thumbs, titleps, tocenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the filenames. anonchap , bsheaders, decorule , fncychap, froufrou , hypbmsec , indentfirst , quotchap , section, sectionbreak , secdot , sectsty, titlesec, tocvsec2 .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc , minitoc, multitoc, shorttoc , tableof , titletoc, tocbasic, tocbibind , tocdata , tocloft, tocstyle, tocvsec2 .
Title page:	<code>\maketitle</code> , titlepage, authblk , authortertitle , titling .
Front & back matter:	abstract , appendix .
Indexing:	<i>makeindex</i> , <i>xindy</i> , and <i>xindex</i> are supported, with hyperlinks. gindex , hindex , idxlayout , imakeidx , index , makeidx , repeatindex , splitidx , varindex , xindex .
Glossary:	gloss , glossaries and <i>xindy</i> , nomencl .
Bibliography:	babelbib , bibtopic , backref , biblatex , bibunits , chapterbib , cite , citeref , collref , drftcite , hypernat , jurabib , mcite , mciteplus , multibib , natbib , notes2bib , splitbib , showtags .
Cross-references:	bookmark , breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , varioref , xcite , xr , xr-hyper , xurl , zref .
Margin notes:	marginal , marginfit , marginfix , sclayer-notecolumn , versonotes .

Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for \footnote, and also as marked in the following: <code>bigfoot</code> , <code>dblfnote</code> , <code>endheads</code> , <code>endnotes^{MJ}</code> , <code>enotez^{MJ}</code> , <code>fixfoot</code> , <code>fnbreak</code> , <code>fnpara</code> , <code>fnpct</code> , <code>fnpos</code> , <code>footmisc</code> , <code>footnote</code> , <code>footnotebackref</code> , <code>footnoterange</code> , <code>footnpag</code> , <code>manyfoot</code> , <code>marginnote^{MJ}</code> , <code>nccfoots^{MJ}</code> , <code>pagenote^{MJ}</code> , <code>parnotes^{MJ}</code> , <code>pdfcolfoot</code> , <code>pfnote</code> , <code>sepfootnotes</code> , <code>sidenotes^{MJ}</code> , <code>tablefootnote</code> .
Math:	Converted to SVG images with HTML <code><alt></code> tags containing the L ^A T _E X source for the math expression. MATHJAX supported as an alternative. <code>amsmath^{MJ}</code> : $\mathcal{A}\mathcal{M}\mathcal{S}$ environments are supported. User-defined macros are available during conversion, due to native L ^A T _E X processing.
Theorems:	Native L ^A T _E X theorems, <code>amsthm</code> , <code>apxproof</code> , <code>ntheorem</code> , <code>shadethm</code> , <code>theorem</code> , <code>thmbox</code> , <code>thmtools</code> .
Additional math:	Math fonts via SVG images, <code>accents^{MJ}</code> , <code>amscd^{MJ}</code> , <code>amscdx</code> , <code>autobreak^{MJ}</code> , <code>autonum</code> , <code>backnaur^{MJ}</code> , <code>bm^{MJ}</code> , <code>braket^{MJ}</code> , <code>breqn^{MJ}</code> , <code>bussproofs^{MJ}</code> , <code>cases^{MJ}</code> , <code>centernot^{MJ}</code> , <code>cmbright^{MJ}</code> , <code>colonequals^{MJ}</code> , <code>decimal^{MJ}</code> , <code>delarray</code> , <code>DotArrow^{MJ}</code> , <code>dotlessi^{MJ}</code> , <code>dotlessj^{MJ}</code> , <code>esvect^{MJ}</code> , <code>extrarrows^{MJ}</code> , <code>fixmath^{MJ}</code> , <code>fouridx^{MJ}</code> , <code>fourier^{MJ}</code> , <code>guass</code> , <code>hhtensor^{MJ}</code> , <code>icomma^{MJ}</code> , <code>isomath^{MJ}</code> , <code>jkmath</code> , <code>kpfonts^{MJ}</code> , <code>kpfonts-otf^{MJ}</code> , <code>leftidx^{MJ}</code> , <code>libertinust1math^{MJ}</code> , <code>mathalpha^{MJ}</code> , <code>mathastext^{MJ}</code> , <code>mathcomp^{MJ}</code> , <code>mathdesign^{MJ}</code> , <code>mathdots^{MJ}</code> , <code>mathfixs^{MJ}</code> , <code>mathpazo^{MJ}</code> , <code>mathptmx^{MJ}</code> , <code>mathpunctspace^{MJ}</code> , <code>mathspec^{MJ}</code> , <code>mathtools^{MJ}</code> , <code>mattens^{MJ}</code> , <code>maybemath^{MJ}</code> , <code>mdwmath^{MJ}</code> , <code>mismath^{MJ}</code> , <code>mleftright^{MJ}</code> , <code>multiobjective^{MJ}</code> , <code>nccmath^{MJ}</code> , <code>nicematrix^{MJ}</code> , <code>noitcrl^{MJ}</code> , <code>newpxmath^{MJ}</code> , <code>newtxmath^{MJ}</code> , <code>newtxsf^{MJ}</code> , <code>pb-diagram</code> , <code>pxfonts^{MJ}</code> , <code>resizegather^{MJ}</code> , <code>rmathbr^{MJ}</code> , <code>scalrel^{MJ}</code> , <code>shuffle^{MJ}</code> , <code>skmath^{MJ}</code> , <code>stackrel^{MJ}</code> , <code>statex2^{MJ}</code> , <code>statistics</code> , <code>statmath^{MJ}</code> , <code>subsupscripts^{MJ}</code> , <code>tensind</code> , <code>tensor^{MJ}</code> , <code>textualicomma^{MJ}</code> , <code>txfonts^{MJ}</code> , <code>txgreeks^{MJ}</code> , <code>unicode-math^{MJ}</code> , <code>upgreek^{MJ}</code> , <code>ushort^{MJ}</code> , <code>witharrows^{MJ}</code> , <code>xfakebold^{MJ}</code> , <code>xy</code> . Many others work as-is.
Display math with <code>\displaymath</code> or <code>other</code> :	Complicated math objects in display math, such as <code>tikz-cd</code> , etc.
Units and fractions:	<code>nicefrac^{MJ}</code> , <code>Slunits^{MJ}</code> , <code>siunitx^{MJ}</code> , <code>units^{MJ}</code> , <code>unitsdef</code> , <code>xfrac^{MJ}</code> .

Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hypcap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picinpar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> , <code>wrapfig2</code> .
Tabular:	<code>tabular</code> environment, <code>array</code> ^{MJ} , <code>arydshln</code> ^{MJ} , <code>bigdelim</code> ^{MJ} , <code>bigstrut</code> ^{MJ} , <code>booktabs</code> ^{MJ} , <code>colortbl</code> ^{MJ} , <code>ctable</code> , <code>dcolumn</code> , <code>diagbox</code> , <code>hhline</code> ^{MJ} , <code>longtable</code> , <code>ltablex</code> , <code>ltxtable</code> , <code>multirow</code> ^{MJ} , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> .
Graphics:	<code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds class. References to PDF files are changed to svg, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated in HTML. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an svg image. <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsf</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>lpic</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>pinlabel</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rlepsz</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz</code> , <code>tikz-3dplot</code> , <code>tikz-image-labels</code> , <code>xy</code>
xcolor:	Full package color names, any color models, and <code>mixing</code> . <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.
Lists:	Standard L ^A T _E X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L ^A T _E X environments.
Paragraphs, minipage, \parbox:	Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>fancypar</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> .
Quotations:	<code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> .
Verbatim:	<code>fancyvrb</code> , <code>fvextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox</code> ^{MJ} , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox</code> ^{MJ} , <code>vertbars</code> .
Multi-columns:	<code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> .
Margins:	<code>fullwidth</code> , <code>hanging</code> , <code>midpage</code> .
Line numbering:	<code>fnlineno</code> , <code>lineno</code> .

Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <code>cancel</code> ^{MJ} , <code>ellipsis</code> , <code>embrac</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>moresize</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>resize</code> ^{MJ} , <code>scalegnt</code> , <code>seqsplit</code> ^{MJ} , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fmtcount</code> , <code>nth</code> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for <code>thin-unbreakable</code> , <code>unbreakable</code> , <code>\enskip</code> , <code>\quad</code> , <code>\qquad</code> , <code>\hspace</code> .
Rules:	<code>\rule</code> with <code>width</code> , <code>height</code> , <code>raise</code> , <code>text color</code> .
HTML reserved characters:	<code>\&</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
Fonts:	Used as-is. Appear in <code>svg</code> math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssex-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssex-cfr</code> . Also see the math section for math and MATHJAX support for math font packages.
Symbols:	Native \LaTeX diacriticals, <code>academicons</code> , <code>amssymb</code> ^{MJ} , <code>bbding</code> , <code>ccicons</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> ^{MJ} , <code>latexsym</code> ^{MJ} , <code>marvosym</code> , <code>metalogo</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> ^{MJ} , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputtrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdfx</code> , <code>xmpincl</code> .

Science and engineering:	algorithm2e, algorithmicx, ar ^{MJ} , askmaps, axodraw2, bitpattern, blochsphere, bodegraph, bohr, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, circuitikz, doipubmed, econometrics ^{MJ} , elements, engtlc ^{MJ} , fast-diagram, ghsystem, hepnicensnames, heppennames, hepunits ^{MJ} , isotope ^{MJ} , karnaughmap, karnaugh-map, keystroke, listings, listingsutf8, linop, menukeys, mhchem ^{MJ} , minted, pgfgantt, phfqit, physics ^{MJ} , physunits ^{MJ} , plimsoll ^{MJ} , qcircuit, register, simplebnf, simpler-wick, slashed ^{MJ} , steinmetz ^{MJ} , structmech, struktex, syntaxdi, tikz-karnaugh, tikzcodeblocks, venndiagram
Arts and humanities:	foreign, forest, lyluatex, musicography, nameauth, octave, phonrule, piano, schemata, semantic-markup, tikz-dependency, vowel, xpiano
Academic:	academicons, classicthesis, doi, doipubmed, orcidlink ^{MJ} , termcal
Admonitions:	awesomebox, notes.
Editorial:	changebar, changelog, changes, easy-todo, easyReview, ed, errata, fixme, fixmetodonotes, pdfcomment ^{MJ} , pdfmarginpar, todo, todonotes, tram, xchangebar.
Accessibility:	accessibility ^{MJ} , accsupp ^{MJ} , aessibility ^{MJ} , pdfcomment ^{MJ} , repltext ^{MJ} , tagpdf.
Package handling:	catoptions.
Debug:	chkfloat, cmdtrack, dprogress, lipsum, lua-visual-debug, mwe, refcheck, showlabels, showkeys, srcltx, srctex, vpe, xbmks.
Working as-is:	Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

3 Alternatives

Summarized below are several other ways to convert a \LaTeX or other document to HTML . Where an existing \LaTeX document is to be converted to HTML , `lwarp` may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

`internet` (*Cls*) The closest to `lwarp` in design principle is the `internet` class by Andrew Stacey—an interesting project which directly produces several versions of `markdown`, and also `HTML` and `EPUB`. <https://github.com/loopspace/latex-to-internet>

3.2 TeX4HT

`TeX4ht` (*Prog*) <http://tug.org/tex4ht/>

`htlatex` (*Prog*)

This system uses native \LaTeX processing to produce a `DVI` file containing special commands, and then uses additional post-processing for the `HTML` conversion by way of numerous configuration files. In some cases `lwarp` provides a better `HTML` conversion, and it supports a different set of packages. `TeX4ht` produces several other forms of output beyond `HTML`, including `ODT` and a direct path to `EPUB`, and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of \LaTeX syntax into `HTML`. Search for each on `CTAN` (<http://ctan.org>).

`Hevea` (*Prog*) **H^Ev^Ea**: <http://hevea.inria.fr/> (not on `CTAN`)

`TtH` (*Prog*) **T_TH**: <http://hutchinson.belmont.ma.us/tth/>

`GELLMU` (*Prog*) **GELLMU**: <http://www.albany.edu/~hammond/gellmu/>

`LaTeXML` (*Prog*) **\LaTeX XML**: <http://dlmf.nist.gov/LaTeXML/>

`Plastex` (*Prog*) **PlasTeX**: <https://github.com/tiarno/plastex>

`LaTeX2HTML` (*Prog*) **\LaTeX 2HTML**: <http://www.latex2html.org/>
and <http://ctan.org/pkg/latex2html>.

`TeX2page` (*Prog*) **TeX2page**: <http://ds26gte.github.io/tex2page/index.html>

Finally, `GladTeX` may be used to directly insert \LaTeX math into `HTML`:

`GladTeX` (*Prog*) **GladTeX**: <http://humenda.github.io/GladTeX/>

3.4 ASCIIDOC and ASCIIDOCTOR

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes L^AT_EX and HTML.

AsciiDoc (*Prog*) **Asciidoctor:** <http://asciidoctor.org/> (More active.)

AsciiDoctor (*Prog*) **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 ASCIIDOCTOR-L^AT_EX

The AsciiDoctor-LaTeX project is developing additional L^AT_EX-related features.

Asciidoctor-LateX:

<http://www.noteshare.io/book/asciidoctor-latex-manual>

Asciidoctor-LaTeX (*Prog*) <https://github.com/asciidoctor/asciidoctor-latex>

3.5 PANDOC

Pandoc (*Prog*) A markup system which also reads and writes L^AT_EX and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Word (*Prog*) It should be noted that the popular word processors have advanced through the years in their abilities to represent math with a L^AT_EX-ish input syntax, unicode math fonts, and high-quality output, and also generate HTML with varying success. LibreOffice (*Prog*) OpenOffice (*Prog*) See recent developments in MICROSOFT[®] *Word*[®] and LIBREOFFICE[™] *Writer*.

3.7 Commercial systems

Adobe (*Prog*) Likewise, several professional systems exist whose abilities have been advancing in the areas of typesetting, cross-referencing, and HTML generation. See ADOBE[®] FrameMaker[®], ADOBE *InDesign*[®], and MADCAP *Flare*[™].
FrameMaker (*Prog*)
InDesign (*Prog*)

Flare (*Prog*)

Madcap (*Prog*)

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, L^AT_EX spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster

entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that L^AT_EX is comparably easy to learn, while L^AT_EX provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of L^AT_EX vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a L^AT_EX back end, yielding high-quality results especially when the L^AT_EX template is adjusted, but they lose the ability to use L^AT_EX macros and other L^AT_EX source-document features.

The effort required to customize the output of each markup system varies. For print output, L^AT_EX configuration files are usually used. For HTML output, a CSS file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of lwarp, CSS is used, and much HTML output is adjusted through the usual L^AT_EX optional macro parameters, but further customization may require patching L^AT_EX code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the L^AT_EX to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The lwarp package: This package.

The *lwarpmk* utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the *lwarp* package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex*:** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by *lwarp* to create indexes. On a M_IK_TE_X system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L^AT_EX code. On a M_IK_TE_X system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L^AT_EX PDF.

POPPLER PDF utilities:

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L^AT_EX PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and M_IK_TE_X provides *miktex-poppler-bin-** packages.

From POPPLER: poppler.freedesktop.org.

For MACOS[®], see <https://brew.sh/>, install *Homebrew*, then

```
Enter ⇒ brew install poppler
```

For WINDOWS, see M_IK_TE_X *miktex-poppler-bin-**, or:

<https://sourceforge.net/projects/poppler-win32/> and:
<http://blog.alivate.com.au/poppler-windows/>

Perl:

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

MATHJAX: Optionally used to display math. From: mathjax.org

4.1 Installing the lwarp package

There are several ways to install lwarp. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

```
Enter ⇒ kpsewhich lwarp.sty
```

If a path to lwarp.sty is shown, then lwarp is already installed and you may skip to the next section.

TeX Live: If using a TeX Live distribution, try installing via *tlmgr*:

```
Enter ⇒ tlmgr install lwarp
```

MiKTeX:

1. For newer versions of MiKTeX, install or update lwarp using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarp the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarp, use *MiKTeX Update (Admin)*.
3. Either way, also update the package miktex-misc, which will install and update the *lwarpmk* executable.

Operating-system package: The operating-system package manager may already have lwarp, perhaps as part of a set of TeX-related packages.

CTAN TDS archive: lwarp may be downloaded from the Comprehensive TeX Archive:

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the TDS archive: lwarp.tds.zip
3. Find the TeX local directory:

TeX Live:

```
Enter ⇒ kpsewhich -var-value TEXMFLOCAL
```

MiKTeX:

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

```
/usr/local/texlive/texmf-local/
```

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

```
Enter ⇒ mktexlsr
```

— OR —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of TeX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the zip archive lwarp.zip into your own lwarp directory.
3. Unpack lwarp.zip.

4. Locate the contents `lwarp.dtx` and `lwarp.ins`

5. Create the `.sty` files:

```
Enter ⇒ pdflatex lwarp.ins
```

6. Create the documentation:

```
pdflatex lwarp.dtx (several times)
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
makeindex -s gind.ist lwarp.idx
pdflatex lwarp.dtx (several times)
```

7. Copy the `.sty` files somewhere such as the T_EX Live local tree found in the previous CTAN TDS section, under the subdirectory:

```
<texlocal>/tex/latex/local/lwarp
```

8. Copy `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` to the same place as the `.sty` files.

9. Copy the documentation `lwarp.pdf` to a source directory in the local tree, such as:

```
<texlocal>/doc/local/lwarp
```

10. Renew the cache:

```
Enter ⇒ mktexlsr
```

— or —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiK_TE_X, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

11. See section 4.2.1 to generate your local copy of *lwarpmk*.

12. Once the local version of `lwarpmk.lua` is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN `.dtx` and `.ins` files: The `.dtx` and `.ins` files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant `*.sty` and `lwarpmk.lua` files may be used as-is, so long as they are in the same directory as the document source. The files `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` must also be copied as well. This approach is especially useful if you would like to temporarily test *lwarp* before deciding whether to permanently install it.

Just testing!

4.2 Installing the *lwarpmk* utility

(Note: If *lwarpmk* is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the *lwarp* package is installed, you may need to setup the *lwarpmk* utility:

1. At a command line, try executing **lwarpmk**. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiK_TE_X, try updating the `miktex-misc` package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file `lwarpmk.lua`, which should be in the `scripts` directory of the TDS tree. On a T_EX Live or M_IKT_EX system you may use

Enter ⇒ **kpsewhich lwarpmk.lua**

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the T_EX Live binaries:

Enter ⇒ **kpsewhich -var-value TEXMFROOT**

This will be something like:

`/usr/local/texlive/<year>`

The binaries are then located in the `bin/<arch>` directory under the root:

`/usr/local/texlive/<year>/bin/<architecture>/`

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to `lwarpmk.lua`:

Enter ⇒ **ln -s <path to lwarpmk.lua> lwarpmk**

- (c) Make the link executable:

Enter ⇒ **chmod 0755 lwarpmk**

WINDOWS T_EX Live: Create a new `lwarpmk.exe` file:

- (a) Locate the T_EX Live binaries as shown above for UNIX.
- (b) In the binaries directory, make a *copy* of `runscript.exe` and call it `lwarpmk.exe`. This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

WINDOWS M_IKT_EX: Create a new `lwarpmk.bat` file:

- (a) Locate the M_IKT_EX binaries. These will be in a directory such as:

`C:\Program Files\MiKTeX 2.9\miktex\bin\x64`

In this directory you will find programs such as `pdflatex.exe` and `makeindex.exe`.

- (b) Create a new file named `lwarpmk.bat` containing:

`texlua "C:\Program Files\MiKTeX 2.9\scripts\lwarp\lwarp.texlua" %*`

This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarp` package:

```
\usepackage[lwarpmk]{lwarp}
```

2. When the tutorial is compiled with *pdflatex*, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:

Unix:

(a) Make `lwarpmk.lua` executable:

Enter ⇒ `chmod 0755 lwarpmk.lua`

(b) Compile documents with

Enter ⇒ `./lwarpmk.lua html`

Enter ⇒ `./lwarpmk.lua print`

etc.

(c) It may be useful to rename or link to a version without the `.lua` suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

Enter ⇒ `texlua lwarpmk.lua html`

Enter ⇒ `texlua lwarpmk.lua print`

etc.

Or:

Enter ⇒ `lwarpmk html`

Enter ⇒ `lwarpmk print`

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each program's version is displayed, then that utility is already installed. See table 3 on page 79.

Enter ⇒ `luatex --version`

Enter ⇒ `xindy --version`

Enter ⇒ `latexmk --version`

Enter ⇒ `perl --version`

Enter ⇒ `pdfcrop --version`

Enter ⇒ `pdftotext -v`

Enter ⇒ `pdfseparate --version`

Enter ⇒ `pdftocairo -v`

To install *xindy*, *latexmk*, and *pdfcrop*:

The T_EX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TeXLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the CTAN archive:

<http://ctan.org/pkg/xindy>

<http://ctan.org/pkg/latexmk>

<http://ctan.org/pkg/pdfcrop>

`pdftotext (Prog)` [] **To install the POPPLER utilities to a UNIX/LINUX system:**

`pdfseparate (Prog)` [] The tools from the POPPLER project should be provided by your operating system's package manager.

`pdftocairo (Prog)` []

To install the POPPLER utilities to a MACOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

`/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"`

2. Install the POPPLER utilities:

Enter ⇒ **brew install poppler**

To install the POPPLER utilities to a WINDOWS machine:

If using MikTEX, install a miktex-poppler-bin-* package. Otherwise:

1. See table 3 on page 79.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:
C:\Users\\Desktop\Poppler\poppler-0.5_x86\poppler-0.5\bin
Be sure to include \bin.
9. Click **Ok** when done.

perl (Prog) [] To install PERL to a WINDOWS machine:

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:
C:\Strawberry\perl\bin
Be sure to include \bin.
4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an lwarp document.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.

`tutorial.tex` (*file*)

2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in [fig. 1](#), which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the lwarp documentation directory:

Another copy may be found by entering into a command line:

Enter ⇒ `texdoc -l lwarp_tutorial.txt`

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` directly into your `tutorial` directory, renamed as `tutorial.tex`.

`lwarp_tutorial.txt` (*file*)

⚠ Note: `.txt` suffix!

⚠ Bad formatting!

When using Windows, use an editor other than Notepad, since Notepad does not accept the end-of-line from a Unix text file.

3. Compile the project:

Enter ⇒ `pdflatex tutorial.tex`

(several times)

(*xelatex* or *lualatex* may be used as well. *lwarp* also supports DVI *latex* for use with `.eps` images.)

4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in [table 4](#). These files are created by the *lwarp* package.

(Two of the new files are configuration files for the helper program *lwarpmk*. Whenever a print version of the document is created, the configuration files for *lwarpmk* are updated to record the operating system, L^AT_EX engine (*latex*, *pdflatex*, *xelatex*, or *lualatex*), the filenames of the source code and HTML output, and whether the additional helper program *latexmk* will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}         % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
% HomeHTMLFilename=index,      % Filename of the homepage.
% HTMLFilename={node-},        % Filename prefix of other pages.
% IndexLanguage=english,      % Language for xindy index, glossary.
% latexmk,                     % Use latexmk to compile.
% OSWindows,                   % Force Windows. (Usually automatic.)
% mathjax,                     % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}   % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2} % Include subsections in the \TOC.
\setcounter{secnumdepth}{2} % Number down to subsections.
\setcounter{FileDepth}{1} % Split \HTML\ files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1} % Include subsections in the side\TOC
\HTMLTitle{Webpage Title} % Overrides \title for the web page.
\HTMLAuthor{Some Author} % Sets the HTML meta author tag.
\HTMLLanguage{en-US} % Sets the HTML meta language.
\HTMLDescription{A description.} % Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSFilename{lwarp_sagebrush.css}

\begin{document}

\maketitle % Or titlepage/titlingpage environment.
```

```

% An article abstract would go here.

\tableofcontents           % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math:  $r = r_0 + vt - \frac{1}{2}at^2$ 
followed by display math:
\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage % HTML index will be on its own page.
\ForceHTMLTOC % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

`tutorial.pdf`: The PDF output from L^AT_EX. The print version of the document.

`tutorial_html.tex`: A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.

Auxiliary files: The usual L^AT_EX files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.

`lwarpmk.conf`: A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.

`tutorial.lwarpmkconf`: Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.

`.css` files: `lwarp.css`, `lwarp_formal.css`, `lwarp_sagebrush.css` These files are standard for *lwarp*, and are not meant to be modified by the user.

`sample_project.css`: An example of a user-customized css file, which may be used for project-specific changes to the *lwarp* defaults.

`lwarp.ist`: Used by *lwarp* while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.

`lwarp.xdy`: Used by *lwarp* while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.

`lwarp_one_limage.txt`: For WINDOWS only. Used to process SVG images in the background. Copied to `lwarp_one_limage.cmd` when images are generated.

`lwarp_mathjax.txt`: Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see `\MathJaxFilename` instead.

`comment_*.cut`: Temporary files used by *lwarp* to conditionally process blocks of text. These files may be ignored.

When the `lwarpmk` option is given to the *lwarp* package:

lwarpmk.lua: A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

⚠ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Re-compile the print version:

Enter ⇒ **lwarpmk print**

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

3. Make a small change in the original document, such as adding a space character.

4. Recompile again.

Enter ⇒ **lwarpmk print**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

5. Force a recompile to occur.

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk print**

`lwarpmk again` updates the date code for the file, triggering a recompile the next time the document is made.⁵

6. Process the index.^{6 7}

Enter ⇒ **lwarpmk printindex**

7. Recompile again to include the index.

Enter ⇒ **lwarpmk print**

8. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk print1**

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command `lwarpmk printglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.13.

⁷Also see section 8.6.16 for index options.

5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

⚠ Enable *lwarpmk*

1. If you have not yet done so, add `\usepackage{lwarp}` to the document, then compile the project a single time using *pdflatex*, *lualatex*, or *xelatex*. This generates the file `lwarpmk.conf`, which then allows the *lwarpmk* program to be used.

2. Compile the HTML version:

```
Enter ⇒ lwarpmk html
```

- (a) *lwarpmk* uses L^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

3. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math images

Note that math images have not yet been generated, so math is still displayed as its `alt` tag, which is set to the plain-text L^AT_EX source for that expression. Math may be displayed as SVG images (section 5.4) or by a MATHJAX script (section 5.5).

4. Force a recompile:

```
Enter ⇒ lwarpmk again
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

5. Process the HTML index and recompile:¹⁰¹¹

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

`_Index.html` is updated for the new L^AT_EX index.

6. Reload the web page to see the added index.

7. To force a single recompile when needed, even if no changes were detected:

```
Enter ⇒ lwarpmk html1
```

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.13.

¹¹Also see section 8.6.16 for index options.

5.4 Generating the SVG images

math as SVG images By default `lwarp` represents math as SVG images, with the \LaTeX source included in `alt` attributes. In this way, the math is displayed as it was drawn by \LaTeX , and the \LaTeX source may be copied and pasted into other documents.


picture and TikZ `lwarp` uses the same mechanism for `picture` and `TikZ` environments.

1. Create the SVG images:


```
Enter ⇒ lwarpmk limages
```


```
Enter ⇒ lwarpmk html
```

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the \LaTeX source.

 **adding/removing** When a math expression, `picture`, or `TikZ` environment is added or removed, the SVG images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline SVG math may be hashed and thus not need to be recreated, but display math and objects such as `TikZ` may move to new image numbers when the document is changed.


recompile first Before attempting to create the SVG image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the \LaTeX recompile warnings.

 **HTML instead of images** If HTML appears where an SVG image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

 **page counter** Incorrect SVG images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

 **Lots of files!** Expressing math as SVG images has the advantage of representing the math exactly as \LaTeX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its \LaTeX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `TikZ` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

[math with MATHJAX](#) Math may also be represented using the MATHJAX JAVASCRIPT project.


1. In the tutorial's source code, uncomment the mathjax package option for lwarp:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

```
Enter ⇒ lwarpmk html
```

3. Reload the math page.

 **MATHJAX requirements** MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the L^AT_EX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as L^AT_EX, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}  
...  
\CSSfilename{lwarp_formal.css}  
...  
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSfilename{lwarp_sagebrush.css}
```

See section 7.7 for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section 7.6 for more information.

5.8 Using *latexmk*

latexmk is a L^AT_EX utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the *latexmk* option for the *lwarp* package:

```
latexmk, % Use latexmk to compile.
```

2. Recompile the printed version of the document.

```
Enter ⇒ lwarpmk print
```

lwarp updates its own configuration files (*lwarpmk.conf* and *tutorial.lwarpmkconf*) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

```
Enter ⇒ lwarpmk print
```

and/or

```
Enter ⇒ lwarpmk html
```

Changes are detected by comparing checksums rather than modification times, so *lwarpmk* again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

```
Enter ⇒ lwarpmk print1
```

and/or

```
Enter ⇒ lwarpmk html1
```

[forced single-pass recompile](#)

5.9 Using Xe_ΛTeX or Lua_ΛTeX

Xe_ΛTeX or Lua_ΛTeX may be used instead of L_ΛTeX.

1. Remove the auxiliary files for the project:

```
Enter ⇒ lwarpmk cleanall
```

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

```
Enter ⇒ xelatex tutorial.tex
```

— *or* —

```
Enter ⇒ lualatex tutorial.tex
```

When the compile occurs, the configuration files for *lwarpmk* are modified to remember which T_EX engine was used. Xe_ΛTeX or Lua_ΛTeX will be used for future runs of *lwarpmk*.

3. To recompile the document:

```
Enter ⇒ lwarpmk print
```

-and-

```
Enter ⇒ lwarpmk html
```

4. Also remember to update the indexes and recompile again:

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk print
```

5.10 Using DVI L_ΛTeX


Traditional DVI L_ΛTeX may also be used along with .eps image files. An svg version of each image must also be provided. *lwarpmk* may be used to convert image formats.

To convert EPS files to PDF:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

To convert PDF files to SVG:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a bibliography

To process the bibliography for the HTML version:

```
Enter ⇒ bibtex <filename>_html
```

or

```
Enter ⇒ biber <filename>_html
```

To see the bibliography in the HTML version:

```
Enter ⇒ lwarpmk html1
```

as many times as necessary.

5.12 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.12.1 `gloss` package

See section [8.6.12](#).

5.12.2 `glossaries` package

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If `makeglossaries` is not found, see section [8.6.13](#).)

To process the glossary for the HTML version:

```
Enter ⇒ lwarpmk htmlglossary
```

In each case, the document will have to be recompiled afterwards:

```
Enter ⇒ lwarpmk html1
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print1
```

```
Enter ⇒ lwarpmk print
```

See section [8.6.13](#) to set options for processing glossaries.

5.13 Cleaning auxiliary files

To remove the auxiliary files `.aux`, `.toc`, `.lof`, `.lot`, `.idx`, `.ind`, `.log`, and `.gl*`, and a few others:

```
Enter ⇒ lwarpmk clean
```

5.14 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the `.pdf` and `.html` files:

```
Enter ⇒ lwarpmk cleanall
```

5.15 Cleaning the images from the `<project>-images` directory

The `<project>-images` directory contains SVG images automatically generated for inline and display math, `tikz`, etc. To remove all the images from the `<project>-images` directory:

```
Enter ⇒ lwarpmk cleanimages
```

5.16 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. `pdftocairo` and `epstopdf` may be used one image at a time, but `lwarpmk` also provides a way to convert PDF or EPS images in bulk:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

Be sure to always provide SVG files for HTML output.

5.17 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

```
Enter ⇒ lwarpmk pdftohtml [-p project]
```

5.18 Processing multiple projects in the same directory

 `xr`, `xr-hyper`, `xcite`

It is possible to have several projects in the same directory. `lwarpmk` has an optional parameter which is the document to compile.

To create each project:

```
Enter ⇒ pdflatex project_a
```

```
Enter ⇒ pdflatex project_b
```

Each project is given its own configuration file:

```
project_a.lwarpmkconf, project_b.lwarpmkconf
```

To compile each project with `lwarpmk`:

```
Enter ⇒ lwarpmk print -p project_a
```

```
Enter ⇒ lwarpmk print -p project_b
```

```
Enter ⇒ lwarpmk html -p project_a
```

```
Enter ⇒ lwarpmk html -p project_b
```

To generate each project's images:

```
Enter ⇒ lwarpmk limages -p project_a
```

```
Enter ⇒ lwarpmk limages -p project_b
```

To clean each project's images:

```
Enter ⇒ lwarpmk cleanlimages -p project_a
```

```
Enter ⇒ lwarpmk cleanlimages -p project_b
```

To clean each project's auxiliary files:

```
Enter ⇒ lwarpmk cleanall -p project_a
```

```
Enter ⇒ lwarpmk cleanall -p project_b
```

If using *bibtex*, for example, the HTML version must also be processed:

```
Enter ⇒ bibtex project_a_html
```

5.19 Using the *make* utility

lwarpmk has an action which may be useful for integration with the common *make* utility:

```
lwarpmk pdftohtml [-p project]
```

make may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.

5.20 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section 13: [Troubleshooting](#).

Package options: See section 31, [Package options](#).

HTML and filename settings: See section 7.6, [Customizing the HTML output](#).

Footnote placement: See section 7.6, [Customizing the HTML output](#).

Title page, indexing, glossaries: See section 8.6, [Front and back matter](#).

Shell escape: See section 7.3, [Shell escape](#).

css customization: See section 7.7, [Customizing the css](#).

MATHJAX customization: See section 8.7.7, [Customizing MATHJAX](#).

Localization: (languages) — See section 7.1, [Localization](#).

Accessibility: (alt and title tags) — See section 7.2, [Accessibility](#).

Converting an existing document: See section 6, [Converting an existing document](#).

EPUB conversion: See section 10, [EPUB conversion](#).

Word processor conversion: See section 11, [Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with lwarp:

1. Arrange the document in the following order:

- (a) Declare the `\documentclass`.
- (b) Load text fonts.
- (c) Load `inputenc` or `inputenx`, `fontenc`, or `fontspec`.
- (d) Load `lwarp`.
- (e) Load remaining packages.

2. Modify the document:

- (a) If using named HTML files, in section names use parentheses `math \langle x+y \rangle` instead of dollar `math $x+y$`. Parentheses `math` is removed from the file name. (Dollar `math` works, but it generates complicated filenames.) Or, use a short name for the toc entry without the `math`, or use `\texorpdfstring` from the `hyperref` package:


```
\section[Simplified name]{Name with \langle 1+2=3 \rangle math}
\section{Some math \texorpdfstring{\$1+2=3\$}{three}}
```

⚠ `scale`

- (b) Avoid using the `\includegraphics scale=⟨xx⟩` option. Change:


```
\includegraphics[scale=⟨xx⟩]{ . . . }
```

to:

```
\includegraphics[width=⟨yy⟩\linewidth]{ . . . }
```

⚠ `tabular`

- (c) Possible changes to `tabular` environments include: `* columns`, `multirow`, `longtable`, `supertabular`, `xtab`, `bigdelim`. See section 8.10.1.

⚠ `package options`

- (d) If using braces in package options, such as with `caption`, see section 8.1.

- (e) Possible option clashes with `memoir`. See section 8.13.

⚠ `indexes`

- (f) If using `indexes`, see section 8.6.16.

- (g) If using many `indexes`, `glossaries`, `.aux` files, etc., see section 8.6.16 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.

- (h) Other changes as per [Special cases and limitations](#), section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with `latex`, `pdflatex`, `lualatex`, or `xelatex`.

5. `lwarpmk print` to finish the print version.

6. `lwarpmk html` to create the HTML version.

7. `lwarpmk limages` to create the SVG images of any SVG `math`, `lateximage`, `TikZ`, etc.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

Table 5: Localization settings

Object names: L^AT_EX provides redefinable names for various objects, and lwarp adds a few more. Use `\renewcommand` to change these.

\abstractname: This macro is honored by lwarp.

\linkhomename: Displayed by the link to the homepage.

\linkpreviousname: Displayed by the link to the previous page

\linknextname: Displayed by the link to the next page.

\sitetocname: Displayed at the head of the sidenav.

HTML settings: See table 8 and section 7.6 for details.

\HTMLLanguage: The language to declare for each web page.

\ImageAltText, \MathImageAltText, \PackageDiagramAltText, \AltTextOpen, \AltTextClose: The defaults used for HTML alt text for images. See section 7.2.

\CSSFilename: The name of the css file to use.

\MathJaxFilename: The name of the MATHJAX script to use.

Package options:

ImagesName and ImagesDirectory: These options control the filenames used by lwarp when it automatically generates images. See table 7 and section 7.5.

xindyStyle, xindyLanguage, xindyCodepage: When using *xindy*, these options may be set according to local use. See section 8.6.22.

pdftotextEnc: To adjust the encoding of *pdftotext*.

7 Additional details

7.1 Localization

Regional localization is supported by lwarp via the package options and macros shown in table 5.

7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. lwarp can use the HTML alt text attribute for images, as describe below. lwarp can also use the HTML title attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. lwarp also uses standard HTML5 elements which are pre-assigned ARIA roles for increased accessibility, and lwarp assigns the math role for SVG math images, and the note role for footnotes, end notes, margin paragraphs and notes, etc. MATHJAX also has provisions for improved accessibility as well. See table 6.

Table 6: Accessibility settings

\ImageAltText: The default HTML alt text for `\includegraphics` and `lateximages`. Set with `\renewcommand`.

\includegraphics alt key: For `\includegraphics`, `lwarp` adds the alt key/value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

svg math: For simple svg math, `lwarp` places the L^AT_EX math expression in the alt text, so that the L^AT_EX expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated svg math, such as enclosed in `\InlineMathOther`/`\InlineMathNormal`, or `\DisplayMathOther`/`\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which `lwarp` converts into svg images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

\ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```


See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

7.3 Shell escape

`-\\-shell-escape` (*Opt*) Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarp` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

7.4 Font and UTF-8 support

 **type 3 bitmapped fonts** `lwarp` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarp` option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts While using older versions of DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

Computer Modern

 `pdflatex`

 `DVI latex`

`cm-super` (*Pkg*) To use the updated `cm-super`’s type 1 fonts instead of Computer Modern, install the `cm-super` font package.

`lmodern` (*Pkg*) To use Latin Modern instead, add


```
\usepackage{lmodern}
```

to the preamble.


`dejavu` (*Pkg*) Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```


font size in math To adjust the size of the font used in SVG math, see section 8.7.4.

 **Missing characters** To avoid “Missing character” warnings and empty or missing characters in HTML and math output, if using a font with an enhanced set of characters also specify a monospace font with similar coverage. `lwarp` uses the `mono` font for HTML and math output. Many font packages provide a monospace font automatically.

latex, pdflatex, T1, UTF8 While using DVI `latex` or PDF `pdflatex`, `lwarp` automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after `lwarp`. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.

 **xelatex, lualatex, fontspec** Xe_LAT_EX and Lua_LAT_EX users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarp}`.

 **package conflicts** In some cases, a package conflict may require that a font package be loaded after `lwarp`, which should work as well:

1. `documentclass{article/book/report}` comes first, followed by any of:

2. Font and UTF-8 related commands:

- For X_YL^AT_EX or Lua^AT_EX:

fontspec (*Pkg*)

ligatures

- fontspec and font choices

lwarp sets the following to turn off T_EX ligatures during the generation of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

- For *pdf_latex*:

lmodern (*Pkg*)fontenc (*Pkg*)inputenc (*Pkg*)inputenx (*Pkg*)newunicodechar (*Pkg*)glyphtounicode.tex (*file*)

- (a) `\usepackage{lmodern}`, or other font-related packages
- (b) `\usepackage[T1]{fontenc}`
- (c) `\usepackage[utf8]{inputenc}`, or `latin1`, etc. Or use `inputenx`.
- (d) `\usepackage{newunicodechar}` along with related definitions.
- (e) To assist with the PDF-HTML conversion:
 - i. `\input glyphtounicode.tex`
 - ii. `\input glyphtounicode-cmr.tex`% from the pdfx package
 - iii. `\pdfgentounicode=1`

⚠ dotless j

cmap (*Pkg*)mmap (*Pkg*)textcomp (*Pkg*)

- (f) Another option to assist with the PDF-HTML conversion, such as the dotless j (`\j`):
 - `\usepackage{cmap}` — *or* —
 - `\usepackage{mmap}` — *or* —
 - `\usepackage[noTeX]{mmap}`
- (g) `\usepackage{textcomp}`

3. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which may now be loaded before `lwarp`.

4. `\usepackage{lwarp}` (section 7.5) is placed after any of the above, followed by:

⚠ fontspec with monospaced fonts

5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using X_YL^AT_EX or Lua^AT_EX and `fontspec` along with traditional font packages such as `txfonts`, `newtxtext`, etc. This is required to turn off the monospaced font's ligatures with `fontspec` after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%
. . .
Contextuals=AlternateOff,
]
```

After `lwarp` is loaded, the ligature may be re-enabled for print mode by using `\setmonofont` again inside a `warpprint` environment.

6. ... the rest of the preamble and the main document.

⚠ JETBRAIN MONO

⚠ HTML corrupted

⚠ UTF-8 locale In some cases, an external program may require a UTF-8 “locale”. See section 9.9.

7.4.1 Indexes, glossaries, and encoding

lwarp supports *makeindex*, *xindy*, *xindex*, and `glossaries`, `gloss`, and `nomencl`.

See section [8.6.15](#) for indexing, and section [8.6.13](#) for the `glossaries` package.

7.5 lwarp package loading and options

lwarp supports book, report, and article classes, as well as the equivalent KOMA-script classes and memoir, and various CJK-related classes and packages.

Load the lwarp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading lwarp, or later with

```
\lwarpsetup{<key=value, . . . >}
```

lwarp (*Pkg*) lwarp package options are as follows:

`mathsvg` (*Opt*) **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.

`mathjax` (*Opt*)

Default: `mathsvg`

`latexmk` (*Opt*) **latexmk**: Tells *lwarpmk* to use *latexmk* to recompile the document several times if necessary. Otherwise, *lwarpmk* attempts to determine for itself whether to recompile. See section 7.6.

Default: `false`

`dvips` (*Opt*) **dvips**: Tells *lwarpmk* to use *dvips* and *ps2pdf* to convert DVI output to PDF.

Default: `false`

`dvipdfm` (*Opt*) **dvipdfm**: Tells *lwarpmk* to use *dvipdfm* to convert DVI output to PDF.

Default: `false`

`dvipdfmx` (*Opt*) **dvipdfmx**: Tells *lwarpmk* to use *dvipdfmx* to convert DVI output to PDF.

Default: `false`

`HomeHTMLFilename` (*Opt*) **HomeHTMLFilename**:

Default: `\BaseJobname`

Filename of the homepage, without the “.html” suffix. Defaults to the `\BaseJobname`. A common setting is:

```
HomeHTMLFilename=index
```

causing the homepage to be the file `index.html`. Underscores are allowed in `HomeHTMLFilename` and `HTMLFilename` options, but may need to be escaped elsewhere, such as when appearing in a list:

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

`HTMLFilename` (*Opt*) **HTMLFilename**: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Default: `<empty>`

`ImagesName` (*Opt*) **ImagesName**: The prefix for the images automatically generated by lwarp for objects such as `svg math` and `lateximages`.

Default: `image-`

`ImagesDirectory` (*Opt*) **ImagesDirectory**: The directory for the images automatically generated by lwarp for objects such as `svg math` and `lateximages`. By default, these images will appear in a directory named `<jobname>-images`, and the images will be named and numbered `image-<nn>`.

Default: `\jobname-images`

filename underscores

Table 7: Lwarp package options

Option	Description
<code>mathsvg</code>	Show math using SVG images.
<code>mathjax</code>	Show math using MATHJAX.
<code>latexmk</code>	Use <i>latexmk</i> for compiling documents.
<code>dvips</code>	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
<code>dvipdfm</code>	Use <i>dvipdfm</i> to convert DVI documents.
<code>dvipdfmx</code>	Use <i>dvipdfmx</i> to convert DVI documents.
<code>HomeHTMLFilename</code>	The filename of the home page.
<code>HTMLFilename</code>	A prefix for the filenames of the remaining web pages.
<code>ImagesName</code>	A prefix for the filenames of generated images.
<code>ImagesDirectory</code>	The directory used to hold generated images.
<code>PrintLatexCmd</code>	The shell commands for lwarpmk print .
<code>HTMLLatexCmd</code>	The shell commands for lwarpmk html .
For indexing (section 8.6.16) and glossaries (section 8.6.13):	
<code>makeindex</code>	Use <i>makeindex</i> to generate indices.
<code>makeindexStyle</code>	Set a custom style for <i>makeindex</i> .
<code>xindy</code>	Use <i>xindy</i> to generate indices.
<code>xindyStyle</code>	Set a custom style for <i>xindy</i> .
<code>xindyLanguage</code>	The <i>xindy</i> language option used for index generation.
<code>xindyCodepage</code>	The <i>xindy</i> codepage option used for index generation.
<code>xindex</code>	Use <i>xindex</i> to generate indices.
<code>xindexConfig</code>	Set a custom configuration file for <i>xindex</i> .
<code>PrintIndexCmd</code>	Shell commands executed by lwarpmk printindex .
<code>HTMLIndexCmd</code>	Shell commands executed by lwarpmk htmlindex .
<code>LatexmkIndexCmd</code>	Shell commands executed by <i>latexmk</i> .
<code>IndexRef</code>	How to format index links.
<code>GlossaryCmd</code>	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
<code>OSWindows</code>	Force compatibility with MS-WINDOWS.
<code>pdftotextEnc</code>	Set the encoding for <i>pdftotext</i> .
<code>lwarpmk</code>	Generate a local copy of <code>lwarpmk.lua</code> .
Used internally by lwarp:	
<code>warpprint</code>	Generate print output, and also generate configuration files.
<code>warphTML</code>	Generate HTML output.
<code>BaseJobname</code>	The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML.
<code>warpdisable</code>	Disables most of <code>lwarp</code> for testing purposes.

- `PrintLatexCmd (Opt)` **PrintLatexCmd:** Sets the shell commands executed by `lwarpmk print`. If not specified, will automatically be set according to the detected L^AT_EX engine and the use of `--shell-escape`.
Default: `<automatic>`
- `HTMLLatexCmd (Opt)` **HTMLLatexCmd:** Sets the shell commands executed by `lwarpmk html`. If not specified, will automatically be set according to the detected L^AT_EX engine and the use of `--shell-escape`.
Default: `<automatic>`
- `makeindex (Opt)` **makeindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `makeindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.
Default: `makeindex`
- `makeindexStyle (Opt)` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.21.
Default: `lwarp.ist`
- `xindy (Opt)` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindy` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`
- `xindyStyle (Opt)` **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 8.6.22.
Default: `lwarp.xdy`
- `xindyLanguage (Opt)` **xindyLanguage:** If using an index or glossary, see section 31.
Default: `english`
- `xindyCodepage (Opt)` **xindyCodepage:** If using an index, see section 31.
Default: `utf8`
- `xindex (Opt)` **xindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`
- `xindexConfig (Opt)` **xindexConfig:** If you wish to use a custom `xindex-*.lua` file for index generation, see section 8.6.23.
Default: `<empty>`
- `PrintIndexCmd (Opt)` **PrintIndexCmd:** Sets the shell commands executed by `lwarpmk printindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.16.
Default: `<automatic>`

Examples:

```
makeindex -s lwarp.ist projectname.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ xindy

If specifying `PrintIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C` *xindy* options, as the `lwarp` `xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by `TeX`, written to a file, read from the file by `LuaTeX`, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

HTMLIndexCmd (*Opt*) **HTMLIndexCmd:** Sets the shell commands executed by `lwarpmk htmlindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.16.

Default: `<automatic>`

⚠ filenames

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx      (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx
(xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ xindy

If specifying `HTMLIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

LatexmkIndexCmd (*Opt*) **LatexmkIndexCmd:** Sets the shell commands executed by `latexmk`. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by `latexmk`. See section 8.6.16.

Default: `<automatic>`

Example settings are similar to `PrintIndexCmd`, but without a filename:

```
makeindex -s lwarp.ist                                (makeindex)
xindy -M lwarp.xdy -L english -C utf8                (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `latexmk` uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

⚠ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

IndexRef (*Opt*) **IndexRef:** Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such as `(link)` or `(*)` for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is `cref`, which is available even if the print document does

Default: `cref`

not use `cleveref`, as the `lwarp` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as (*) instead of ??.



If using `cref` (the default), and if a reference appears as ?? with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using (*) or similar yields a very compact index.

`GlossaryCmd` (*Opt*) **GlossaryCmd:** Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.13.
 Default: `makeglossaries`

`OSWindows` (*Opt*) **OSWindows:** `lwarp` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.9.

`pdftotextEnc` (*Opt*) **pdftotextEnc:** Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.
 Default: `UTF-8`

`lwarpmk` (*Opt*) **lwarpmk:** If you wish to have `lwarp` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 31.


The following options are used internally by `lwarp`, and usually are not used in the user's document:


`warpprint` (*Opt*) **warpprint** and **warppHTML:** Usually controlled by `lwarpmk`, and not set in the document. Select the `warpprint` option to generate print output (default), or the `warppHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual `pdflatex`, etc. When `lwarp` is loaded in print mode, it creates `<project>_html.tex`, which sets the `warppHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarp}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

`BaseJobname` (*Opt*) **BaseJobname:** Not intended for the user. Used internally by `lwarp` when creating the `*_html.tex` file used to compile the HTML version. See section 31.
 Default: `\jobname`

`warppdisable` (*Opt*) **warppdisable:** Internally disables both `warpprint` and `warppHTML`. This disables most of `lwarp`, which may be useful for testing purposes to see whether `lwarp` is causing a problem.

7.6 Customizing the HTML output

 **Placement!** Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

 **Changes!** Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ `lwarpmk cleanall`

2. Recompile the print version in order to recreate the configuration files for `lwarpmk`:

Enter ⇒ `lwarpmk print`

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ `lwarpmk html`

Placed in the preamble before `\begin{document}`:

<code>\HTMLFirstPageTop</code> Default: <empty>	<code>\HTMLFirstPageTop</code> : $\{\langle contents \rangle\}$ A user-definable custom action applied to the top of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\HTMLFirstPageBottom</code> Default: <empty>	<code>\HTMLFirstPageBottom</code> : $\{\langle contents \rangle\}$ A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\linkhomename</code> Default: Home	<code>\linkhomename</code> : Name of the link to the home page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linkpreviousname</code> Default: Previous	<code>\linkpreviousname</code> : Name of the link to the previous page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linknextname</code> Default: Next	<code>\linknextname</code> : Name of the link to the next page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>tocdepth (Ctr)</code>	<code>tocdepth</code> : Sectioning depth of the table of contents. See section 16 for a list of L ^A T _E X stack depths.
<code>SideTOCDepth (Ctr)</code> Default: 1 sideroc	<code>SideTOCDepth</code> : Sectioning depth of the sideroc. Defaults to 1, causing the sideroc to show sections but not subsections. Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by <code>SideTOCDepth</code> . This sideroc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sideroc at the top of the page, as well as a link back to Home at the top and bottom. It is recommended to set: <pre style="padding-left: 40px;">SideTOCDepth = FileDepth</pre> or <pre style="padding-left: 40px;">SideTOCDepth = FileDepth+1</pre>

Table 8: HTML settings

Macro/Cntr/Bool	Loc [*]	Description
<code>\linkhomename</code>	P	Name of the link to the homepage.
<code>\linkpreviousname</code>	P	Name of the link to the previous page.
<code>\linknextname</code>	P	Name of the link to the next page.
<code>SideTOCDepth</code>	P	Sectioning depth of the sideroc.
<code>\sidedocname</code>	P	Name of the sideroc.
<code>FileDepth</code>	P	Sectioning depth of the file splits.
<code>CombineHigherDepths</code>	P	Combine higher section levels.
<code>FileSectionNames</code>	P	Use section names for file names, else use numbers.
<code>\FilenameLimit</code>	P	Maximum length of the generated filenames.
<code>FootnoteDepth</code>	P	Sectioning depth of footnotes.
<code>\abstractname</code>	P	The name of the abstract.
<code>\ImageAltText</code>	PD	<code>\includegraphics</code> and other images' alt tag.
<code>\ThisAltText {<text>}</code>	PD	Assigns an alt / title tag for the next image or link.
<code>\MathImageAltText</code>	PD	The svg math image <code>lateximage</code> alt tag.
<code>\PackageDiagramAltText</code>	PD	The suffix for a package's <code>lateximage</code> alt tags.
<code>\AltTextOpen</code>	PD	Start an HTML alt tag.
<code>\AltTextClose</code>	PD	End an HTML alt tag.
<code>\CSSFilename</code>	PS	The css for the following files.
<code>\MathJaxFilename</code>	PS	The MATHJAX script for the following files.
<code>\HTMLLanguage</code>	PS	The HTML lang tag.
<code>\HTMLTitle</code>	PS	The homepage's <title>, overriding <code>\title</code> .
<code>\HTMLTitleBeforeSection</code>	PS	Set subpage <title>s to <code>\HTMLTitle - sectionname</code>
<code>\HTMLTitleAfterSection</code>	PS	Set subpage <title>s to <code>sectionname - \HTMLTitle</code>
<code>\HTMLAuthor</code>	PS	The HTML author meta tag, overriding <code>\author</code> .
<code>\HTMLDescription</code>	PS	The HTML meta description tag.
<code>\HTMLKeywords</code>	PS	The HTML meta keywords tag.
<code>\HTMLMeta</code>	PS	Clear and set the custom meta tag.
<code>\HTMLAddMeta</code>	PS	Add another meta tag.
<code>\HTMLFirstPageTop</code>	P	Heading for the home page.
<code>\HTMLFirstPageBottom</code>	P	Footer for the home page.
<code>\HTMLPageTop</code>	PS	Heading for the other pages.
<code>\HTMLPageBottom</code>	PS	Footer for the other pages.
<code>\HTMLnewcolumnType</code>	D	<code>\newcolumnType</code> for HTML.
<code>\IndexPageSeparator</code>	P	Index page list separator.
<code>\IndexRangeSeparator</code>	P	Index page range separator.
<code>FixSmallCaps</code>	P	Set true if small caps rendered as all caps.
<code>HTMLDebugComments</code>	P	Boolean to generate HTML comments.

* **P**: Preamble, **D**: Anywhere in the document. **S**: Before a section.

<p>⚠ inaccessible pages</p>	<p>If <code>SideTOCDepth < FileDepth</code>, web pages will be inaccessible via the <code>sideroc</code>.</p>
<p><code>\sidedtocname</code> Default: <code>Contents</code></p>	<p>\sidedtocname: Name of the <code>sideroc</code>. Paragraphs are allowed. Redefine with <code>\renewcommand</code>.</p>
<p><code>FileDepth (Ctr)</code> Default: <code>-5</code></p>	<p>FileDepth: Sectioning depth of file splits. Defaults to <code>-5</code>, causing the entire HTML website to be one single file.</p> <ul style="list-style-type: none"> • To place the entire file into one HTML page, use: <code>\setcounter{FileDepth}{-5}</code> • To split the HTML file at <code>\section</code> depth, use: <code>\setcounter{FileDepth}{1}</code> • To ensure that the HTML pages/files are accessible: Place a <code>\tableofcontents</code> somewhere before the first section break (therefore in the “home page”), and set <code>tocdepth >= FileDepth</code>
<p>⚠</p>	
<p><code>CombineHigherDepths (bool)</code> Default: <code>true</code></p>	<p>CombineHigherDepths: Combine a higher section with its first lower subsections, down to the <code>FileDepth</code>. Defaults to <code>true</code>. Set to <code>false</code> to simulate the concept of a chapter opening on its own page, for example.</p> <p>The file splits are controlled by the counter <code>FileDepth</code> and the boolean <code>CombineHigherDepths</code>. Setting <code>FileDepth</code> to <code>0</code> splits the file at chapters, <code>1</code> at sections, etc. <code>CombineHigherDepths</code> controls whether to combine pages at levels higher than the chosen <code>FileDepth</code>, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set <code>tocdepth</code> and <code>SideTOCDepth</code> to allow access to each page of the website. Set <code>tocdepth</code> and <code>SideTOCDepth</code> to be greater than or equal to <code>FileDepth</code>.</p>
<p>⚠ Inaccessible pages!</p>	
<p>⚠ Lost in an old page!</p>	<p>When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (<code>lwarpmk cleanall</code>), change <code>FileDepth</code> and/or <code>CombineHigherDepths</code>, then finally recompile and navigate to the desired page using the new file structure.</p>
<p><code>FileSectionNames (bool)</code> Default: <code>true</code></p>	<p>FileSectionNames: If <code>true</code>, web page filenames are derived from a sanitized version of the section names. If <code>false</code>, web pages are numbered. Either way, the <code>HTMLFilename</code> option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after being sanitized. For example, <code>math</code> in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.</p>
<p>⚠ Unique filename!</p>	
<p><code>\FilenameLimit</code> Default: <code>80</code></p>	<p>\FilenameLimit: The maximum length of the filenames generated by <code>lwarp</code>. “.html” is added to this length. Redefine with <code>\renewcommand</code>.</p>
<p><code>FootnoteDepth (Ctr)</code> Default: <code>3</code></p>	<p>FootnoteDepth: Determines where to place pending footnotes. <code>3</code> places footnotes before each break down to the <code>\subsubsection</code> level. <code>1</code> places footnotes before each <code>\section</code> break. Any pending footnotes are also placed at the bottom of each page before each file break.</p>
<p><code>FixSmallCaps (bool)</code> Default: <code>false</code></p>	<p>FixSmallCaps: Set <code>true</code> if <code>SMALL CAPS</code> are rendering in all caps (“<code>SMALL CAPS</code>”). May be required for some fonts (<code>erewhon</code>, <code>utopia</code>, <code>fbf</code>, et al.), and packages such as <code>embrac</code>.</p>

HTMLDebugComments (<i>bool</i>) Default: false	HTMLDebugComments: Set true to generate HTML comments, such as which section or <div> is being opened or closed.
\abstractname Default: Abstract	\abstractname: The name of the abstract. This may also be over-written by the babel package. Defaults to “Abstract”. Redefine with \renewcommand.
\IndexPageSeparator Default: “, ”	\IndexPageSeparator: Index page list separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexpagesep.
\IndexRangeSeparator Default: “--”	\IndexRangeSeparator: Index page range separator. Adjust to match index style file. If using gindex, this is set automatically to gindex’s \indexrangesep.

Placed before \begin{document}, or before any sectioning command which causes a file break:

\CSSFilename Default: lwarp.css	\CSSFilename: $\{\langle filename.css \rangle\}$ Sets the css file to use for the following files. May be changed before each sectioning command which would cause a file split.
------------------------------------	---

The css styles of the web pages are set by the \CSSFilename command. If \CSSFilename is not used, a default plain style is used to mimic printed L^AT_EX output. lwarp_sagebrush.css is a semi-fancy colored style as shown in this tutorial. Change it to lwarp_formal.css for a more formal look, or comment out the \CSSFilename command to see the default. \CSSFilename may be used before each file break to set the css for individual pages of the website.

\MathJaxFilename Default: lwarp_mathjax.txt	\MathJaxFilename: $\{\langle filename \rangle\}$ Sets the MATHJAX script file to use for the following files. May be changed before each sectioning command which would cause a file split.
--	--

The MATHJAX script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. \MathJaxFilename may be used before each file break to set the script file for individual pages of the website.

\HTMLLanguage Default: en-US	\HTMLLanguage: $\{\langle language \rangle\}$ The HTML file’s HTML lang meta tag. Defaults to en-US.
---------------------------------	---

\HTMLTitle Default: \thetitle	\HTMLTitle: $\{\langle title \rangle\}$ Overrides \title for the HTML header’s meta title. Defaults to \thetitle, which is set by \title, or empty otherwise. Unlike the author, \thetitle is set by \title even if not using the titling package.
----------------------------------	---

\HTMLTitleBeforeSection Default: \HTMLTitleBeforeSection	\HTMLTitleBeforeSection: Sets subpage <title> tags to show the website title followed by the section name.
---	---

\HTMLTitleAfterSection	\HTMLTitleAfterSection: Sets subpage <title> tags to show the section name followed by the website title.
------------------------	--

custom <title> To customize subpage <title>s, redefine \theHTMLTitleSection, which defaults to:

```
\def\theHTMLTitleSection{%
  \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
}
```

\HTMLAuthor Default: \theauthor	\HTMLAuthor: $\{\langle author \rangle\}$ The HTML header’s meta author. Defaults to
------------------------------------	---

`\theauthor`, which is set by `\author` if using the titling package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the `authblk` package, most of which do not result in a sensible `\theauthor`, so `\HTMLAuthor` is useful to create a list of authors without their affiliations.

<code>\HTMLDescription</code> Default: <code><empty></code>	\HTMLDescription: <code>{\langle description \rangle}</code> Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.
<code>\HTMLKeywords</code> Default: <code><empty></code>	\HTMLKeywords: <code>{\langle keywords \rangle}</code> Sets the HTML keywords tag for the following files. May be changed before each sectioning command which would cause a file split.
<code>\HTMLMeta</code> Default: <code><empty></code>	\HTMLMeta: <code>{\langle name \rangle}{\langle contents \rangle}</code> Clears then sets a new user-definable custom meta tag used for the following pages. Replaces any prior custom meta tags previously set by <code>\HTMLMeta</code> and <code>\HTMLAddMeta</code> .
<code>\HTMLAddMeta</code> Default: <code><empty></code>	\HTMLAddMeta: <code>{\langle name \rangle}{\langle contents \rangle}</code> Add to the user-definable custom meta tags for the following pages. May be used more than once to add multiple tags. Use <code>\HTMLMeta</code> to empty and start over with a new tag.
<code>\HTMLPageTop</code> Default: <code><empty></code>	\HTMLPageTop: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\HTMLPageBottom</code> Default: <code><empty></code>	\HTMLPageBottom: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\LinkHome</code>	\LinkHome: Creates a link to the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkPrevious</code>	\LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkNext</code>	\LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in <code>\HTMLPageTop</code> and related.

Placed in the home page before the first sectioning command which causes a file break:

<code>\tableofcontents</code>	\tableofcontents: Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage.
-------------------------------	--

 [TOC on the homepage!](#)

Links to each chapter/section are provided, as selected by `tocdepth`.

Placed in the document wherever necessary:

<code>\ImageAltText</code> Default: <code>image</code>	\ImageAltText: Redefine with <code>\renewcommand</code> . <code>\includegraphics</code> and other images are assigned an HTML <code>alt</code> tag according to <code>\ImageAltText</code> along with <code>\AltTextOpen</code> and <code>\AltTextClose</code> . This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “image”, and it may be changed according to
---	--

the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `\includegraphics` and other images.

`\ThisAltText`

\ThisAltText: $\{\langle text \rangle\}$ `\ThisAltText` can be used to assign an HTML alt text attribute to the next image generated by a `lateximage`, `picture`, `tikzpicture`, or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`

Default: `math image`

\MathImageAltText: Redefine with `\renewcommand`. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is "math image", and it may be changed according to the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

`\PackageDiagramAltText`

Default: `diagram`

\PackageDiagramAltText: Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is "diagram", and may it be changed according to the document's language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen`

Default: `(`

`\AltTextClose`

Default: `)`

\AltTextOpen: Redefine with `\renewcommand`.



\AltTextClose: Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.

`\HTMLnewcolumnntype`

\HTMLnewcolumnntype: `\newcolumnntype` may not always work with `lwarp` for HTML output, since it often involves `TEX` boxes and fills. To provide a simplified column type for HTML, add `\HTMLnewcolumnntype` in addition.

`warpprint (env.)`

warpprint: An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won't have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.

		<i>Do not place anything else on the same line as <code>\end{warpprint}</code>. Also do not nest <code>warpprint</code> inside itself.</i>
<code>warpHTML</code> (<i>env.</i>)		warpHTML: An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.
		<i>Do not place anything else on the same line as <code>\end{warpHTML}</code>. Also do not nest <code>warpHTML</code> inside itself.</i>
<code>\warpprintonly</code>		\warpprintonly: <code>{\langle contents \rangle}</code> A macro version of the <code>warpprint</code> environment.
<code>\warpHTMLonly</code>		\warpHTMLonly: <code>{\langle contents \rangle}</code> A macro version of the <code>warpHTML</code> environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage `index.html`, and node-1, node-2. ¹³

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: `index.html`, and `About.html`, `Products.html`

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage `mywebsite.html`, and additional pages such as `mywebsite-About.html`, `mywebsite-Products`, etc.

```
\usepackage[
  HomeHTMLFilename=mywebsite,
  HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

7.7 Customizing the css

`\CSSFilename` {*<filename>*}

Default: `lwarp.css`

`\CSSFilename` may be used to choose which `.css` file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

```
...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...
```

The styles provided by `lwarp` include:


`lwarp.css`: A default style if `\CSSFilename` is not used. This style is comparable to a plain L^AT_EX document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

`lwarp_formal.css`: A formal style with a serif fonts and a traditional look.

`lwarp_sagebrush.css`: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk.html` again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

 **Rename it!** Note that `sample_project.css` is overwritten whenever `lwarp` is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

`lwarp.css` (*file*) It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` as follows:

`project.css` (*file*)

`sample_project.css` (*file*)

```
/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
/* @import url("lwarp_formal.css") ; */
```

¹³See `\SetHTMLFileNumber` to number in groups by chapter, for example.

```

/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */

```

Finally use `\CSSfilename{<project>.css}` in the document to activate the custom CSS.

7.8 Assigning css classes and styles

HTML CSS classes and styles may be assigned to fragments of the document.

`BlockClass (env)` [*<style>*] {*<class>*}

An entire block of text, including paragraphs, may be assigned a CSS class and optional CSS style using the `BlockClass` environment. The result is placed inside a `<div>`. A `BlockClass` may nest other `BlockClasses` or `\InlineClasses`.

`\InlineClass` (*<wp css style>*) [*<web css style>*] {*<css class>*} {*<text>*}

A section of text without paragraphs may be assigned a CSS class and optional CSS style using the `\InlineClass` macro. The result is placed inside a ``. `\InlineClass` may be nested, but per the HTML standard it must not contain `BlockClass`, nor may it contain a paragraph, nor several other objects such as HTML figures. `\InlineClass` also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of `BlockClass` and `\InlineClass` are provided for the print version, so they may be used in the document without placing them inside `warpHTML` or `\warpHTMLonly`.

7.9 Selecting the operating system

- `Unix (Prog)` `lwarp` tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as "UNIX" in the configuration files), and MS-WINDOWS is supported as well.
- `Mac OS (Prog)`
- `Linux (Prog)`
- `MS-Windows (Prog)` If MS-WINDOWS is not correctly detected, use the `lwarp` option `OSWindows`.
- `Windows (Prog)` When detected or specified, the operating-system path separator used by `lwarp`
- `OSWindows (Opt)` is modified, and the boolean `usingOSWindows` is set true. This boolean may be tested by the user for later use.

7.10 Selecting actions for print, HTML, or MATHJAX output

The following environments and macros are used to select actions which only apply to either traditional L^AT_EX print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.

For most of built-in L^AT_EX and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which `lwarp` does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

`warpHTML` (*env.*) Anything which is to be done only for HTML5 output is surrounded by a `warpHTML` environment:

```
\begin{warpHTML}
... something to be done only during \HTML\ generation
\end{warpHTML}
```

⚠ `\end{warpHTML}` Do *not* place anything else on the same line as `\end{warpHTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warpHTML` inside itself.

⚠ **nesting** `warpMathJax` may be used inside `warpHTML`.

`warpprint` (*env.*) Anything which is to be done only for print output is surrounded by a `warpprint` environment:

```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```

⚠ `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.

⚠ **nesting**

`warpall` (*env.*) Anything which is to be done for any output may be surrounded by a `warpall` environment. Doing so is optional.

```
\begin{warpall}
... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

⚠ `\end{warpall}` As above, do not place anything else on the line with `\end{warpall}`. Do not nest `warpall` inside itself.

⚠ **nesting**

Macros are also provided for print-only or HTML-only code:

`\warpprintonly` $\{\langle actions \rangle\}$

Performs the given actions only when print output is being generated.

`\warpHTMLonly` $\{\langle actions \rangle\}$

Performs the given actions only when HTML output is being generated.

`warpMathJax` (*env.*) Anything which is to be done only while using HTML output with MATHJAX is surrounded by a `warpMathJax` environment. Usually, this is `\CustomizeMathJax`,

⚠ <code>\end{warpMathJax}</code>	used to add emulation macros. <code>\end{warpMathJax}</code> must appear on its own line. Do not nest <code>warpMathJax</code> inside itself. <code>warpMathJax</code> may be used inside <code>warpHTML</code> .
⚠ <code>\end{warpsvg}</code>	Anything which is to be done only while using print output or HTML output with SVG math is surrounded by a <code>warpsvg</code> environment. <code>\end{warpsvg}</code> must appear on its own line. Do not nest <code>warpsvg</code> inside itself. <code>warpsvg</code> may be used inside <code>warpHTML</code> .
<code>\LWR@formatted</code>	To define macros or environments which behave differently depending on print or HTML output, see section 38.

7.11 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a `warpprint` environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent` `\parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

7.12 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
  Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the HTML files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 71.8.

<code>\maketitle</code>	Use <code>\maketitle</code> just after the <code>\begin{document}</code> , as this will establish the title of the homepage. Optionally, use a <code>titlepage</code> environment instead.
<code>titlepage (env.)</code>	The <code>titlepage</code> environment may be used to hold a custom title page. The <code>titlepage</code> will be set in a <code><div></code> class <code>titlepage</code> , and <code>\printtitle</code> , etc. may be used inside this environment.
<code>titlingpage (env.)</code>	Another form of custom title page, where <code>\maketitle</code> is allowed, and additional

information may be included as well.

`\title` $\{\langle title \rangle\}$

- △ **HTML corrupted** Avoid newlines in the `\title`; these will interfere with the file break and CSS detection. Use a `\subtitle` command instead (section 71.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The HTML meta title tag will also have this title, unless `\HTMLTitle` is used to set the meta title to something else instead.
- △ **newlines**

`\author` $\{\langle author \rangle\}$

In `\author`, `\protect` may be needed before some formatting commands. In HTML, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a HTML meta tag, but `\HTMLAuthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarp`.

`\date` $\{\langle date \rangle\}$

`\date` works as expected. In HTML, this will appear in a `<div>` class `datedate`.

`\thanks` $\{\langle text \rangle\}$

`\thanks` are allowed in the titlepage fields, and will be rendered as HTML notes at the bottom of the title page.

7.13 HTML page meta descriptions

`\HTMLDescription` $\{\langle A\ description\ of\ the\ web\ page.\rangle\}$

Default: (none)

limitations

Each page of HTML output should have its own HTML meta description, which usually shows up in web search results. Usually limited to around 150 characters in length, and should not include the ASCII double quote character (`"`).

placement

Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the HTML page for that `\section`. The same description will be used for all following HTML files as well, until reset by a new `\HTMLDescription`. It is best to use a unique description for each HTML file.

disabling

To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.14 HTML page meta keywords

`\HTMLKeywords` $\{\langle Keywords\ for\ the\ web\ page.\rangle\}$

Default: (none)

`\HTMLKeywords` behaves like `\HTMLDescription`, but adds HTML meta keywords for the following web pages.

disabling

To disable the generation of HTML keyword meta tags, use:

\HTMLKeywords{}

7.15 HTML homepage meta title

\HTMLTitle {<*title*>}

Default: \HTMLtitle{\thetitle}

Sets the contents of the web page <meta name="title"> element. May be set empty to cancel the meta title tag.

See section 7.6 for \HTMLTitleBeforeSection and \HTMLTitleAfterSection, used to set the title for HTML subpages.

7.16 HTML page meta author

\HTMLAuthor {<*author*>}

Default: \HTMLAuthor{\theauthor}

Sets the contents of the web page <meta name="author"> element. May be set empty to cancel the meta author tag.

\author may be used to create a list of authors and their affiliations, in several formats if using authblk, and these may not successfully parse properly into a sensible list for \theauthor. \HTMLAuthor may be used to set the meta tag to a simple list of names.

8 Special cases and limitations


Some commonly-used L^AT_EX expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:

 **options with braces** **Package options:** Package options may cause problems with lwarp, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading lwarp:

```
\PassOptionsToPackage{font={it,small}}{caption}
```

```
...
```

```
\usepackage{lwarp}
```

```
...
```

```
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
```

```
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

Custom math environment macros: Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

When setting `FileSectionNames` to true to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid L^AT_EX, but invalid HTML. An example is a tabular inside `\textbf`, since HTML does not allow a table inside a span. lwarp

will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

⚠ `\bfseries`, etc. `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

⚠ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

program listings For program listings, the `listings` package is supported, and its `literate` option is used to automatically convert `&`, `<`, and `>` to proper HTML entities.

`minted` sanitizes HTML automatically by its `colorizing`, which splits the special characters from the rest of the tag.

⚠ **verbatim** The `fancyvrb` and `fvextra` packages automatically sanitize HTML entities, but the core \LaTeX `verbatim`-related environments do not, nor does the `verbatim` package, so care must be taken to avoid accidentally including valid HTML code inside these environments. It may be sufficient to add a space on either side of `&`, `<`, and `>`.

⚠ **gobble** `fancyvrb` does not sanitize HTML when using the `gobble` option.

8.2.2 Small caps

`FixSmallCaps` (*bool*) Some fonts, such as `erewhon`, `utopia`, or `fbf`, and some packages such as `embrac`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which `lwarp` then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

⚠ **CJK fonts** Some CJK fonts may not work if `FixSmallCaps` is set `true`.

8.2.3 Horizontal and vertical space and rules

`\hspace` `\hspace` is converted to an inline HTML span of the given width, except that `0` width is ignored, a width of `.16667em` is converted to an HTML thin breakable space (U+2009), and a `\fill` is converted to a `\quad`.

`\vspace` `\vspace` is ignored for HTML.
`~`
`\,` `~` and `\,` are converted to HTML entities.

`\kern` `\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by `pdfdotext`, and thus usually appear as a single space.

`\rule` `\rule` is converted to an HTML rule of the same dimensions, of the currently

selected text color.

- `\hrule` Both `\hrule` and `\vrule` are ignored for HTML. To create a horizontal dividing rule across the page, use `\hrulefill` in its own paragraph.
- `\vrule`
- `\hrulefill` `\hrulefill` usually creates a one-inch rule, similar to a “fill in the blank”. If it is used at the start of a new paragraph, it creates a `<div>` with a thin horizontal border across the page, as would often be done with `\hrule`.

8.2.4 Text alignment

Use the environments `center`, `flushright`, `flushleft` instead of the macros `\centering`, `\raggedright`, `\raggedleft`.

- ⚠ **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...
```

8.2.5 Accents

Native \LaTeX accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware $X_{\text{Y}}\LaTeX$ and $\text{Lua}\LaTeX$. If using accents in section names which will become file names, it is recommended to use the \LaTeX accents such as `\`` and `\v` instead of Unicode accents. The \LaTeX accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

8.2.6 textcomp package

- `textcomp (Pkg)` Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

- ⚠ **missing symbols** Many `textcomp` symbols are not supported by many system/browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.7 Superscripts and other non-math uses of math mode

Use `x` instead of `^{x}`

8.2.8 Empty `\item` followed by a new line of text or a nested list:


- lists** Use a trailing backslash: `\item[label] \`

8.2.9 relsize package

`relsize (Pkg)` For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages


8.3.1 Marginpars

`\marginpar` [*left*] {*right*} `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

`\marginparBlock` [*left*] {*right*} To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a ``. A line break will occur in the text where the `\marginBlock` occurs.


8.3.2 Save Boxes

 **HTML corrupted**

 **boxes** TEX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.


 **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.

8.3.3 Minipages

 **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made `inline-block`.

placement `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

side-by-side Side-by-side `minipages` may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side `minipages` and these spacing commands, but not at the start or end of the paragraph.

 **minipage in a span** There is limited support for `minipages` inside an HTML ``. An HTML `<div>` cannot appear inside a ``. While in a ``, `minipages`, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

- ⚠ **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual 6×9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.
- if width is `\linewidth` If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.
- ⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.
- ⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
- ⚠ **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a `center` environment, with horizontal space between them, such as `\quad`, `\qqquad`, `\hspace`, or `\hfill`. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a ``. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

- `\fbox` For a framed object, options include:
- `\fboxBlock`
- `fminipage (env)`
- To remove the frame in HTML output:** Place the `\fbox` command and its closing brace inside `warpprint` environments. This will nullify the frame for HTML output.
- To frame the contents inline with some formatting losses in HTML:** This is the default action of `\fbox` when enclosing a minipage. During HTML output, `\fbox` nullifies the HTML tags for `minipage`, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.
- To frame the contents on their own line with improved formatting in HTML:** A new command `\fboxBlock` is included, intended to be a direct replacement

For inline text:

For inline minipage and lists:

for `\fbox` for cases where the `\fbox` surrounds a minipage, table, or list. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and minipages look nicer, and valid HTML is created for a `tabular`. While an `\fbox` containing a `tabular` is valid L^AT_EX code, the result in HTML is problematic since a table is a `<div>` not a ``, so use `\fboxBlock` around a `tabular`, or else place the `tabular` inside a minipage, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display `tabular`,
minipages, and lists:

To create a framed minipage in both print and HTML: A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a `tabular`. Also see section 91 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 682 for `xcolor`’s `\colorbox` and `\fcolorbox`, and `lwarp`’s additional `\colorboxBlock` and `\fcolorboxBlock`.

⚠ Misplaced alignment
tab character &

To frame tables or verbatim environments: Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a `tabular`. Also, if using `\fboxblock` with `tabular`, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the `tabular`, and `\StopDefiningTabulars` afterwards. Also see the `lwarp` documentation for the `fancybox` package.

To frame equations: See section 264 for the `fancybox` package.

For fancy framed minipages: See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

Custom environments: Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
  % use \CSS\ to format div class framedminipage
\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}
```

8.3.6 fancybox package

`fancybox` (*Pkg*)
framed equation example

`fancybox`’s documentation has an example `FramedEqn` environment which combines `math`, `\Sbox`, a `minipage`, and an `\fbox`. This combination requires that the entire environment be enclosed inside a `lateximage`, which is done by adding `\lateximage` at the very start of `FramedEqn`’s beginning code, and `\endlateximage` at the very end of the ending code. Unfortunately, the HTML `alt` attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

framing alternatives `\fbox` works with `fancybox`. Also see `lwarp`'s `\fboxBlock` macro and `fminipage` environment for alternatives to `\fbox` for framing environments.

framed table example The `fancybox` documentation's example of a framed table using an `\fbox` containing a `tabular` does not work with `lwarp`, but the `FramedTable` environment does work if `\fbox` is replaced by `\fboxBlock`. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a `fminipage` environment. The caption may be placed either inside or outside the `fminipage`:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

⚠ framed verbatim `lwarp` does not support the `verbatim` environment inside a `span`, `box`, or `fancybox`'s `\Sbox`, but a `verbatim` may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```

\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}

```

framed \VerbBox `fancybox`'s `\VerbBox` may be used inside `\fbox`.

indented alignment `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

`lwarp` sanitizes HTML for `fancybox` verbatims, except for the contents of `\VerbBox` and any `\verb` inside.

8.3.7 mdframed package

mdframed (Pkg) support Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

 **loading** When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `[mdframedtitle]`. Subtitles are in a `<div>` of class `[mdframedsubtitle]`, and likewise for subsubtitles.

8.3.8 tcolorbox package


`tcolorbox` (*Pkg*) `tcolorbox` is emulated for HTML and MATHJAX, and supported as-is inside a `lateximage` or `svg math`.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- theorems: Theorems are supported. `math`, `ams equation`, etc. are not supported. Use a `tcolorbox` with regular `math` inside it. `\tcbboxmath` and `\tcbhighmath` are supported in `svg math`, and emulated in MATHJAX.
- Fitting features: `\tcbboxfit` becomes `\tcbbox` in HTML.
- Footnote numbering does not match the printed output.
- MATHJAX emulation is provided for common macros.

 **math**

 **footnotes**


 **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

8.4 Section names

If using named HTML files, by selecting `\booltrue{FileSectionNames}`, several steps should be taken to avoid problematic file names.


8.4.1 Formatting in section names

 **macros in section names** When using special formatting in the section name, use the optional short form:

```
\section[Simplified name]{Fancy name with formatting}
```

Remember to `\protect` L^AT_EX commands which appear in section names and TOC captions.

8.4.2 Math in section names

 **math in section names** If using named HTML files, in section names use parentheses `\(x+y\)` instead of dollar `$x+y$`. Parentheses `math` is removed from the file name. (Dollar `math` works, but it generates complicated filenames.) Or, use a short name for the TOC entry without the `math`, or use `\texorpdfstring` from the `hyperref` package:

```
\section[Simplified name]{Name with \((1+2=3\)) math}
\section{Some math \texorpdfstring{\$1+2=3\$}{three}}
```

8.4.3 Simplifying file names

The generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {<text>}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {<macros>}
```

Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullified during filename generation. Low-level macros such as `\begingroup` will cause problems when nullified. Many macros such as `\textbf` are already nullified. `lwarp` also already nullifies built-in symbol and `textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.

```

\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}

```

8.4.4 Preventing duplicate file names

- △ **duplicate filename** Section names at levels which result in HTML file splits may be duplicates, but the resulting file names must be unique. `lwarp` will generate a warning if a duplicate section name occurs, then `lwarp` will append a unique file number to the resulting file name, thus avoiding file name clashes. These unique file numbers may change as sections are added or removed. As a result, old and orphaned HTML files may be left behind. To remove these leftover files, use `lwarpmk cleanall` and recompile. Also, as file names are adjusted, external links from outside to these files may be broken. To use fixed file names, use the optional short-form name, or use `\texorpdfstring` from `hyperref`:

```

\section[Unique Name]{Duplicate name}
\section{\texorpdfstring{Duplcate Name}{Unique Name}}

```

8.5 Cross-references

- △ **label characters** `labels` Labels with special characters may be a problem. It is best to stick with alphanumeric, hyphen, underscore, and perhaps the colon (if not French).
- △ **empty link** `\nameref` `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.

8.5.1 Page references

- △ **L^AT_EX page numbers** The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```

\ref{sec:name} on page \pageref{sec:name}
in HTML becomes:
“Sec. 1.23 on page (see sec. 1.23)”.

```

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 514.

8.5.2 `cleveref` and `varioref` packages

`cleveref` (*Pkg*) `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\pageref` and `\pagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

- △ **cleveref page numbers**

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 754 to redefine the message which is printed for page number references.

- ⚠ **varioref types** `cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

8.5.3 Hyperlinks, hyperref, and url

`hyperref (Pkg)` `lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

`url (Pkg)`

- ⚠ **comments between arguments** Do not place a comment with a % character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

`lwarp` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarp` does not (yet) attempt to convert `url` links into hyperlinks during HTML output, nor does the print version of `url` create hyperlinks.

- ⚠ **backref** When generating HTML, `lwarp`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

`lwarp` uses native L^AT_EX footnote code, although with its own `\box` to avoid the L^AT_EX output routine. The usual functions mostly work as-is.

footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

MATHJAX Also for `MATHJAX`, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:

```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

footmisc The `footmisc` `stable` option is emulated by `lwarp`.

⚠ **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

⚠ **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

fancybox, fancyvrb

⚠ **\VerbatimFootnotes**
⚠ **sectioning or displaymath**

If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

pfnote

⚠ **pfnote numbers**

While emulating `pfnote`, `lwarp` is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. `lwarp` therefore uses continuous footnote numbering even for `pfnote`.

bigfoot, manyfoot

⚠ **verbatim**

Verbatim footnotes are not yet supported.

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L^AT_EX. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X_YL^AT_EX or LuaL^AT_EX instead of PDF L^AT_EX.

8.5.5 xr, xr-hyper, and xcite packages

See section 5.18.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with authblk:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections

[HTML page and TOC](#) The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, tocbind, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

`lwarp` provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the `\chapter*` or `\section*`. `lwarp` will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.


`\ForceHTMLTOC` To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.

 **inaccessible HTML page**

8.6.3 abstract package

abstract (*Pkg*) If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

 **missing TOC**

8.6.4 titling and authblk


titling (*Pkg*) **authblk** (*Pkg*) **package support** **load order** **\published and \subtitle**

lwarp supports the native L^AT_EX titling commands, and also supports the packages **authblk** and **titling**. If both are used, **authblk** should be loaded before **titling**. If using the **titling** package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 71.8.

8.6.5 tocloft package


titles (*Opt*) [] **tocloft** (*Pkg*) **tocloft** (*Pkg*)

If using **tocloft** with **tocbibind**, **anonchap**, **fncychap**, or other packages which change chapter title formatting, load **tocloft** with its `titles` option, which tells **tocloft** to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

 **tocloft & other packages**

8.6.6 appendix package


appendix (*Pkg*)

 **incorrect TOC link**

During HTML conversion, the option `toc` without the option `page` results in a TOC link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

8.6.7 pagenote package

pagenote (*Pkg*) **pagenote** works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

8.6.8 endnotes package

endnotes (*Pkg*) If using **cleveref**, **endnotes** displays as a link to an endnote, rather than a section. A comma-separated list of end notes does not work with `\cref` and `related`. (In print mode, such as `list simply` displays a link to the section.)

table of contents To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\noteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```

HTML page To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```
\ForceHTMLPage
\theendnotes
```

- ⚠ `\endnotemark numbering` If using MATHJAX, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

8.6.9 BibTeX

To update the HTML version of the bibliography:

```
Enter ⇒ bibtex <filename>_html
```

`\etalchar` Displays a superscript “+” to indicate “and others”.

- ⚠ **Modify *.bib** When enough authors are cited for a source, BibTeX may use the `\etalchar` command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper \prevdepth” error. At present, `lwarp` requires that `\etalchar` be replaced by a text superscript. To do so, add to the start of the `.bib` file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}}
```

8.6.10 biber

To update the HTML version of the bibliography:

```
Enter ⇒ biber <filename>_html
```

8.6.11 xcite package

See section 5.18.

8.6.12 gloss package

`gloss (Pkg)` To process the HTML glossary:

- ⚠ **compiling** `bibtex <projectname>_html.gls`

8.6.13 glossaries package

`glossaries (Pkg)` `lwarpmk` has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package’s `makeglossaries` program.

`GlossaryCmd (Opt)`
 Default: `makeglossaries`
`printglossary (Opt)` []
`htmlglossary (Opt)` []
 The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

- ⚠ **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for glossaries conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\namerRefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.14 nomencl package

`nomencl` (*Pkg*) To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o
<project>_html.nls
```

8.6.15 Indexing overview

There are many ways to process indexes for a \LaTeX document, including native \LaTeX capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. `lwarp` attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with `lwarpmk print` and `lwarpmk html`. In some cases, it will also be necessary to compile the indexes with `lwarpmk printindex` and `lwarpmk htmlindex`. A recompile may then be forced with `lwarpmk print1` and `lwarpmk html1`.

- [manual processing](#) The user may continue to process indexes manually or by shell script without the use of `lwarpmk`, but adjustments will be required to process HTML indexes as well. In general, `*.idx` and `*.ind` files will be accompanied by `*_html.idx` and `*_html.ind` files.
- [custom index style](#) If using a custom indexing style file, see sections [8.6.21](#) to [8.6.23](#).
- [link appearance](#) To control how the index links appear in the HTML output, see the `IndexRef` option in section [7.5](#), page [109](#).
- [source code](#) See section [81](#) for `lwarp`'s core index and glossary code, section [347](#) for `index`, section [579](#) for `splitidx`, section [345](#) for `imakeidx`, section [636](#) for `tocbibind`, and section [703.17](#) for `memoir`'s indexing patches.

8.6.16 Indexing with `makeidx`, `makeindex`, `xindy`, `xindex`, `gindex`

- [lwarpmk processing](#) The following allow the user to process indexes automatically, or using `lwarpmk`'s commands:

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

- `makeindex` (*Prog*) **For a single index using `makeindex`:**

```
\usepackage[makeindex,latexmk] {lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.idx` style file. When creating the HTML index, “`_html`” is automatically appended to each of the names.

`lwarpmk` will use `latexmk` if specified, in which case `latexmk` will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, see section [8.6.21](#).

- `xindy` (*Prog*) **For a single index using `xindy`:**

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.xdy` style file.

`lwarpmk` will use `latexmk` if specified, in which case `latexmk` will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.22.

xindex (Prog) **For a single index using *xindex*:**

```
\usepackage[
  xindex,
  latexmk
]{lwarp} <optional>
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section 8.6.23.

gindex (Pkg) **For a single index using *gindex*:**

```
\usepackage[
  makeindex,
  makeindexStyle=gindex.ist,
  . . . or . . .
  makeindexStyle=gindexh.ist,
  latexmk
]{lwarp} <optional>
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, copy *gindex.ist* to a new file, modify, then specify it with *MakeindexStyle* as above. *lwarp* will automatically adapt to *gindex*'s `\indexpagesep` and `\indexrangesep` settings.

8.6.17 Indexing with *index*

index (Prog)

lwarp is told how to use *makeindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

For multiple indexes using *makeindex* and *index*:(Assuming that the second index has file extensions *.sist* and *.sind*)

```

\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist
      -o <projectname>.sind <projectname>.sidx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist
      -o <projectname>_html.sind <projectname>_html.sidx
  }
]{lwarp}
\usepackage{index}
. . .
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}

```

⚠ WINDOWS*For Windows, replace the two “;” characters with “&”.*

When creating the HTML index, “_html” is automatically appended to the index filenames.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

If the *latexmk* option is selected for *lwarp*, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

8.6.18 Indexing with *splitidx**splitidx (Prog)*

lwarp is told how to use *splitindex* using the *PrintIndexCmd* and *HTMLIndexCmd* options. The file *lwarp.ist* is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the *latexmk* option is selected for *lwarp*, *latexmk* will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

⚠ \thepage

When using *\AtWriteToIndex* or *\AtNextWriteToIndex*, the user must not refer to *\thepage* during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the *\index*-like action occurs, and then refer to *\arabic{LWR@autoindex}* instead of *\thepage* where the reference should occur.

See section 703.17 in the lwarp-patch-memoir package for the `\@wrsindexhyp` macro as an example.

For multiple indexes using *makeindex* and *splitidx*:

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    splitindex <projectname> -- -s lwarp.ist
  },
  HTMLIndexCmd={
    splitindex <projectname>_html -- -s lwarp.ist
  }
]{lwarp}
\usepackage{splitidx}
. . .
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```
\usepackage[
  xindy, latexmk,
  PrintIndexCmd={
    splitindex -m xindy <projectname> -- -M lwarp.xdy
      -L english -C utf8 <optional>
  },
  HTMLIndexCmd={
    splitindex -m xindy <projectname>_html -- -M
    lwarp.xdy
      -L english -C utf8 <optional>
  }
]{lwarp}
\usepackage{splitidx}
. . .
\makeindex
\newindex[Second Index]{secondname}
```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.19 Indexing with imakeidx

`imakeidx` (*Prog*)

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, `imakeidx` will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include `lwarp`'s special `lwarp.ist` or `lwarp.xdy` file, or a file based on them. If using a custom indexing style file, see sections 8.6.21 to 8.6.23.

The `splitindex` option is also available if shell escape is used, in which case the `splitidx` package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s `lwarpmk printindex` and `lwarpmk htmlindex` commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. `lwarp`'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

`imakeidx` will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```


⚠ enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

Enter ⇒ `pdflatex --shell-escape projectname.tex`

Enter ⇒ `pdflatex --enable-write18 projectname.tex` (MiKTeX)

or similar with *xelatex* or *lualatex*. lwarp will remember that shell escape was used.

imakeidx will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

`latexmk` may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but *imakeidx* will actually create the indexes.

For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s `\makeindex` command. The style file `lwarp.xdy` is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for `\makeindex`, since *imakeidx* will process the indexes.

```
\usepackage[xindy,latexmk] {lwarp}
\usepackage[xindy,splitindex]{imakeidx}
. . .
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]
```

⚠ enable shell escape

For the first compile, use

Enter ⇒ `pdflatex --shell-escape projectname.tex`

Enter ⇒ `pdflatex --enable-write18 projectname.tex` (MiKTeX)

or similar with *xelatex* or *lualatex*. lwarp will remember that shell escape was used.

imakeidx will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but *with latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```

\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
. . .
\makeindex
\makeindex[name=secondname]

```

latexmk will create the indexes automatically when `lwarpmk print` and `lwarpmk html` are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```

\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
\usepackage[xindy]{imakeidx}
. . .
\makeindex
\makeindex[name=secondname]

```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindex* and *imakeidx*, using shell escape:

xindex, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```

\usepackage[%
  xindex,
  xindexConfig=-imakeidx,
  latexmk
] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[%
  options={ -s lwarp.ist} }
]
\makeindex[
  name=secondname,
  options={ -s lwarp.ist} }
]

```

⚠ enable shell escape

For the first compile, use:

Enter ⇒ **pdf_latex --shell-escape projectname.tex**

Enter ⇒ **pdf_latex --enable-write18 projectname.tex (MiKTeX)**

or similar with *xelatex* or *lualatex*. *lwarp* will remember if shell escape was used.

xindex will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

8.6.20 Indexes with memoir

For a single index with memoir and *makeindex*:

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex

```

The usual *.idx* and *.ind* files will be used, along with the *lwarp.ist* style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes with memoir and *makeindex*, using *latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
. . .
\makeindex
\makeindex[secondname]

```

lwarpmk will use *latexmk* to create the indexes automatically when the user executes **lwarpmk print** and **lwarpmk html**.

For multiple indexes with memoir and *makeindex*, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
...
\makeindex
\makeindex[secondname]
```

⚠ WINDOWS

For Windows, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For a single index with memoir and *xindy*:

```
\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
...
\xindyindex
\makeindex
```

The usual .idx and .ind files will be used, along with the lwarp.xdy style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes with memoir and *xindy*, using latexmk:

lwarp's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

lwarpmk will use *latexmk* to create the indexes automatically.

For multiple indexes with memoir and *xindy*, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

⚠ WINDOWS

For Windows, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.21 Using a custom *makeindex* style file

`makeindex` (*Prog*) When using *makeindex*, *lwarpmk* uses the file `lwarp.ist` to process the index. This file is over-written by *lwarp* whenever a print version of the document is processed.

`lwarp.ist` (*file*)

To use a custom *makeindex* style file:

1. Copy `lwarp.ist` to a new filename such as `projectname.ist`
2. Make changes to `projectname.ist`. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

3. If changing

```
delim_n -and- delim_r
```

in `projectname.ist`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`makeindexStyle (Opt)`

4. In the document source use the `makeindexStyle` option for `lwarp`:

```
\usepackage[
... other options ...
makeindex,
makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.ist` file instead of `lwarp.ist`.

8.6.22 Using a custom *xindy* style file

`xindy (Prog)` When using *xindy*, `lwarpmk` uses the file `lwarp.xdy` to process the index. This file is over-written by `lwarp` whenever a print version of the document is processed.

`lwarp.xdy (file)`

To use a custom *xindy* style file:

1. Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
2. Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes (("hyperindexref"))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`xindyStyle` (*Opt*)

4. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
... other options ...
xindy,
xindyStyle=projectname.xdy,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

8.6.23 Using a custom *xindex* style file

`xindex` (*Prog*) To use a custom *xindex* style file:

 **filename**

1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.
2. Make changes to `xindex-projectname.lua`.
3. If changing

```
itemPageDelimiter -and- rangeSymbol
```

in `xindex-projectname.lua`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

`xindexConfig` (*Opt*)

4. In the document source use the `xindexConfig` option for `lwarp`:

```
\usepackage[
... other options ...
xindex,
xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

8.6.24 Additional indexing limitations

- ⚠ *xindy* with *hyperref* *xindy* and *hyperref* may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:

```
\usepackage[hyperindex=false]{hyperref}
```

- ⚠ *empty index* If an HTML index is empty, it may be necessary to add the following before *lwarp* is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
...
\usepackage{lwarp}
```

- makeindex* custom display styles When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
...
A sentence.\index{key|notesstyle}
```

- xindy* custom display styles For custom styles with *xindy*, see *lwarp.xdy* for `\textbf` and `\textit` as examples.

8.6.25 Index positions, toc, tocbibind

- placement and toc options An index may be placed inline with other HTML text, or on its own HTML page:

- makeidx* (*Pkg*) **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L^AT_EX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

- makeidx* (*Pkg*) **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

- tocbibind* (*Pkg*) **Inline, with an automatic toc entry:**

The *tocbibind* package may be used to automatically place an entry in the TOC.


```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

tocbibind (*Pkg*) **On its own HTML page, with an automatic TOC entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

numindex (*Opt*) [] **numbered index section** Use the tocbibind numindex option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as imakeidx, may also have options for including the index in the Table of Contents.

tocloft (*Pkg*) **tocloft & other packages** If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

8.7 Math

8.7.1 Math in section names

math in section names If using named HTML files, in section names use parentheses math $\(x+y\)$ instead of dollar math $\$x+y\$$. Parentheses math is removed from the file name. (Dollar math works, but it generates complicated filenames.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the hyperref package:

```

\section[Simplified name]{Name with  $\(1+2=3\)$  math}
\section{Some math \texorpdfstring{\$1+2=3\$}{three}}

```

8.7.2 Math in custom environments

To create an environment which places its contents inside math, instead of:

```

\newenvironment{mymathenv}{ \langle starting math \rangle {ending math \rangle }

```

use:

```

\NewDocumentEnvironment{mymathenv}{b}
{
  \inlinemathother
  \langle starting math #1 ending math \rangle
  \inlinemathnormal
}
{}

```

or:

```

\usepackage{environ}
\NewEnviron{mymathenv}{
  \inlinemathother
  \(\ starting math \BODY ending math \)
  \inlinemathnormal
}

```

For display math, use `\[`, `\]`, `\displaymathother`, and `\displaymathnormal`.

8.7.3 Rendering tradeoffs

Math rendering Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

SVG files Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

SVG inline The SVG images are currently stored separately, but they could be encoded inline directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

PNG files Others L^AT_EX-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.

MathML Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.4 SVG option

SVG math option For SVG math, math is rendered as usual by L^AT_EX into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L^AT_EX with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML `alt` attribute carries the L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX math expression into other documents.

SVG image font size For SVG display math and the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

¹⁴See section 688 regarding fonts and fractions.

```
\newcommand*{\LateximageFontScale}{.75}
```

svg math copy/paste For SVG math, text copy/paste from the HTML `<alt>` tags lists the equation number or tag for single equations, along with the L^AT_EX code for the math expression. For $\mathcal{A}\mathcal{M}\mathcal{S}$ environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred $\mathcal{A}\mathcal{M}\mathcal{S}$ environment, although the `\tag` macro will still appear inside the L^AT_EX math expression.

⚠ **svg math size, baseline** SVG math sizing and baselines are improved if the `graphics` or `graphicx` package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if `graphics` or `graphicx` are not used.

⚠ **svg math in T_EX boxes** SVG math does not work inside T_EX boxes, since a `\newpage` is required before and after each image.

8.7.5 MATHJAX option

MATHJAX math option The MATHJAX (mathjax.org) L^AT_EX-math to HTML converter may be used to display math.
MathJax (*Prog*)

When MATHJAX is enabled, math is rendered twice:

1. As regular L^AT_EX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L^AT_EX, and
2. As detokenized printed L^AT_EX commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current L^AT_EX values, and the MATHJAX equation numbering system is ignored in favor of the L^AT_EX internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

⚠ fonts 8.7.6 MATHJAX rendering options

MATHJAX v3 may render using CHTML or SVG. SVG display renders italic characters correctly. To select SVG rendering, right-click on some math, and select

Math Settings → **Math Renderer** → **SVG**

Wait a moment for the math to rerender.

8.7.7 Customizing MATHJAX

equation numbering lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as `amsmath \numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```

\renewcommand*\theequation{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*\theMathJaxsection{\Alph{section}.}
}

```

⚠ **subequation** The `amsmath` subequations environment is supported, but only with `\alpha` subequation numbering.

global customizations MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```

\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}

```

⚠ **slow compilation** To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

`lwarp` already provides MATHJAX customizations for some packages.

siunitx When using `siunitx`, a similar process may be used to add custom units:

```

\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\micro\myunit}}}
\end{warpMathJax}

```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 406, [mathtools](#).

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```

\begin{warpMathJax}
\(\newcommand{\macroname}{. . .} \)
\(\newcommand{\anothername}{. . .} \)
\end{warpMathJax}

```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar` For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```

\CustomizeMathJax{
  \def\myname{
    \ifstar\starredaction\unstarredaction
    % (Do not place anything after!)
  } }

```

`\ifnextchar` For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```
\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}
```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```
\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}
```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.8 MATHJAX limitations

MATHJAX limitations Limitations when using MATHJAX include:

MathJax (*Prog*)



`\multicolumn`, `\multirow`

- MATHJAX does not support `\multicolumn` or `\multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.



footnotes

- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.



references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

`lateximage`

- Math appearing inside a `lateximage`, and therefore also inside a `TikZ` or `picture` environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.

`siunitx`

- For `siunitx`, see [siunitx package](#), section 8.7.15.

`physics`

- For `physics`, see [physics package](#), section 8.7.17.

`tabbing`

- A `tabbing` environment is emulated using an HTML `<pre>`. While MATHJAX is enabled inside `tabbing`, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.

`\text`

- MATHJAX includes the `textmacros` extension, which supports various macros which are commonly used inside `\text`, such as `\textbf` and text accents. Lwarp supports this extension.



Unicode

- If using DVI \LaTeX or PDF \LaTeX , unicode input may not appear correctly in MATHJAX. Either use $X\LaTeX$ or $\text{Lua}\LaTeX$, or replace Unicode special characters such as

```
\text{special character æ}
```

with their special macros, such as

```
\text{special character \ae}
```



other macros and packages

- Many other math-related macros and packages are not directly supported by MATHJAX, including `\ensuremath` and occasionally-used macros such as `\relax`. While using MATHJAX, `lwarp` provides emulation for many of these

macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.9 Catcode changes

preamble macros with math

The math shift character $\$$ is not set for HTML output until after the preamble. Macros defined in the preamble which contain $\$$ must be enclosed between `\StartDefiningMath` and `\StopDefiningMath` to temporarily change to the HTML meaning of $\$$:

```
\StartDefiningMath
\newcommand{. . . }
\StopDefiningMath
```

As an alternative, use `\(` and `\)` instead of $\$$, in which case `\StartDefiningMath` and `\StopDefiningMath` are not necessary.

If a package defines macros using $\$$, it may be necessary to use `\StartDefiningMath` and `\StopDefiningMath` before and after loading the package.

8.7.10 Complicated inline math objects

`\inlinemathnormal`
`\inlinemathother`

changing contents
complicated alt tag

MATHJAX limitations

An inline math expression is usually converted to a reusable hashed SVG math image, or a MATHJAX expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as $x+1$, so the image can be reused for multiples instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses. Another problem is complicated contents which do not expand well in an alt tag. Yet another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells lwarp to use unhashed SVG math images for those particular expressions, even if MATHJAX is otherwise in use. See section 46.

8.7.11 Complicated display math objects

`\displaymathnormal`

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated TikZ pictures, compilation will fail.

`\displaymathother`
MATHJAX unsupported
complicated alt tag

When selecting `\displaymathother`, it is assumed that the contents are more complicated than "pure" math. An example is an elaborate TikZ picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as TikZ pictures are more likely to compile successfully.

8.7.12 Theorems

- ⚠ **cref reference format undefined** If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtEndPreamble`.¹⁵ For some theorems, it may also be required to add inside `\AtEndPreamble` something such as:

```
\usepackage{etoolbox} % for \ifdef, \AtEndPreamble
\AtEndPreamble{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  . . .
  \ifdef{\cref}{
    \crefname{Proof}{Proof}{Proofs}
  }{}
}
```

8.7.13 ntheorem package

- `ntheorem` (*Pkg*) This conversion is not total. Font control is via css, and the custom L^AT_EX font settings are ignored.
- ⚠ **Font control**
- ⚠ **Equation numbering** `ntheorem` has a bug with equation numbering in $\mathcal{A}MS$ environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

8.7.14 mathtools package

- `mathtools` (*Pkg*) `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.
- ⚠ **equation numbering**
- ⚠ **italic correction** `mathic` is not emulated for HTML.
- ⚠ **MATHJAX** If using MATHJAX:

- Recent changes may not yet be updated in the MATHJAX extension, which is used by `lwarp`.
- `mathtools disallowspaces` does not work for MATHJAX. Protect brackets which are not optional arguments, such as:


```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```
- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- `alignat` in MATHJAX requires math mode, but in L^AT_EX it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.
- `\MakeAbboxedCommand` uses `\Abboxed` for all commands made.

¹⁵`lwarp` uses `cleveref` for the HTML conversion, and loads `cleveref \AtEndPreamble`, just before `\AtBeginDocument`. This is also before the `.aux` file is read.

8.7.15 siunitx package

`siunitx` (*Pkg*) `siunitx` is well supported by `lwarp`.

Limitations Some general limitations:

fractions Due to *pdftotext* limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.

`\cancel` is not currently supported for `siunitx v3`.

Negative values are not automatically colored.

tabular Tabular `S` and `s` columns are rendered as simple `c` columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

drop-exponent

table-auto-round `table-auto-round` is ignored.

Math rendering Math may be rendered in several ways in the same document:

For math mode with svg display: The original `siunitx` code is used while generating the `svg` image.

For HTML text mode: `lwarp` uses `siunitx` code patched for `HTML`, and simplified units.

For math expressions while using MATHJAX: A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

Custom units `siunitx` allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for `HTML` if an `HTML`-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

v3 only! Use this after the print unit has been defined. For `siunitx v3`, `\HTMLDeclareSIUnit` declares a simplified version of the unit for `HTML`, for example if the print-mode unit uses `TeX` boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for `MATHJAX`:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```


Predefined units Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

⚠ MathJax

Document modifications required for MATHJAX

⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

⚠ complex numbers

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_{\mathrm{h}}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

⚠ unit spacing

- Units work better using `~` between units instead of using periods.

⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see [MATHJAX option](#), section 8.7.5.

8.7.16 units and nicefrac packages

`units (Pkg)` `units` and `nicefrac` work with `lwarp`, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with `lwarp`'s option `svgmath`.

8.7.17 physics package

`physics (Pkg)` `physics` works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 `physics` extension is used.

8.8 Graphics

`graphics (Pkg)` `graphics` Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase

⚠ case sensitive

Table 9: `\includegraphics` and file names

Print image file	HTML image file	Command to use
image.pdf ^a	image.svg ^a	<code>\includegraphics{image}</code>
image.eps ^a	image.svg ^a	<code>\includegraphics{image}</code>
image.jpg	— ^b	<code>\includegraphics{image}</code>
image.png	— ^b	<code>\includegraphics{image}</code>
image.JPG	— ^b	<code>\includegraphics{image.JPG}</code> ^c
image.PNG	— ^b	<code>\includegraphics{image.PNG}</code> ^c
image.jpg	image.gif	<code>\includegraphics{image}</code>

^a: Must be a lowercase file extension.

^b: The same file is used for print and HTML.

^c: The uppercase extension must be specified.

extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as `JPG` or `PNG`, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

`\includegraphics` file formats

For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

`pdftocairo` (*Prog*) To convert a PDF image to SVG, use the utility `pdftocairo`:
PDF to SVG

```
Enter ⇒ pdftocairo -svg filename.pdf
```

`lwarpmk pdftosvg` (*Prog*) For a large number of images, use `lwarpmk`:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of filenames)
```

`lwarpmk epstopdf` (*Prog*) For EPS images converted to PDF using the package `epstopdf`, use
`epstopdf` (*Prog*)
`epstopdf` package

```
Enter ⇒ lwarpmk pdftosvg *.PDF
```

to convert to SVG images.

DVI L^AT_EX When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

PNG and JPG For PNG or JPG while using *pdf_latex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

duplicate files A complication occurs if a file of the same name exists elsewhere in the T_EX tree, such as a test image from some L^AT_EX package. T_EX looks in the local document directory before considering the directories specified by `\graphicspath`, but the T_EX tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ **image not displayed**

⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that

⚠ **viewport** viewports are not supported by `lwarp`—the entire image will be shown.

units For `\includegraphics`, avoid px and % units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

options `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

⚠ **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:


```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

\rotatebox `\rotatebox` accepts the optional `origin` key.

⚠ **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The css3 standard declares that when an object is transformed the whitespace

which they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.


8.8.1 tikz package

 **displaymath and matrices** `tikz` (*Pkg*) If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

8.8.2 grffile package

 **matching PDF and SVG** `grffile` (*Pkg*) `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

8.8.3 color package

`color` (*Pkg*) `color` is superceded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

8.8.4 xcolor package

`xcolor` (*Pkg*) `\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a ``. These `<div>`s are set to display: `inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarp`'s core if `xcolor` is loaded.


background: none `\fcolorbox` and `\fcolorboxBlock` allow a background color of `none`, in which case only the frame is drawn, which can be useful for HTML.

color support Color definitions, models, and mixing are fully supported without any changes required.

colored text and boxes `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

\color and \pagecolor `\color` and `\pagecolor` are ignored. Use CSS or `\textcolor` where possible.

8.8.5 epstopdf package

 **convert to .svg** `epstopdf` (*Pkg*) Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses the `.svg` version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

8.8.6 pstricks package

pstricks (*Pkg*) All pstricks content should be contained inside a pspicture environment.

⚠ use pspicture

8.8.7 pdftricks package

pdftricks (*Pkg*) The pdftricks image files <jobname>-fig*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

⚠ convert image files

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig*.pdf**

8.8.8 psfrag package

psfrag (*Pkg*) The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

⚠ use psfrags

⚠ Tip: Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

pstool (*Pkg*) \graphicspath is ignored, and the file directory must be stated.

⚠ path and filename The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.

8.8.10 asymptote package

asymptote (*Pkg*) To compile:


```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

8.8.11 overpic package

overpic (*Pkg*) The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

 **scaling**

8.8.12 Multimedia packages

multimedia (*Pkg*) The packages `multimedia`, `movie15`, and `media9` are supported.

movie15 (*Pkg*) HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

media9 (*Pkg*)

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.


`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

8.9 Tabbing

The tabbing environment works, except that SVG math and `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single SVG image.

8.10 Tabular

8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, `multirows`, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.


Defining macros and environments:

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.


```
\StartDefiningTabulars
<define macros or environments using tabular and &
here>
\StopDefiningTabulars
```

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

 **Misplaced alignment tab character &**

 **floatrow**

 **tabular inside another environment**

```

\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an `HTML` environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for
example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

Cell contents:

⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra `HTML` data cell tag, corrupting the `HTML` table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

Column specifiers:

⚠ math

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with `lwarp`. Instead, each cell must specify math mode individually.

@ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

\multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the `HTML` version.

⚠ \newcolumntype

- If `\newcolumntype` does not work for `HTML`, add a simplified column type using `\HTMLnewcolumntype`.

font and alignment

- **lwarp** detects each of the following, and sets HTML CSS appropriately:
 - >{\centering\arraybackslash}
 - >{\raggedright\arraybackslash}
 - >{\raggedleft\arraybackslash}
 - >{\itshape}
 - >{\bfseries}
 - >{\bfseries\itshape}
 These may be used with `\newcolumntype`, such as:


```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

Rules:

vertical rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

width and trim

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

combined rules

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:


```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

⚠ `\warpprintonly`⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change


```
This & That \endhead
```

 to


```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

longtable headings

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

⚠ S columns

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by **lwarp**'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

⚠ tabular inside a ``

- In \LaTeX , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `warpprint` environment.

8.10.2 multirow package

`vposn` • Note that recent versions of `multirow` include a new optional `vposn` argument.

`multirow cells` • For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

`colored cells` • The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn` • See section 436.2 for `\multicolumnrow`.

⚠ `\multicolumn & \multirow` `lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ `skipped cells` As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ `MathJax` • MATHJAX does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

8.10.3 longtable package

`longtable (Pkg)` Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```
\begin{longtable}[column specifiers] }
[ ... ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ ... ] \endhead % or \endfirsthead
[ ... ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
... table contents ...
\warpHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}
```

⚠ **Misplaced `\noalign`** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ **`\kill`** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

8.10.4 threeparttablex package

`threeparttablex` (*Pkg*) `threeparttablex` is used with `longtable` and `booktabs` as follows:

```
\begin{longtable}[column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpprintonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}
```

table width The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

8.10.5 supertabular and xtab packages

`supertabular` (*Pkg*) For `\tablefirsthead`, etc., enclose them as follows:

```
xtab (Pkg) \StartDefiningTabulars
⚠ Misplaced alignment \tablefirsthead
tab character & . . .
\StopDefiningTabulars
```

See section 8.10.1.

⚠ **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

8.10.6 colortbl package

`colortbl` (*Pkg*) Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

⚠ **row/cell color** `colortbl` ignores the overhang arguments.

colored tables `\rowcolors` is supported, except that the optional argument is ignored so far.

8.10.7 ctable package

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

8.10.8 bigdelim package

⚠ **use `\mrowcell`** `bigdelim` (*Pkg*) `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

```

<->   a   b
      {
left  { c   d
      { e   f
      { g   h
<->   i   j

```

For `MATHJAX`, limited emulation is provided which merely prints the delimiter and optional text in the first row.

8.11 Floats

8.11.1 Float contents alignment

⚠ **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```

\begin{table*}
\centering
\caption{A Table}
...

```

8.11.2 float, trivfloat, and/or algorithmicx together

`float (Pkg)` If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 647.1.

`trivfloat (Pkg)`

`algorithmicx (Pkg)`

⚠ package conflicts

`caption (Pkg)`

`subcaption (Pkg)`

8.11.3 caption and subcaption packages

Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

⚠ **numbering** To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

8.11.4 subfig package

`subfig (Pkg)`

⚠ **table numbering** To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

⚠ **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

8.11.5 floatrow package

`floatrow` (*Pkg*) Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

⚠ Misplaced alignment
tab character &
⚠ subfig package

When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

⚠ `\FBwidth`, `\FBheight`

The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

8.11.6 keyfloat package

`keyfloat` (*Pkg*) If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

⚠ `keywrap`

For wrapped figures, overhang and number of lines are ignored.

8.12 KOMA-SCRIPT classes

`komascript` (*Cls*) Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

⚠ Not fully tested! [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

8.13 MEMOIR class

`memoir` (*Cls*) `lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ captions

While emulating `memoir`, `lwarp` pre-loads a number of packages (section 703.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

⚠ options clash

```

\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}

```

- ⚠ **version numbers** memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since *lwarp* is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label(bookmark){tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

- ⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```

\begin{comment}
This is a comment.
\end{comment}

```

`\newcomment` Comments defined with `\newcomment` use memoir's definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

- ⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ `\newfootnoteseries` `\newfootnoteseries`, etc. are not supported.

- ⚠ **page notes** *lwarp* loads `pagenote` to perform memoir's `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

page notes with cleveref To add support for `pagenotes` with `cleveref`, add:

```

\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}

```

page note \nameref Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

- ⚠ **poems** Poem numbering is not supported.

- ⚠ **verbatim** The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

- ⚠ **glossaries** The memoir glossary system is not yet supported by *lwarpmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.

- ⚠ **framewithtitle, titledframe** The custom frame commands in the memoir manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an HTML equivalent:

```

\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
  \textbf{#2}
}

```

```

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
  \begin{fminipage}{\linewidth}
  \textbf{#2}
  \begin{minipage}{\linewidth}
  }
{\end{minipage}\end{fminipage}}

\newcommand{\TitleFrame}[2]{%
  \par
  \textbf{#1}\par
  \fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
  \par
  \textbf{#2}
  \begin{fminipage}{\linewidth}
  }
{\end{fminipage}}
\end{warpHTML}

```

8.14 International languages



section and file names

If using *pdflatex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdflatex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *xelatex*, *lualatex*, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the *kotex* package.)

8.15 Miscellaneous packages

8.15.1 verse and memoir

`verse` (*Pkg*) When using `verse` or `memoir`, always place a `\\` after each line.

`memoir` (*Cls*) The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. *lwarp* provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

`\leftskip` (*Len*) These lengths are used by `verse` and `memoir` to control the left margin, and they

may already be set by the user for print output. New lengths `\HTMLleftskip` and

`\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist

`\HTMLleftmargini` (*Len*)

until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

- ⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.
- ⚠ **verse margin**

8.15.2 newclude package

`newclude` (*Pkg*) `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `lwarp` is loaded:

⚠ **loading**

```
\documentclass{article}
... <font setup>
\usepackage{newclude}
\usepackage[warppHTML]{lwarp}
...
```

8.15.3 babel package

`babel` (*Pkg*) When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before `lwarp` is loaded:

⚠ **\CaptionSeparator**

```
\renewcommand*{\CaptionSeparator}{:~}
```

punctuation spaces Also when French is used, `lwarp` creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also

⚠ **customized spacing**

changes these parameters, the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the HTML output.

8.15.4 polyglossia package

`polyglossia` (*Pkg*) `lwarp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \__hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

8.15.5 `todonotes` and `luatodonotes` packages

`todonotes` (*Pkg*) The documentation for `todonotes` and `luatodonotes` have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

`luatodonotes` (*Pkg*)

8.15.6 `fixme`

`fixme` (*Pkg*) External layouts (`\fxloadlayouts`) are not supported.

⚠ external layouts

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

8.15.7 `acro` package

⚠ **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

8.15.8 `chemfig` package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . . ]{. . . }
\end{lateximage}
```

8.15.9 `chemformula` package

⚠ **chemformula with MATHJAX** `chemformula` works best without `MATHJAX`. If `MATHJAX` is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about `MATHJAX`, and `MATHJAX` does not know about `chemformula`.)

While using `MATHJAX`, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

8.15.10 mhchem package

See section [417](#).

8.15.11 kotex package

`kotex (Pkg)` See section [8.14](#) regarding *pdf_latex* and Korean section names.

 [Korean section names](#)

9 Compiling using custom shell commands

`lwarp` and `lwarpmk` try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, T_EX engine, and `lwarp` options, the commands `lwarpmk print` and `lwarpmk html` are automatically set up to correctly recompile the project. These actions may be overridden using `lwarp` options, thus allowing the use of packages such as `perltex` and `pythontex`.

9.1 Command options


`PrintLatexCmd` (*Opt*) The `lwarp` options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by `lwarpmk print` and `lwarpmk html`.
`HTMLLatexCmd` (*Opt*)

`PrintLatexCmd` should be set to shell commands which take `project.tex` and generate `project.pdf`.

`HTMLLatexCmd` should be set to take `project_html.tex` and generate `project_html.pdf`.
`lwarpmk` will then take `project_html.pdf` and automatically convert it and generate `project.html`.

9.2 Literal character macros

The `lwarp` package options are parsed by T_EX, and so some characters require the use of a special macro to represent them. See table 10. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before `lwarp`:

```
\usepackage{kvoptions-patch}
\usepackage[
  PrintLatexCmd={ ... } ,
  HTMLLatexCmd={ ... }
]{lwarp}
```

Table 10: Literal character macros

Character	Macro	Comment
%	\LWRpercent	
\$	\LWRdollar	
&	\LWRamp	
%	\LWRhash	
\	\LWRbackslash	
' or "	\LWRopquote	Depends on the operating system.
& or &&	\LWRopseq	Depends on the operating system.
(space)	\space	Forces an extra space.
(jobname)	\jobname	Without file extension.

or `\lwarpsetup` must be used to set `PrintLatexCmd` and `HTMLLatexCmd`:

```

\usepackage[...]{lwarp}
\lwarpsetup{
  PrintLatexCmd=
  {
    latex tm \LWRopseq
    dvips -o tm-pics.ps tm.dvi \LWRopseq
    ps2pdf -dALLOWPSTRANSPARENCY tm-pics.ps \LWRopseq
    pdflatex tm.tex
  } ,
  HTMLLatexCmd=
  {
    latex tm_html \LWRopseq
    dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
    ps2pdf -dALLOWPSTRANSPARENCY tm_html-pics.ps \LWRopseq
    pdflatex tm_html.tex
  }
}

```

9.3 *latexmk*

`latexmk` (*Prog*) If *latexmk* is used for a project, it may be easiest to continue using it.

`latexmk project.tex` would create `project.pdf` as normal.

`latexmk project_html.tex` would create `project_html.pdf`, then


`lwarpmk pdftohtml project_html.pdf` would take `project_html.pdf` and convert it to `project.html`.

`sagetex` (*Pkg*) *latexmk* may simplify the use of packages such as `sagetex`.

9.4 perltex package

`perltex (Pkg)` The `lwarp` package option settings to use `perltex` would be similar to:

```
\usepackage[
  . . .
  PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
  . . .
]{lwarp}
```


 **“impure” math** Place `perltex` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.11.


9.5 pythontex package

`pythontex (Pkg)` An example using `pythontex`:

```
\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    pythontex project \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    pythontex project_html \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}
```

Another possibility is to use `latexmk`, placing the `latexmk . . .` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `lwarp` option `latexmk` would not be used.

 **“impure” math** No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother ... \displaymathnormal`, or `\inlinemathother ... \inlinemathnormal`. Displays of code may have to be

 **HTML look-alike** enclosed inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

9.6 sympytex package

`sympytex (Pkg)` For `sympytex`:

```

\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    python project.sympy \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    python project_html.sympy \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}

```

Also see the warnings for `pythontex`, above.

9.7 Other packages


`rterface` (*Pkg*) Other packages such as `rterface` would be set up similar to `pythontex`, and the same warnings would apply.

9.8 `make` program

`make` (*Prog*) To use `lwarp` with the `make` program, have the `makefile` take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

9.9 UTF-8 locale

 **UTF-8 locale** `lwarpmk` uses the `texlua` program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```

\usepackage{lwarp}[
  PrintLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project.tex
  }
  HTMLLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project_html.tex
  }
]

```

`ditaa (Pkg)` The only example seen so far where this is required is the `ditaa` package, where the locale change allows the use of UTF-8 with Xe \LaTeX and `ditaa`. To use Lua \LaTeX instead, the locale change would have to be made inside the `ditaa` package where its calls the *ditaa* program.

10 EPUB conversion

lwarp does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

<meta> author To assign the author's name for regular lwarp HTML files, and also for the EPUB, use `\HTMLAuthor {<name>}`. This assigns the name to the `<meta>` author element. It may be set empty, and it defaults to `\theauthor`.

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatEPUB
FormatEPUB (<i>bool</i>) Default: <code>false</code>	FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

To help convert lwarp HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after `\usepackage{lwarp}`. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk images
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

search order

The EPUB conversion program must know what order the files are included. For lwarp projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

Preferences → Plugins → File type plugins → HTML to Zip

encoding

Check the box **Add linked files in breadth first order**. Set the document encoding as `utf-8`, which is what lwarp generates for HTML, even if the original printed document uses some other encoding.

section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of lwarp's section headings, see table 12. For example, an article class document would break at `\section`, which is mapped to HTML heading level

<h4>, whereas a book class document would break at \chapter, which is HTML heading level <h3>. For *Calibre*, this option is found in

Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)

Select the “magic wand” to the right of this entry box, and set the first entry

Match HTML tags with tag name:

to “h4”. (Or “h3” for document classes with \chapters.) The Detect chapters at field should then show

//h:h4 — or — **//h:h3**

This option is also available on the main tool bar at the Convert books button.

Once these settings have been made, the *lwarp*-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

MathJax support

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for siunitx.

lwarp adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader’s version of MATHJAX, so *lwarp* requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn’t work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where siunitx support is important.

11 Word-processor conversion

lwarp may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LIBREOFFICE works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarp provides some assistance in locating these frame boundaries, as shown below.

11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatWP
FormatWP (<i>bool</i>) Default: <code>false</code>	Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT.

To help modify lwarp HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

formatting adjustments

to the project's source preamble after lwarp is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The CSS has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.
- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOFFICE displays a light border around each cell while editing, even those which have

no border when printed, and `lwarp` also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in `LIBREOFFICE`.

- `\includegraphics` and `svg` math width and height are made explicit for `LIBREOFFICE`.
- `\hspace` is approximated by a number of `\quads`, and rules are approximated by a number of underscores.
- Explicit `HTML` styles are given to:
 - `\textsc`, etc.
 - `\underline`, `soul` and `ulem` markup.
 - `center`, `flushleft`, `flushright`.
 - `\marginpar`, `keyfloat`, `sidenotes`, `floatflt`, and `wrapfig`.
 - `fancybox` `\shadowbox`, etc.
 - The `LATEX` and `TEX` logos.

- Honors several booleans:

WPMarkFloats: Marks the begin and end of floats.

WPMarkMinipages: Marks the begin and end of minipages.

WPMarkTOC: Marks the location of the Table of Contents.

WPMarkLOFT: Marks the locations of the List of Figures/Tables.

WPMarkMath: Prints `LATEX` math instead of using images.

WPTitleHeading: Adjusts title and section headings.

Several of these may be used to add markers to the `HTML` text which help determine where to adjust the word processor document after import.

11.2 Additional modifications

WPMarkFloats

WPMarkFloats (*bool*)

Default: `false`

Adds

```
=== begin table ===
. . .
=== end ===
```

or

```
=== begin figure ===
. . .
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

WPMarkMinipages

WPMarkMinipages (*bool*)

Default: `false`

Adds

```

=== begin minipage ===
. . .
=== end minipage ===

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

WPMarkTOC

WPMarkTOC (*bool*)
 Default: true

While formatting for word processors, adds
 === table of contents ===

where the Table of Contents would have been. This helps identify where to insert the actual toc.

If set false, the actual toc is printed instead.

WPMarkLOFT

WPMarkLOFT (*bool*)
 Default: false

While formatting for word processors, adds
 === list of figures === *and/or*
 === list of tables ===

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

WPMarkMath

[siunitx](#)
 WPMarkMath (*bool*)
 Default: false
 TeXMaths (*Prog*)

While formatting for word processors, prints math as L^AT_EX code instead of creating svg images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the *siunitx* package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for $\mathcal{A}\mathcal{M}\mathcal{S}$ math environments.

WPTitleHeading

WPTitleHeading (*bool*)
 Default: false
[section headings](#)

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

Table 11: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading true	WPTitleHeading false	WPTitleHeading true	WPTitleHeading false
Title	<h1>	plain	<h1>	plain
\book	<div>	<div>	<div>	<div>
\part	<h2>	<h1>	<h2>	<h1>
\chapter	<h3>	<h2>	—	—
\section	<h4>	<h3>	<h3>	<h2>
\subsection	<h5>	<h4>	<h4>	<h3>
\paragraph	<h6>	<h5>	<h5>	<h4>
\subparagraph		<h6>	<h6>	<h5>

* For default depths when not FormatWP, see table 12 on page 206.

See table 11 on page 190.

11.3 Recommendations

TOC, LOF, LOT For use with *LibreOffice Writer*, it is recommended to:

1. Set `\booltrue{FormatWP}`
2. Set `\booltrue{WPMarkTOC}` and `\boolfalse{WPMarkLOFT}`
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOFFICE TOC in the LIBREOFFICE document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual LIBREOFFICE Table of Contents, but a simulated List of Figures and List of Tables.

siunitx For `siunitx`, remember to adjust the preamble as mentioned above.

LO view border options LIBREOFFICE has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

11.4 Limitations

Floats and captions are not explicitly converted to LIBREOFFICE floats with their own captions. Floats are surrounded by a thin frame in the LIBREOFFICE editor, and may be marked with `WPMarkFloats`, but are not given a proper LIBREOFFICE object frame. Captions are given an explicit italic formatting, but not a proper LIBREOFFICE paragraph style.

Cross references are not actual LIBREOFFICE linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L^AT_EX and HTML versions.

Equation numbering is not automatic, but the equation numbers in SVG math will match the L^AT_EX and HTML output. SVG math is recommended when using the $\mathcal{A}\mathcal{M}\mathcal{S}$ environments, which may have multiple numbered equations per object.


As of when last checked, LIBREOFFICE ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
 - `\textcircled`
 - `booktabs trim`
- `\hspace` and `rules`, also used by `algorithmic`.
- Coloring of text decorations, used by `soul` and `ulem`.
- Overline text decoration, used by `romanbar`.

LIBREOFFICE also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

12 Modifying lwarp

- locating something** To quickly find the source for a package in `lwarp.dtx`, search for `*packagename`, such as `*siunitx`.
- Likewise, to quickly find the source for a file in `lwarp.dtx`, search for `*filename`, such as `*lwarp.css`.
- Purely text-based packages probably will work as-is when generating HTML.
- Look to existing code for ideas on how to expand into new code.
- image of TeX output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L^AT_EX output. See section 95 for an example of the picture environment.
- css classes** To create a custom HTML block or inline CSS class, see section 54.10.
- print/HTML macros** To create print and HTML versions of the same macro or environment, see section 38.
-  **TeX boxes** Any TeX boxes must be undone, as `svg math` or `lateximages` require `\newpage`, which will not work in a TeX box.

12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

```
Enter ⇒ pdflatex lwarp.ins
```

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

```
Enter ⇒ pdflatex lwarp.dtx
```

To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarp
```

Inside this directory, create the file `update`, containing:

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

Run `./update` now, and whenever a new `lwarp-*` package is added.

To make the development version of *lwarpmk* visible to other projects:

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

Verify that the correct version is found with

Enter \Rightarrow **which lwarpmk**

To make the local versions visible to the shell:

Paths must be set by the shell startup, such as in `.bashrc` and `.cshrc`:

In `.bashrc`:

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

In `.cshrc`:

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

To fully compile the *lwarp* documentation and indexes:

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx - -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx - -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The multiple rounds of index processing are required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for lwarp, since lwarp must be loaded before most other packages.

To work with lwarp, a class must first set up anything which replicates the functions of the basic L^AT_EX classes, load any required fonts, then load lwarp, then finally load and adjust any other required packages.

When creating HTML, lwarp redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp-<packagename>.sty` version exists. If so, the lwarp version is used instead. This modular system allows users to create their own versions of packages for lwarp to use for HTML, simply by creating a new package with a `lwarp-` prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other lwarp-packages where T_EX can see it, then the user's new package will be seen by any documents using lwarp. (Remember `mktexlsr` or `texhash`.)

An `lwarp-<packagename>.sty` package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and `@` characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
— or —
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp-` version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the `lwarp-` version continues loading as well. See section 464 ([ntheorem](#)) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a `lwarp-` version.

12.2.1 Adding a package to the `lwarp.dtx` file

When adding a package to `lwarp.dtx` for permanent inclusion in lwarp, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 22.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

12.3 Modifying a class for lwarp

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic L^AT_EX classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

12.4 Testing lwarp

Compiling `lwarp.ins` generates all the `*.sty` files for `lwarp`. It can be useful to create additional `*.ins` files to be able to recompile only the pieces which have changed.

compiling individual packages

`core.ins` (*file*)

For example, to be able to recompile the `lwarp` core alone, copy `lwarp.ins` to `core.ins`, then modify `core.ins` to only compile:

```
\generate{
\file{lwarp.sty}{\from{lwarp.dtx}{package}}
}
```

For individual packages, create `packagename.ins`, set to compile only:

```
\generate{
\file{lwarp-packagename.sty}{\from{lwarp.dtx}{packagename}}
}
```

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

compiling css and other generated files

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *lwarpmk* or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins -or- pdflatex core.ins`
3. If modifying *lwarpmk* the new version should now be active.
4. If modifying css files or other files generated by `lwarp`:
 - (a) For the document, `lwarpmk print` to update the css files in the project.
 - (b) Reload the HTML document to see the effect of the new css files.
5. If done testing, `pdflatex lwarp.dtx` to update the `lwarp` documentation.

Sometimes it is worth checking the `<project>_html.pdf` file, which is the PDF containing HTML tags. Also, `<project>_html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and CSS code.

12.5 Modifying *lwarpmk*

`lwarpmk` (*Prog*) In most installations, `lwarpmk.lua` is an executable file located somewhere the operating system knows about, and it is called by typing **lwarpmk** into a terminal.

`lwarpmk.lua` (*file*)

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

13 Troubleshooting

13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

13.1.1 Configuration file `lwarpmk.conf`

File does not exist: The configuration file must exist for `lwarpmk`.

Incorrect Unix /Windows selection: The operating system which was detected by `lwarp`. So far only Unix and Windows are supported.

Incorrect delimiter characters. Older versions of `lwarpmk` used a different delimiter.

Source name is set to `lwarp`: `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in `lwarp`'s source directory.

Incorrect operating system: The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

Outdated configuration files: `lwarp` has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

The designated source file does not exist: For whatever reason...

Unknown engine: `lwarp` cannot determine which engine is being used. Supported are DVI \LaTeX , PDF \LaTeX , Xe \LaTeX , Lua \LaTeX , and up \LaTeX .

13.1.2 Image generation with `lwarpmk limages`

“Wait a moment for the images to complete before reloading page.”:

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

HTML version does not exist: Images are extracted from the HTML version, which must be compiled before images are generated.

***-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no SVG math or `lateximages` were used. If so, `lwarpmk limages` is not necessary.

Cross references are not correct: The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

“WARNING: Images will be incorrect.”: An image reference was not found. Re-compile.

`lwarpmk epstopdf *` or `lwarpmk pdftosvg *`: Errors if filenames are not found.

13.1.3 Default bitmapped font

lwarp requires the use of a vector font. If lwarp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

13.1.4 Packages

Loaded before lwarp: Some packages and classes must be loaded before lwarp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

Loaded after lwarp: Most packages which are modified by lwarp must be loaded after lwarp.

Loaded never: Some packages do not work with lwarp. An error is generated, along with a list of alternatives to consider.

Specific packages: Some packages enforce a specific load order vs. certain other packages.

Patching error: lwarp tries to patch some packages using xpatch. If the original package has been updated more recently than lwarp, a patch may not work. It may be necessary to use an older version of the package until lwarp is updated.

longtable: lwarp's longtable package issues detailed error messages regarding the use of the table headers and footers.


polyglossia: If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

babel or polyglossia: An informative message is printed to note that not all languages are supported by cleveref.

13.1.5 Compiling

SideTOCDepth < FileDepth: A warning is displayed if these counters are set such that the sideroc will not be able to access all pages of the website.

Filenames: lwarp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, and warning is generated, describing the filename and which section name generated it, and a unique file number is appended to the file name. A warning is also issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

 **HTML corrupted** **Multirow:** When \multirow or \multicolrow are used, \mrowcell or \mcolrowcell must be placed in the appropriate cells to avoid corrupted HTML output.

(width,height) missing a comma: \makebox and \framebox can accept a parenthesis-delimited width and height, which must be separated by a comma.

“Load graphicx or graphics for improved SVG math baselines.”: SVG math sizing and baselines are improved if either of these packages are used.

“Load graphicx or graphics for improved XeTeX logo.”: If these packages are loaded, the Xe_{La}TeX logo can use the reversed “E”.

“It is recommended to use [width=xx\linewidth] instead of [scale=yy] ”: Browser support of scale does not have the same effect as in L^AT_EX.

13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

Section 7.11: [Commands to be placed into the warpprint environment](#)

Section 8: [Special cases and limitations](#)

△ **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**

- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
- See section 8.2.1 regarding HTML entities and the characters &, <, and >.

△ **dotlessj** **Dotless j (\j):** See section 7.4 regarding cmap, mmap.

Undefined HTML settings:

- See the warning regarding the placement of the HTML settings at section 7.6.

Tabular problems: See section 8.10.1.

Obscure error messages:

Print first: Be sure that a print version of the document compiles and that your document’s L^AT_EX code is correct, before attempting to generate an HTML version.

`\end{warpHTML}, \end{warpprint}, \end{warpall}, \end{warpMathJax}:`

Each of these must be without any other characters on the same line.

“Runaway argument? File ended while scanning use of \next:

Don’t use warpHTML, warpprint, warpall, or warpMathJax inside itself.

Options clash: If using memoir, see section 8.13.

“Missing \begin{document}.“: Some packages require that their options be specified before lwarp is loaded, or via the package’s setup macro, especially if these options include the use of braces. See section 8.1.

“No room for a new \write.“: Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

“! TeX capacity exceeded, sorry [text input levels=15].“: Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

“Missing \$ inserted.“: If using a filename or URL in a footnote or `\item`, escape underscores with `_.`

△ [warpHTML](#), [warpprint](#),
[warpMathJax](#), [warpall](#)

“Label(s) may have changed. Rerun to get cross-references right.”:

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as $X=1$ may be replaced with

```
\textit{X}\,=\,1
```

“Temporary page! LaTeX was unable to guess the total number of pages ...”:

Harmless. Recompile the document one more time.

“Leaders not followed by proper glue”:

This can be caused by a missing `\l@<floastype>` or `\l@<sectiontype>` definition. See `lwarp`'s definitions for examples.

“Improper \prevdepth”: `lateximages` and `svg` math require `\newpage`, which cannot work inside `TEX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `LRbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

`LWR@texboxdepth`

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using BibTeX, see section 8.6.9.

“! Undefined control sequence. . . . __hook begindocument”:

See section 8.15.4 if using `polyglossia`.

“\begin{equation} ended by \end{document}”: Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
. . .
\end{equation}
```

“Misplaced \omit”: If using `\LWR@formatted` to define new macros for print and HTML modes, see section 38 regarding `\LWR@expandableformatted`.**“Token not allowed in a PDF string”:** This `hyperref` warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. `hyperref` removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the `TEX` text, v.s. the PDF bookmark. See the `hyperref` manual.**“Command \textquoteright invalid in math mode”:** This can occur when the document source has math containing the slanted quote ' character, instead of using the upright quote ' character.**Complicated objects inside math:** Some objects, such as `TikZ`, may not compile in `lwarp`'s normal math emulation. Insert

⚠ macros in section, table, figure names

⚠ BibTeX

⚠ `polyglossia`

⚠ custom macros for environments

⚠ `\LWR@formatted`

⚠ quote character

⚠ “impure” math objects

`\displaymathother` — *or* — `\inlinemathother`
 before the math, and then
`\displaymathnormal` — *or* — `\inlinemathnormal`
 when displaying “normal” math. See section 8.7.11.

Slow compilation of math objects: Complicated math objects can also cause problems with alt tags, resulting in very slow compilation, large alt tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ **MATHJAX** **Incorrect MATHJAX:** Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.11.

Missing sections: See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

Misnumbered footnotes from section headings: See section 8.5.4.

Missing HTML files:

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

Missing / incorrect cross-references:

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).
`\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
```

in html becomes:

“pages **for** table 4.1 and **for** table 4.2”

See `\cpagerefFor` at page 754 to redefine the message which is printed for page number references.

BibTeX errors with `\etalchar`: See section 8.6.9.

Malformed URLs: Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

Em-dashes or En-dashes in listing captions and titles:

Use \XeLaTeX or \LuaLaTeX .

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ `cleveref` page numbers

Floats out of sequence:

Mixed “Here” and floating: Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

Caption setup: With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

Images are appearing in strange places:

- When images are added or removed, Enter `lwarpmk limages` to refresh the `lateximage` images.

svg images:

⚠ adding/removing

When a math expression, picture, or TikZ environment is added or removed, the svg images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as TikZ may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹⁶ If it is necessary to recompile the document’s HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the L^AT_EX recompile warnings.

⚠ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

⚠ page counter

Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

⚠ Lots of files!

Expressing math as svg images has the advantage of representing the math exactly as L^AT_EX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its L^AT_EX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `TikZ` require one image file each. For a document with a large amount of math, see section 5.5 to use MATHJAX instead.

Plain-looking document:

- The document’s CSS stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFilename` statements point to a valid CSS file.

⚠ HTML corrupted

Broken fragments of HTML:

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

Changes do not seem to be taking effect:

¹⁶This becomes important when dealing with a document containing thousands of images.

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

Un-matched conditional compiles:

- Verify the proper begin/end of `warpprint`, `warpHTML`, and `warpall` environments.

13.2.1 Debug tracing output

`\tracinglwarp` When `\tracinglwarp` is used, `lwarp` will add extra tracing messages to the `.log` file. The last several messages may help track down errors.

Place `\tracinglwarp` just after `\usepackage{lwarp}` to activate tracing.

13.3 Compiling the `lwarp.dtx` file

lwarp_tutorial.tex: Copy or link `lwarp_tutorial.txt` from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by *texdoc* and copied by the user.

Illogical error messages caused by an out-of-sync `lwarp.sty` file:

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.pdf` documentation.

Un-nested environments:

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

14 Trademarks

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File 1 **lwarp.sty**

15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~erude~~ ~~haeks~~ clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to HTML color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by *pdftotext*.

Packages were emulated where their primary purpose was visual formatting which is not relevant to HTML output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in HTML output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 12: Section depths and HTML headings

Section	L ^A T _E X depth	HTML headings *
Title of the entire website		<h1>
(none)	-5	new for this package
book	-2	<div class = "book">
part	-1	<h2>
chapter	0	<h3>
section	1	<h4>
subsection	2	<h5>
subsubsection	3	<h6>
paragraph	4	
subparagraph	5	
listitem	7	new for this package, used for list items

* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 11 on page 190.

16 Section depths and HTML headings

Stacks are created to track depth inside the L^AT_EX document structure. This depth is translated to HTML headings as shown in table 12. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the L^AT_EX document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a <div> due to a limit of six HTML headings.

It is possible to use HTML5 <section> and <h1> for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the CSS to remain fixed as well.

17 Source code


This is where the documented source code for `lwarp` begins, continuing through the following sections all the way to the change log and index at the end of this document.

The following sections document the actual implementation of the `lwarp` package.

line numbers The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph. These are often the targets of index entries.

index entries Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

for HTML output:
for PRINT output:
for HTML & PRINT: Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.

Prog Lwarp

18 Required L^AT_EX 2_ε format

This date is to ensure a recent enough version of lthooks, ltcmdhooks, ltpara, ltfilehook, ltshipout.

```
1 \NeedsTeXFormat{LaTeX2e}[2021/06/01]
```

19 Warn if using PDF tagging

```
2 \IfPackageLoadedTF{tagpdf-base}% *88*
3   {%
4     \PackageError{lwarp}
5     {%
6       PDF tagging is not supported yet.\MessageBreak%
7       Comment out \string\DocumentMetadata\space for HTML%
8     }
9     {Still in development!}
10  }
11  {}
```

20 Detecting the T_EX engine — *pdf_latex*, *lua_latex*, *xel_latex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X_YT_EX and Lua^AT_EX:

```
12 \RequirePackage{iftex}[2019/11/07]
13 \RequirePackage{ifpdf}
14 \RequirePackage{ifptex}% in case TL2019 or earlier
15
16 \newif\ifxetexorluatex
17
18 \ifXeTeX
19   \xetexorluatextrue
20 \else
21   \ifLuaTeX
22     \xetexorluatextrue
23   \else
24     \xetexorluatexfalse
25   \fi
26 \fi
```

21 Early package requirements

etoolbox (*Pkg*) Provides `\ifbool` and other functions.

```
27 \RequirePackage{etoolbox}[2020/10/05]%
```


Patch to fix copy of environment with a \par:

<https://github.com/josephwright/etoolbox/issues/35>

```
28 \long\def\etb@carsquare#1#2#3\@nil{#1#2}%
```

`verifycommand` (*Pkg*) Verify macros before patching.

```
29 \RequirePackage{verifycommand}
```

`xpatch` (*Pkg*) Patches macros with optional arguments.

```
30 \RequirePackage{xpatch}
```

`ifplatform` (*Pkg*) Provides `\ifwindows` to try to automatically detect WINDOWS OS.

```
31 \RequirePackage{ifplatform}% sense op-system platform
```

`letltxmacro` (*Pkg*)

```
32 \RequirePackage{letltxmacro}
```

22 Package load order

Several packages must never be used with `lwarp`, others should only be loaded before `lwarp`, and others should only be loaded after. The `lwarp` core checks most of these cases. In some `lwarp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `lwarp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `lwarp` are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if `memoir` is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before `lwarp`.

22.1 Tests of package load order

`\LWR@loadafter` $\langle\textit{packagename}\rangle$ Error if this package was loaded before `lwarp`.

```
33 \newcommand*\LWR@loadafter}[1]{%
34 \IfPackageLoadedTF{#1}
35 {
36   \PackageError{lwarp}
37     {%
38     Package #1,\MessageBreak
39     or one which uses #1,\MessageBreak
40     must be loaded after Lwarp.\MessageBreak
41     Enter 'H' for possible solutions%
```

```

42     }
43     {%
44         Move ``\protect\usepackage{#1}'' after
45         ``\protect\usepackage{lwarp}''.\MessageBreak
46         Package #1 may also be loaded by something else,\MessageBreak
47         which must also be moved after Lwarp.%
48     }
49 }
50 {\relax}
51 }

```

`\LWR@notmemoirloadafter` $\langle\textit{packagename}\rangle$ Error if not memoir class and this package was loaded before lwarp.

memoir emulates many packages, and pretends that they have already been loaded.

```

52 \IfClassLoadedTF{memoir}
53 {\newcommand*\LWR@notmemoirloadafter}[1]{} }
54 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}

```

`\LWR@notltjloadafter` $\langle\textit{packagename}\rangle$ Error if not a ltjs* class and this package was loaded before lwarp.

```

55 \LetLtxMacro\LWR@notltjloadafter\LWR@loadafter
56
57 \IfClassLoadedTF{ltjarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
58 \IfClassLoadedTF{ltjbook}{\renewcommand*\LWR@notltjloadafter}[1]{} }
59 \IfClassLoadedTF{ltjreport}{\renewcommand*\LWR@notltjloadafter}[1]{} }
60 \IfClassLoadedTF{ltjsarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
61 \IfClassLoadedTF{ltjsbook}{\renewcommand*\LWR@notltjloadafter}[1]{} }
62 \IfClassLoadedTF{ltjsreport}{\renewcommand*\LWR@notltjloadafter}[1]{} }
63 \IfClassLoadedTF{ltjspf}{\renewcommand*\LWR@notltjloadafter}[1]{} }
64 \IfClassLoadedTF{ltjskiyou}{\renewcommand*\LWR@notltjloadafter}[1]{} }
65 \IfClassLoadedTF{ltjtarticle}{\renewcommand*\LWR@notltjloadafter}[1]{} }
66 \IfClassLoadedTF{ltjtbook}{\renewcommand*\LWR@notltjloadafter}[1]{} }
67 \IfClassLoadedTF{ltjtreport}{\renewcommand*\LWR@notltjloadafter}[1]{} }

```

`\LWR@loadbefore` $\langle\textit{packagename}\rangle$ Error if this package is loaded after lwarp.

```

68 \newcommand*\LWR@loadbefore}[1]{}
69 \IfPackageLoadedTF{#1}
70 {\relax}
71 {
72     \PackageError{lwarp}
73     {%
74         Package #1 must be loaded before lwarp.\MessageBreak
75         Enter 'H' for possible solutions%
76     }
77     {Move ``\protect\usepackage{#1}'' before ``\protect\usepackage{lwarp}''}
78 }
79 }

```

`\LWR@checkloadbefore` $\langle\textit{packagename}\rangle$

Given `\LWR@tempone` is the package name to compare to, if package names match, error if it is loaded after `lwarp`.

```
80 \newcommand*\LWR@checkloadbefore}[1]{%
81   \ifdefstring{\LWR@tempone}{#1}{%
82     \LWR@loadbefore{#1}%
83   }{%
84 }
```

`\LWR@loadnever` $\langle\textit{badpackagename}\rangle$ $\langle\textit{replacementpkgnames}\rangle$

The first packages is not supported, so tell the user to use the second instead. Factored from `\LWR@checkloadnever` and `\LWR@earlyloadnever`.

```
85 \newcommand*\LWR@loadnever}[2]{%
86 \PackageError{lwarp}
87 {%
88   Package #1 is not yet supported\MessageBreak
89   by lwarp's HTML conversion%
90   \ifblank{#2}{}%
91     .\MessageBreak
92     Package(s)\MessageBreak
93     \space\space#2\MessageBreak
94     may be useful instead%
95   }%
96 }
97 {%
98   Package #1 might conflict with lwarp in some way,\MessageBreak
99   or is superceded by another package.%
100  \ifblank{#2}{}%
101    \MessageBreak
102    For possible alternatives, see package(s) #2.%
103  }%
104 }
105 }
```

`\LWR@afterloadnever` $\langle\textit{badpackagename}\rangle$ $\langle\textit{replacementpkgnames}\rangle$

Given: `\LWR@tempone` is set to the package name being tested against, if this package name is the bad packagename, suggest the replacements instead. This is used when loading packages after `lwarp`.

```
106 \newcommand*\LWR@afterloadnever}[2]{%
107   \ifdefstring{\LWR@tempone}{#1}{%
108     \LWR@loadnever{#1}{#2}%
109   }{%
110 }
```

`\LWR@earlyloadnever` $\langle\textit{badpackagename}\rangle$ $\langle\textit{replacementpkgname}\rangle$

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before `lwarp`.

```
111 \newcommand*\LWR@earlyloadnever}[2]{%
112   \IfPackageLoadedTF{#1}{%
113     \LWR@loadnever{#1}{#2}%

```

```

114   }{}%
115 }

```

`\LWR@earlyclassloadnever` $\langle\{badclassname\}\rangle$ $\langle\{replacementclassname\}\rangle$

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before `lwarp`.

```

116 \newcommand*{\LWR@earlyclassloadnever}[2]{%
117 \IfClassLoadedTF{#1}{%
118 \PackageError{lwarp}
119 {%
120   Class #1 is not supported\MessageBreak
121   by lwarp's HTML conversion%
122   \ifblank{#2}{}%
123   .\MessageBreak
124   #2 may be useful instead%
125   }%
126 }
127 {%
128   Class #1 might conflict with lwarp in some way,\MessageBreak
129   or is superceded by another class.%
130   \ifblank{#2}{}%
131   \MessageBreak
132   For a possible alternative, see #2.%
133   }%
134 }
135 }{\relax}%
136 }

```

22.2 Error for disallowed packages and classes loaded before `lwarp`

`\LWR@checkloadnevers` Checks against a list of incompatible packages.

```

137 \newcommand*{\LWR@checkloadnevers}{
138 \LWR@checkloadnever{ae}{cm-super, lmodern}
139 \LWR@checkloadnever{aecompl}{cm-super, lmodern}
140 \LWR@checkloadnever{aecc}{cm-super, lmodern}
141 \LWR@checkloadnever{alg}{algorithm2e, algorithmicx}
142 \LWR@checkloadnever{algorithmic}{algorithm2e, algorithmicx}
143 \LWR@checkloadnever{bitfield}{bytefield}

```

`bxckatype` is based on CJK:

```

144 \LWR@checkloadnever{bxckatype}{upLaTeX, bxjsarticle, uarticle, utarticle}

145 \LWR@checkloadnever{caption2}{caption}
146 % \LWR@checkloadnever{ccaption}{caption}% might be preloaded by memoir
147 \LWR@checkloadnever{colortab}{colortbl}
148 \LWR@checkloadnever{csvtools}{datatool}
149 \LWR@checkloadnever{doublespace}{setspace}
150 \LWR@checkloadnever{fancyheadings}{fancyhdr}
151 \LWR@checkloadnever{fncylab}{cleveref}
152 \LWR@checkloadnever{formula}{siunitx}
153 \LWR@checkloadnever{glossary}{glossaries}

```

hangul is not in TeXLive, and is not tested:

```

154 \LWR@checkloadnever{hangul}{kotex, xetexko, luatexko}

155 \LWR@checkloadnever{hyper}{hyperref}
156 \LWR@checkloadnever{libgreek}{libertinust1math, newtx}
157 \LWR@checkloadnever{newthm}{ntheorem}
158 \LWR@checkloadnever{pdfcprot}{microtype}
159 \LWR@checkloadnever{picins}{floatflt, wrapfig, wrapfig2}
160 \LWR@checkloadnever{rplain}{fancyhdr}
161 \LWR@checkloadnever{si}{siunitx}
162 \LWR@checkloadnever{sisstyle}{siunitx}
163 \LWR@checkloadnever{slashbox}{diagbox}
164 \LWR@checkloadnever{statex}{statex2}
165 \LWR@checkloadnever{t1enc}{fontenc, inputenc, inputenx}
166 \LWR@checkloadnever{ucs}{inputenc, inputencx}
167 \LWR@checkloadnever{wasysym}{textcomp, amssymb, amfonts, mnsymbol, fdsymbol}

```

The following may one day be supported by lwarp:

```

168 % \LWR@checkloadnever{adjustbox}{}% req'd for menukeys
169 \LWR@checkloadnever{animate}{}
170 \LWR@checkloadnever{auto-pst-pdf}{}
171 \LWR@checkloadnever{auto-pst-pdf-lua}{}
172 \LWR@checkloadnever{algorithms}{}
173 \LWR@checkloadnever{arraycols}{}
174 \LWR@checkloadnever{bidi}{}
175 \LWR@checkloadnever{cals}{}

176 \LWR@checkloadnever{cellspace}{tbls}

177 \LWR@checkloadnever{cgloss4e}{}
178 \LWR@checkloadnever{collcell}{}
179 \LWR@checkloadnever{colophon}{}
180 \LWR@checkloadnever{cooltooltips}{}
181 \LWR@checkloadnever{covington}{}
182 \LWR@checkloadnever{crbox}{}
183 \LWR@checkloadnever{decision-table}{}
184 \LWR@checkloadnever{dvgloss}{}
185 \LWR@checkloadnever{ednotes}{}
186 \LWR@checkloadnever{edfnotes}{}
187 \LWR@checkloadnever{eledform}{}
188 \LWR@checkloadnever{eledmac}{}
189 \LWR@checkloadnever{embedfile}{}
190 \LWR@checkloadnever{endnotes-hy}{endnotes}
191 \LWR@checkloadnever{expex}{}
192 \LWR@checkloadnever{fancytooltips}{}
193 \LWR@checkloadnever{fixocgx}{}
194 \LWR@checkloadnever{flowfram}{}
195 \LWR@checkloadnever{gb4e}{}
196 \LWR@checkloadnever{gmverse}{}
197 \LWR@checkloadnever{graphbox}{}
198 \LWR@checkloadnever{graphicxbox}{}
199 \LWR@checkloadnever{hvfloat}{}
200 \LWR@checkloadnever{inline-images}{}
201 \LWR@checkloadnever{isorot}{rotating}
202 \LWR@checkloadnever{ledmac}{}
203 \LWR@checkloadnever{linguex}{}

```

```

204 \LWR@checkloadnever{longdiv}{}
205 \LWR@checkloadnever{longfigure}{}
206 \LWR@checkloadnever{longtabu}{}
207 \LWR@checkloadnever{mdwenv}{}
208 \LWR@checkloadnever{mdwlist}{}
209 \LWR@checkloadnever{mdwtab}{}
210 \LWR@checkloadnever{navigator}{}
211 \LWR@checkloadnever{nccpic}{}
212 \LWR@checkloadnever{nccsect}{}
213 \LWR@checkloadnever{newvbtm}{}
214 \LWR@checkloadnever{ocg-p}{}
215 \LWR@checkloadnever{ocgtools}{}
216 \LWR@checkloadnever{ocgx}{}
217 \LWR@checkloadnever{ocgx2}{}
218 \LWR@checkloadnever{parrun}{}
219 \LWR@checkloadnever{poemscol}{}
220 \LWR@checkloadnever{poetry}{}
221 \LWR@checkloadnever{program}{}
222 \LWR@checkloadnever{proofread}{}
223 \LWR@checkloadnever{pst-pdf}{}
224 \LWR@checkloadnever{refstyle}{}
225 \LWR@checkloadnever{robustindex}{}
226 \LWR@checkloadnever{robustglossary}{}
227 \LWR@checkloadnever{semioneside}{}
228 \LWR@checkloadnever{slemp}{}
229 \LWR@checkloadnever{snotez}{sidenotes}
230 \LWR@checkloadnever{spacingtricks}{}
231 \LWR@checkloadnever{sverb}{verbatim, fancyvrb}
232 \LWR@checkloadnever{syntax}{}
233 \LWR@checkloadnever{tablists}{}
234 \LWR@checkloadnever{tabto}{}
235 \LWR@checkloadnever{tabu}{}
236 \LWR@checkloadnever{tabularht}{}
237 \LWR@checkloadnever{tabularkv}{}
238 \LWR@checkloadnever{thumby}{}
239 \LWR@checkloadnever{titles}{}
240 \LWR@checkloadnever{typehtml}{}
241 \LWR@checkloadnever{unicode-bidi}{}
242 \LWR@checkloadnever{vcell}{}
243 \LWR@checkloadnever{xhfill}{}
244 }

```

`\LWR@checkloadnever {<badpackagename>} {<replacementpkgname>}`

The first package is not supported, so tell the user to use the second instead.

When `lwarp` is first loaded, this is set to `\LWR@earlyloadnever` to check for incompatible packages which were loaded before `lwarp`. After `lwarp` is loaded, this is changed to `\LWR@afterloadnever` to check for incompatible packages during `\usepackage`.

```
245 \LetLtxMacro\LWR@checkloadnever\LWR@earlyloadnever
```

Now check for incompatible packages which have been loaded before `lwarp`:

```
246 \LWR@checkloadnevers
```

The older CJK and CJKutf8 only work with xeCJK:

```
247 \IfPackageLoadedTF{xeCJK}{}{
248   \LWR@checkloadnever{CJK}{ctex, xeCJK}
249   \LWR@checkloadnever{CJKutf8}{ctex, xeCJK}
250 }
```

Some classes do not work with lwarp:

```
251 \LWR@earlyclassloadnever{beamer}{beamerarticle}
252 \LWR@earlyclassloadnever{jarticle}{ujarticle}
253 \LWR@earlyclassloadnever{jbook}{ujbook}
254 \LWR@earlyclassloadnever{jreport}{ujreport}
255 \LWR@earlyclassloadnever{tarticle}{utarticle}
256 \LWR@earlyclassloadnever{tbook}{utbook}
257 \LWR@earlyclassloadnever{treport}{utreport}
258 \LWR@earlyclassloadnever{novel}{}
259 \LWR@earlyclassloadnever{powerdot}{}

```

22.3 Enforcing package loading after lwarp

Packages which should only be loaded after lwarp are tested here to trip an error if they have already been loaded.

The following packages must be loaded after lwarp:

```
260 \LWR@loadafter{2in1}
261 \LWR@loadafter{2up}
262 \LWR@loadafter{a4}
263 \LWR@loadafter{a4wide}
264 \LWR@loadafter{a5comb}
265 \LWR@notmemoirloadafter{abstract}
266 \LWR@loadafter{academicons}
267 \LWR@loadafter{accents}
268 \LWR@loadafter{accessibility}
269 \LWR@loadafter{accsupp}
270 \LWR@loadafter{acro}
271 \LWR@loadafter{acronym}
272 \LWR@loadafter{adjmulticol}
273 \LWR@loadafter{addlines}
274 \LWR@loadafter{afterpage}
275 \LWR@loadafter{algorithm2e}
276 \LWR@loadafter{algorithmicx}
277 \LWR@loadafter{alltt}
278 \LWR@loadafter{amscdx}
279 % \LWR@loadafter{amsmath}% may be preloaded
280 % \LWR@loadafter{amsthm}% may be preloaded
281 \LWR@loadafter{anonchap}
282 \LWR@loadafter{anysize}
283 \LWR@notmemoirloadafter{appendix}
284 \LWR@loadafter{apxproof}
285 \LWR@loadafter{ar}
286 \LWR@loadafter{arabicfront}
287 \LWR@notmemoirloadafter{array}
288 \LWR@loadafter{arydshln}
289 \LWR@loadafter{asymptote}
290 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
291 \LWR@loadafter{attachfile}

```

292 \LWR@loadafter{attachfile2}
293 \LWR@loadafter{authblk}
294 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
295 \LWR@loadafter{autobreak}
296 \LWR@loadafter{autonum}
297 \LWR@loadafter{awesomebox}
298 \LWR@loadafter{axessibility}
299 \LWR@loadafter{axodraw2}
300 \LWR@loadafter{backnaur}
301 \LWR@loadafter{backref}
302 \LWR@loadafter{balance}
303 \LWR@loadafter{bbding}
304 \LWR@loadafter{beamerarticle}
305 \LWR@loadafter{bigdelim}
306 \LWR@loadafter{bigfoot}
307 \LWR@loadafter{bigstrut}
308 \LWR@loadafter{bitpattern}
309 \LWR@loadafter{blowup}
310 \LWR@loadafter{bm}
311 \LWR@loadafter{booklet}
312 \LWR@loadafter{bookmark}
313 \LWR@notmemoirloadafter{booktabs}
314 \LWR@loadafter{bophook}
315 \LWR@loadafter{bounddvi}
316 \LWR@loadafter{boxedminipage}
317 \LWR@loadafter{boxedminipage2e}
318 \LWR@loadafter{braket}
319 \LWR@loadafter{breakurl}
320 \LWR@loadafter{breqn}
321 \LWR@loadafter{bsheaders}
322 \LWR@loadafter{bussproofs}
323 \LWR@loadafter{bypapersize}
324 \LWR@loadafter{bytefield}
325 \LWR@loadafter{ccicons}
326 \LWR@loadafter{cancel}
327 \LWR@loadafter{canoniclayout}
328 \LWR@loadafter{caption}
329 \LWR@loadafter{caption2}
330 \LWR@loadafter{caption3}
331 \LWR@loadafter{cases}
332 % catoptions is supported by the lwarp core
333 \LWR@loadafter{ccaption}% may be preloaded by memoir
334 \LWR@loadafter{centerlastline}
335 % \LWR@loadafter{centernot}% may be preloaded by newtx
336 \LWR@loadafter{changebar}
337 \LWR@loadafter{changelayout}
338 \LWR@notmemoirloadafter{changepage}
339 \LWR@loadafter{changes}
340 \LWR@loadafter{chappg}
341 \LWR@loadafter{chapterbib}
342 \LWR@loadafter{chemfig}
343 \LWR@loadafter{chemformula}
344 \LWR@loadafter{chemgreek}
345 \LWR@loadafter{chemmacros}
346 \LWR@loadafter{chemnum}
347 \LWR@loadafter{chkfloat}
348 \LWR@notmemoirloadafter{chnpage}
349 \LWR@loadafter{cite}
350 \LWR@loadafter{citeref}
351 \LWR@loadafter{classicthesis}


```
352 \LWR@loadafter{cleveref}
353 % cmbright may be preloaded
354 \LWR@loadafter{cmdtrack}
355 \LWR@loadafter{colonequals}
356 \LWR@loadafter{color}
357 \LWR@loadafter{colortbl}
358 \LWR@loadafter{continue}
359 \LWR@loadafter{copyrightbox}
360 \LWR@notmemoirloadafter{crop}
361 % ctex must be loaded before lwarp
362 \LWR@loadafter{ctable}
363 \LWR@loadafter{cuted}
364 \LWR@loadafter{cutwin}
365 \LWR@loadafter{dblfloatfix}
366 \LWR@loadafter{dblfnote}
367 \LWR@notmemoirloadafter{dcolumn}
368 \LWR@loadafter{decimal}
369 \LWR@loadafter{decorule}
370 \LWR@loadafter{diagbox}
371 \LWR@loadafter{dingbat}
372 \LWR@loadafter{doipubmed}
373 \LWR@loadafter{DotArrow}
374 \LWR@loadafter{dotlessi}
375 \LWR@loadafter{dprogress}
376 \LWR@loadafter{draftcopy}
377 \LWR@loadafter{draftfigure}
378 \LWR@loadafter{draftwatermark}
379 \LWR@loadafter{drftcite}
380 \LWR@loadafter{easy-todo}
381 \LWR@loadafter{ebook}
382 \LWR@loadafter{econometrics}
383 \LWR@loadafter{ed}
384 \LWR@loadafter{ellipsis}
385 \LWR@loadafter{embrac}
386 \LWR@loadafter{emptypage}
387 \LWR@loadafter{endfloat}
388 \LWR@loadafter{endheads}
389 \LWR@loadafter{endnotes}
390 \LWR@loadafter{engtlc}
391 \LWR@loadafter{enotez}
392 \LWR@notmemoirloadafter{enumerate}
393 \LWR@loadafter{enumitem}
394 \LWR@notmemoirloadafter{epigraph}
395 \LWR@loadafter{epsf}
396 \LWR@loadafter{epsfig}
397 \LWR@loadafter{epstopdf}
398 \LWR@loadafter{epstopdf-base}
399 \LWR@loadafter{eqlist}
400 \LWR@loadafter{eqparbox}
401 \LWR@loadafter{errata}
402 \LWR@loadafter{eso-pic}
403 \LWR@loadafter{esvect}
404 \LWR@loadafter{etoc}
405 \LWR@loadafter{eurosym}
406 \LWR@loadafter{everypage}
407 % \LWR@loadafter{everyshi}% now in LaTeX core
408 \LWR@loadafter{extarrows}
409 \LWR@loadafter{extramarks}
410 \LWR@loadafter{fancybox}
411 \LWR@loadafter{fancyhdr}
```

```
412 \LWR@loadafter{fancy par}
413 \LWR@loadafter{fancy ref}
414 \LWR@loadafter{fancy tabs}
415 \LWR@loadafter{fancy vrb}
416 \LWR@loadafter{f box}
417 \LWR@loadafter{fewer float pages}
418 \LWR@loadafter{fig caps}
419 \LWR@loadafter{fig size}
420 \LWR@loadafter{fit box}
421 \LWR@loadafter{fix 2 col}
422 \LWR@loadafter{fix math}
423 \LWR@loadafter{fix me}
424 \LWR@loadafter{fix meto donotes}
425 \LWR@loadafter{fl after}
426 \LWR@loadafter{flippdf}
427 \LWR@loadafter{float}
428 \LWR@loadafter{floatflt}
429 \LWR@loadafter{floatpag}
430 \LWR@loadafter{floatrow}
431 \LWR@loadafter{fl trace}
432 \LWR@loadafter{flushend}
433 \LWR@loadafter{fn break}
434 \LWR@loadafter{fncychap}
435 \LWR@loadafter{fnlineno}
436 \LWR@loadafter{fnpara}
437 \LWR@loadafter{fnpos}
438 \LWR@loadafter{fontawesome}
439 \LWR@loadafter{fontawesome5}
440 % fontenc must be loaded before lwarp
441 % fontspec must be loaded before lwarp
442 \LWR@loadafter{footmisc}
443 \LWR@loadafter{footnote}
444 \LWR@loadafter{footnotebackref}
445 \LWR@loadafter{footnotehyper}
446 \LWR@loadafter{footnoterange}
447 \LWR@loadafter{footnpag}
448 \LWR@loadafter{foreign}
449 \LWR@loadafter{forest}
450 \LWR@loadafter{fouridx}
451 % fourier may be loaded before lwarp
452 \LWR@loadafter{framed}
453 \LWR@loadafter{froufrou}
454 \LWR@loadafter{ftcap}
455 \LWR@loadafter{ftnright}
456 \LWR@loadafter{fullminipage}
457 \LWR@loadafter{fullpage}
458 \LWR@loadafter{fullwidth}
459 \LWR@loadafter{fvextra}
460 \LWR@loadafter{fwlw}
461 \LWR@loadafter{gensymb}
462 \LWR@loadafter{gentombow}
463 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
464 \LWR@loadafter{ghsystem}
465 \LWR@loadafter{gindex}
466 \LWR@loadafter{glossaries}
467 \LWR@loadafter{gmeometric}
468 % \LWR@loadafter{graphics}% pre-loaded by xunicode
469 % \LWR@loadafter{graphicx}% pre-loaded by xunicode
470 \LWR@loadafter{gloss}
471 \LWR@loadafter{glossary}
```

472 \LWR@loadafter{grffile}
473 \LWR@loadafter{grid}
474 \LWR@loadafter{grid-system}
475 \LWR@loadafter{gridset}
476 \LWR@loadafter{hang}
477 \LWR@loadafter{hanging}
478 \LWR@loadafter{hepunits}
479 \LWR@loadafter{hhline}
480 \LWR@loadafter{hhtensor}
481 \LWR@loadafter{hypbmsec}
482 \LWR@loadafter{hypcap}
483 \LWR@loadafter{hypdestopt}
484 \LWR@loadafter{hypernat}
485 \LWR@loadafter{hyperref}
486 \LWR@loadafter{hyperxmp}
487 \LWR@loadafter{hyphenat}
488 \LWR@loadafter{idxlayout}
489 \LWR@loadafter{ifoddpages}
490 \LWR@loadafter{imakeidx}
491 \LWR@loadafter{imphnatypa}
492 \LWR@notmemoirloadafter{index}
493 % inputenc must be loaded before lwarp
494 % inputenx must be loaded before lwarp
495 % inputtrc may be loaded before lwarp
496 \LWR@loadafter{intopdf}
497 \LWR@loadafter{isomath}
498 \LWR@loadafter{isotope}
499 \LWR@loadafter{jurabib}
500 \LWR@loadafter{karnaugh-map}
501 \LWR@loadafter{keyfloat}
502 \LWR@loadafter{keystroke}
503 % kpfonts may be loaded before lwarp
504 % kpfonts-otf may be loaded before lwarp
505 \LWR@loadafter{layaureo}
506 \LWR@loadafter{layout}
507 \LWR@loadafter{layouts}
508 \LWR@loadafter{leading}
509 \LWR@loadafter{leftidx}
510 \LWR@loadafter{letterspace}
511 \LWR@loadafter{lettrine}
512 % libertinustlmath may be loaded before lwarp
513 \LWR@loadafter{lineno}
514 \LWR@loadafter{lips}
515 \LWR@loadafter{listings}
516 \LWR@loadafter{listliketab}
517 \LWR@loadafter{lltjp-siunitx}
518 \LWR@loadafter{lltjp-tascmac}
519 \LWR@loadafter{longtable}
520 \LWR@loadafter{lpic}
521 \LWR@loadafter{lscapex}
522 \LWR@loadafter{ltabx}
523 \LWR@loadafter{ltcaption}
524 \LWR@loadafter{ltxgrid}
525 \LWR@loadafter{ltxtable}
526 \LWR@loadafter{lualua-check-hyphen}
527 \LWR@loadafter{lualua-visual-debug}
528 \LWR@loadafter{luacolor}
529 \LWR@loadafter{luamplib}
530 \LWR@loadafter{luatodonotes}
531 \LWR@loadafter{luavlna}

```
532 \LWR@loadafter{lyluatex}
533 \LWR@loadafter{magaz}
534 \LWR@notmemoirloadafter{makeidx}
535 \LWR@loadafter{manyfoot}
536 \LWR@loadafter{marginfit}
537 \LWR@loadafter{marginfix}
538 \LWR@loadafter{marginnote}
539 \LWR@loadafter{marvosym}
540 % mathalpha may be loaded before lwarp
541 \LWR@loadafter{mathastext}
542 \LWR@loadafter{mathcomp}
543 \LWR@loadafter{mathdesign}
544 \LWR@loadafter{mathdots}
545 \LWR@loadafter{mathfixs}
546 \LWR@loadafter{mathpazo}
547 \LWR@loadafter{mathptmx}
548 \LWR@loadafter{mathspec}
549 \LWR@loadafter{mathtools}
550 \LWR@loadafter{mattens}
551 \LWR@loadafter{maybemath}
552 \LWR@loadafter{mcaption}
553 \LWR@loadafter{mdframed}
554 \LWR@loadafter{mdwmath}
555 \LWR@loadafter{media9}
556 \LWR@loadafter{memhfixc}
557 \LWR@loadafter{menukeys}
558 \LWR@loadafter{metalogo}
559 \LWR@loadafter{metalogoX}
560 \LWR@loadafter{mhchem}
561 \LWR@loadafter{microtype}
562 \LWR@loadafter{midfloat}
563 \LWR@loadafter{midpage}
564 \LWR@loadafter{minibox}
565 \LWR@loadafter{minitoc}
566 \LWR@loadafter{minted}
567 \LWR@loadafter{mismath}
568 \LWR@loadafter{mletright}
569 % morefloats must be allowed early for print mode
570 \LWR@notmemoirloadafter{moreverb}
571 % morewrites must be loaded before lwarp
572 \LWR@notmemoirloadafter{movie15}
573 \LWR@notmemoirloadafter{mparhack}
574 \LWR@loadafter{multibib}
575 \LWR@loadafter{multicap}
576 %\LWR@loadafter{multicol}% loaded by ltxdoc
577 \LWR@loadafter{multicolrule}
578 \LWR@loadafter{multimedia}
579 \LWR@loadafter{multiobjective}
580 \LWR@loadafter{multirow}
581 \LWR@loadafter{multitoc}
582 \LWR@loadafter{musicography}
583 \LWR@loadafter{mwe}
584 \LWR@loadafter{nameauth}
585 \LWR@loadafter{natbib}
586 \LWR@notmemoirloadafter{nccfancyhdr}
587 \LWR@loadafter{nccfoots}
588 \LWR@loadafter{nccmath}
589 \LWR@notmemoirloadafter{needspace}
590 % newclude must be loaded before lwarp
591 % newpxmath may be preloaded
```

```
592 % newtxmath may be loaded before lwarp
593 % newtxsf may be loaded before lwarp
594 % newunicodechar must be loaded before lwarp
595 \LWR@notmemoirloadafter{nextpage}
596 \LWR@loadafter{nicefrac}
597 \LWR@loadafter{niceframe}
598 \LWR@loadafter{nicematrix}
599 \LWR@loadafter{noitcrl}
600 \LWR@loadafter{nobreaks}
601 \LWR@loadafter{nomencl}
602 \LWR@loadafter{nonfloat}
603 \LWR@loadafter{nonumonpart}
604 \LWR@loadafter{nopageno}
605 \LWR@loadafter{notes}
606 \LWR@loadafter{notespages}
607 \LWR@loadafter{nowidow}
608 \LWR@loadafter{ntheorem}
609 \LWR@loadafter{octave}
610 \LWR@loadafter{orcidlink}
611 \LWR@loadafter{overpic}
612 \LWR@loadafter{pagegrid}
613 \LWR@notmemoirloadafter{pagenote}
614 \LWR@loadafter{pagesel}
615 \LWR@loadafter{paralist}
616 \LWR@loadafter{parallel}
617 \LWR@loadafter{parcolumns}
618 \LWR@loadafter{parnotes}
619 \LWR@notmemoirloadafter{parskip}
620 \LWR@loadafter{pbalance}
621 \LWR@loadafter{pbox}
622 \LWR@loadafter{pdfcol}
623 \LWR@loadafter{pdfcolfoot}
624 \LWR@loadafter{pdfcolmk}
625 \LWR@loadafter{pdfcolparallel}
626 \LWR@loadafter{pdfcolparcolumns}
627 \LWR@loadafter{pdfcomment}
628 \LWR@loadafter{pdfcrypt}
629 \LWR@loadafter{pdfscape}
630 \LWR@loadafter{pdfmarginpar}
631 \LWR@loadafter{pdfpages}
632 \LWR@loadafter{pdfprivacy}
633 \LWR@loadafter{pdfrender}
634 \LWR@loadafter{pdfsync}
635 \LWR@loadafter{pdftricks}
636 \LWR@loadafter{pdfx}
637 \LWR@loadafter{perpage}
638 \LWR@loadafter{pfnote}
639 \LWR@loadafter{phfqit}
640 \LWR@loadafter{physics}
641 \LWR@loadafter{physunits}
642 \LWR@loadafter{picinpar}
643 \LWR@loadafter{pifont}
644 \LWR@loadafter{pinlabel}
645 \LWR@loadafter{placeins}
646 \LWR@loadafter{plarray}
647 \LWR@loadafter{plarydshln}
648 \LWR@loadafter{plextarray}
649 \LWR@loadafter{plextarydshln}
650 \LWR@loadafter{plcolortbl}
651 \LWR@loadafter{plextdelarray}
```

```
652 \LWR@loadafter{plimsoll}
653 \LWR@loadafter{prelim2e}
654 \LWR@loadafter{prettyref}
655 \LWR@loadafter{preview}
656 \LWR@loadafter{psfrag}
657 \LWR@loadafter{psfragx}
658 \LWR@loadafter{pst-eps}
659 \LWR@loadafter{pstool}
660 \LWR@loadafter{pstricks}
661 % \LWR@loadafter{pxatbegshi}% may be used by morewrites
662 \LWR@loadafter{pxeveryshi}
663 % \LWR@loadafter{pxfonts}% may be loaded before lwarp
664 \LWR@loadafter{pxftnright}
665 \LWR@loadafter{pxjahyper}
666 \LWR@loadafter{pythontex}
667 \LWR@loadafter{quotchap}
668 \LWR@loadafter{quoting}
669 \LWR@loadafter{ragged2e}
670 \LWR@loadafter{refcheck}
671 \LWR@loadafter{register}
672 \LWR@loadafter{relsize}
673 \LWR@loadafter{repeatindex}
674 \LWR@loadafter{resizegather}
675 \LWR@loadafter{returntogrid}
676 \LWR@loadafter{rlepsf}
677 \LWR@loadafter{rmathbr}
678 \LWR@loadafter{rmpage}
679 \LWR@loadafter{romanbar}
680 \LWR@loadafter{romanbarpagenumber}
681 \LWR@loadafter{rotating}
682 \LWR@loadafter{rotfloat}
683 \LWR@loadafter{rviewport}
684 \LWR@loadafter{savetrees}
685 % scalefnt is loaded by babel-french
686 \LWR@loadafter{scalereel}
687 \LWR@loadafter{schemata}
688 \LWR@loadafter{scrextend}
689 \LWR@loadafter{scrhack}
690 \LWR@loadafter{scrlayer}
691 \LWR@loadafter{scrlayer-notecolumn}
692 \LWR@loadafter{scrlayer-scrpage}
693 \LWR@loadafter{scrpage2}
694 \LWR@loadafter{section}
695 \LWR@loadafter{sectionbreak}
696 \LWR@loadafter{sectsty}
697 \LWR@loadafter{selectp}
698 \LWR@loadafter{semantic-markup}
699 \LWR@notmemoirloadafter{setspace}
700 \LWR@loadafter{shadow}
701 \LWR@loadafter{shapepar}
702 \LWR@notmemoirloadafter{showidx}
703 \LWR@loadafter{showlabels}
704 \LWR@loadafter{showkeys}
705 \LWR@loadafter{showtags}
706 \LWR@loadafter{shuffle}
707 \LWR@loadafter{sidecap}
708 \LWR@loadafter{sidenotes}
709 \LWR@loadafter{simplebnf}
710 \LWR@loadafter{SIunits}
711 \LWR@loadafter{siunitx}
```

```
712 \LWR@loadafter{siunitx-v2}
713 \LWR@loadafter{skmath}
714 \LWR@loadafter{slantsc}
715 \LWR@loadafter{slashed}
716 \LWR@loadafter{soul}
717 \LWR@loadafter{soulpos}
718 \LWR@loadafter{soulutf8}
719 \LWR@loadafter{splitbib}
720 \LWR@loadafter{splitidx}
721 \LWR@loadafter{srcltx}
722 \LWR@loadafter{srctex}
723 \LWR@loadafter{stabular}
724 \LWR@loadafter{stackengine}
725 \LWR@loadafter{stackrel}
726 \LWR@loadafter{statex2}
727 \LWR@loadafter{statistics}
728 \LWR@loadafter{statmath}
729 \LWR@loadafter{steinmetz}
730 \LWR@notltjloadafter{stfloats}
731 \LWR@loadafter{struktex}
732 \LWR@loadafter{subcaption}
733 \LWR@loadafter{subfig}
734 \LWR@loadafter{subfigure}
735 \LWR@loadafter{subsupscripts}
736 \LWR@loadafter{supertabular}
737 \LWR@loadafter{svg}
738 \LWR@loadafter{swfigure}
739 \LWR@loadafter{sympytex}
740 \LWR@loadafter{syntonly}
741 \LWR@loadafter{t1inc}
742 \LWR@loadafter{tabfigures}
743 \LWR@loadafter{tabls}
744 \LWR@loadafter{tablefootnote}
745 \LWR@notmemoirloadafter{tabularx}
746 \LWR@loadafter{tabulary}
747 %\LWR@loadafter{tagpdf}% no longer true
748 %\LWR@loadafter{tagpdf-mc-code-generic}
749 %\LWR@loadafter{tagpdf-mc-code-lua}
750 \LWR@loadafter{tascmac}
751 \LWR@loadafter{tcolorbox}
752 \LWR@loadafter{tensor}
753 \LWR@loadafter{termcal}
754 \LWR@loadafter{textarea}
755 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
756 \LWR@loadafter{textfit}
757 \LWR@loadafter{textpos}
758 \LWR@loadafter{theorem}
759 \LWR@loadafter{thinsp}
760 \LWR@loadafter{thm-listof}
761 \LWR@loadafter{thm-restate}
762 \LWR@loadafter{thmbox}
763 \LWR@loadafter{thmtools}
764 \LWR@loadafter{threadcol}
765 \LWR@loadafter{threeparttable}
766 \LWR@loadafter{threeparttablex}
767 \LWR@loadafter{thumb}
768 \LWR@loadafter{thumbs}
769 \LWR@loadafter{tikz}
770 \LWR@loadafter{tikz-image-labels}
771 \LWR@loadafter{titlesps}
```

```
772 \LWR@loadafter{titlesec}
773 \LWR@loadafter{titletoc}
774 \LWR@notmemoirloadafter{titling}
775 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
776 \LWR@notmemoirloadafter{tocbibind}
777 \LWR@loadafter{tocdata}
778 \LWR@loadafter{toccenter}
779 \LWR@notmemoirloadafter{tocloft}
780 \LWR@loadafter{tocstyle}
781 \LWR@loadafter{todo}
782 \LWR@loadafter{todonotes}
783 \LWR@loadafter{topcapt}
784 \LWR@loadafter{tram}
785 \LWR@loadafter{transparent}
786 \LWR@loadafter{trimclip}
787 \LWR@loadafter{trivfloat}
788 \LWR@loadafter{truncate}
789 \LWR@loadafter{turnthepage}
790 \LWR@loadafter{twoup}
791 % \LWR@loadafter{txfonts}% may be loaded before lwarp
792 % txgreek may be loaded before lwarp

793 % \LWR@loadafter{typearea}% preloaded by koma-script classes
794 \LWR@loadafter{typicons}
795 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
796 \LWR@loadafter{umoline}
797 \LWR@loadafter{underscore}
798 % unicode-math may be loaded before lwarp
799 \LWR@loadafter{units}
800 \LWR@loadafter{unitsdef}
801 \LWR@loadafter{upgreek}
802 \LWR@loadafter{upref}
803 \LWR@loadafter{url}
804 \LWR@loadafter{ushort}
805 \LWR@loadafter{uspace}
806 \LWR@loadafter{varioref}
807 \LWR@notmemoirloadafter{verse}
808 \LWR@loadafter{versonotes}
809 \LWR@loadafter{vertbars}
810 \LWR@loadafter{vmargin}
811 \LWR@loadafter{vowel}
812 \LWR@loadafter{vpe}
813 \LWR@loadafter{vwcol}
814 \LWR@loadafter{wallpaper}
815 \LWR@loadafter{watermark}
816 \LWR@loadafter{widetable}
817 \LWR@loadafter{widows-and-orphans}
818 \LWR@loadafter{witharrows}
819 \LWR@loadafter{wrapfig}
820 \LWR@loadafter{wrapfig2}
821 \LWR@loadafter{xbmks}
822 \LWR@loadafter{xcolor}
823 \LWR@loadafter{xexchangebar}
824 \LWR@loadafter{xellipsis}
825 % xetexko must be loaded before lwarp
826 \LWR@loadafter{xevlna}
827 \LWR@loadafter{xfakebold}
828 \LWR@loadafter{xfrac}
829 \LWR@loadafter{xltabular}
830 \LWR@loadafter{xltextra}
```



```

831 \LWR@loadafter{xmpincl}
832 \LWR@loadafter{xpiano}
833 \LWR@loadafter{xpinyin}
834 \LWR@loadafter{xr}
835 \LWR@loadafter{xr-hyper}
836 \LWR@loadafter{xtab}
837 % xunicode must be loaded before lwarp
838 \LWR@loadafter{xurl}
839 \LWR@loadafter{xy}
840 \LWR@loadafter{zwpagelayout}

```

23 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

841 \newcommand{\LWR@mdfive}[1]{%
842   \PackageError{lwarp}
843     {No MD5 macro was found}
844     {%
845       Lwarp must find the macros \protect\pdfmdfivesum\space
846       or \protect\mdfivesum.%
847     }
848 }

```

The default for PDF^LATEX, DVI^LATEX, up^LATEX, etc:

```

849 \ifdef{\pdfmdfivesum}
850   {\let\LWR@mdfive\pdfmdfivesum}
851   {}

```

For Lua^LATEX:

```

852 \ifLuaTeX
853 \RequirePackage{pdftexcmds}
854 \let\LWR@mdfive\pdf@mdfivesum
855 \fi

```

For Xe^LATEX:

```

856 \ifXeTeX
857 \@ifundefined{pdf@fivesum}{}
858   {\let\LWR@mdfive\pdfmdfivesum}
859 \@ifundefined{mdfivesum}{}
860   {\let\LWR@mdfive\mdfivesum}
861 \fi

```

24 PDF^LATEX T1 and UTF-8 encoding

When using PDF^LATEX, lwarp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarp will try to use it instead, and hope for the best.

X_YL^AT_EX and LuaL^AT_EX are both UTF-8 by nature.

`\LWR@pdfencoding` Sets T1, and also utf8 if not already set.

```

862 \newcommand*\LWR@pdfencoding{%
863     \RequirePackage[T1]{fontenc}
864
865     \IfPackageLoadedTF{inputenc}{}{
866         \IfPackageLoadedTF{inputenx}{}{
867             \RequirePackage[utf8]{inputenc}
868         }
869     }
870 }

871 \ifPDFTeX% pdflatex or dvi latex
872     \LWR@pdfencoding
873 \fi
874
875 \ifpTeX
876     \LWR@pdfencoding
877 \fi

```

25 Unicode input characters

for HTML & PRINT:

If using *pdflatex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be `\texttimes`.

The first arguments of `\newunicodechar` below are text ligatures in the source code, even though they are not printed in the following listing.

```

878 \ifpTeX
879 \else
880 \RequirePackage{newunicodechar}
881
882 \newunicodechar{*}{\texttimes}
883
884 \ifPDFTeX% pdflatex or dvi latex
885 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
886 \newunicodechar{fi}{fi}
887 \newunicodechar{fl}{fl}
888 \newunicodechar{ffi}{ffi}
889 \newunicodechar{ffl}{ffl}
890 \newunicodechar{-}{---}
891 \newunicodechar{-}{--}
892 \fi
893
894 \fi

```

26 Avoid a bitmapped font

If DVI or PDF L^AT_EX, and if the default Computer Modern is the selected font family, ensure that cm-super or lmodern is used to provide a vector font.

```

895 \ifxetexorluatex
896 \else
897   \ifdefstring{\f@family}{cmr}{
898     \IfFileExists{type1ec.sty}% found in cm-super
899     {}
900     {% cm-super not installed
901       \IfFileExists{lmodern.sty}{
902         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
903         \RequirePackage{lmodern}
904       }{
905         \PackageError{lwarp}
906         {%
907           Lwarp requires a vector font.\MessageBreak
908           Install and load cm-super, lmodern, or another\MessageBreak
909           Type-1 vector font before loading lwarp.\MessageBreak
910           Enter 'H' for possible solutions%
911         }
912         {%
913           Install cm-super or lmodern.\MessageBreak
914           If lmodern, load it before lwarp:\MessageBreak
915           \space\space\protect\usepackage{lmodern}\MessageBreak
916           \space\space\protect\usepackage{lwarp}%
917         }
918       }
919     }% cm-super not installed
920   }{}% f@family
921 \fi

```

27 Upright quotes

In PDF T_EX, preserve upright quotes in verbatim text. upquote also loads textcomp.

```

922 \ifPDFTeX
923 \RequirePackage{upquote}
924 \fi
925
926 \ifpTeX
927   \RequirePackage{upquote}
928 \fi

```

28 Avoid bad font combinations

For X_YL^AT_EX and LuaL^AT_EX, certain font combinations cause problems with lwarp.

libertinus-otf has special handling for \textquotedbl. Search for \LWR@orig@textquotedbl.

```

929 \ifxetexorluatex

```

```

930 \AtBeginDocument{
931     \IfPackageLoadedTF{kpfonts}{
932         \PackageError{lwarp}
933             {%
934                 When using XeLaTeX or LuaLaTeX, \MessageBreak
935                 use kpfonts-otf instead of kpfonts%
936             }
937             {%
938                 Replace: \protect\usepackage{kpfonts}\MessageBreak
939                 with: \protect\usepackage{kpfonts-otf}
940             }
941     }{}
942 }
943 \fi

```

29 Miscellaneous tools

29.1 Variables

```

944 \newlength{\LWR@templengthone}
945 \newlength{\LWR@templengthtwo}
946 \newlength{\LWR@templengththree}
947 \newcounter{LWR@tempcountone}

```

29.2 Lengths and units

`\LWR@providelength {<\lengthname>}` Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

948 \newcommand*\LWR@providelength[1]{%
949     \ifdeflength{#1}{}{\newlength{#1}}%
950 }

```

`\LWR@convertto {<dest unit>} {<length>}`

Prints a length in the given units, without printing the unit itself.

```

951 \newcommand*\LWR@convertto[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}

```

`\LWR@printpercentlength {<smaller>} {<larger>}`

Prints a percent ratio of the two lengths.

```

952 \newcommand*\LWR@printpercentlength[2]{%
953     \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
954     \arabic{LWR@tempcountone}%
955 }

```

29.3 Counters

`\defaddtocomter` $\{\langle name \rangle\} \{\langle value \rangle\}$

Locally add to a counter.

```
956 \providecommand*\defaddtocomter}[2]{%
957   \defcounter{#1}{\value{#1}+#2}%
958 }
```

29.4 Patching macros

`\LWR@patcherror` $\{\langle packagename \rangle\} \{\langle macroname \rangle\}$

Prints an error if could not patch a macro.

```
959 \newcommand*\LWR@patcherror}[2]{%
960   \PackageError{lwarp}%
961     {%
962       Unable to patch package #1,\MessageBreak
963       macro \LWRbackslash #2.\MessageBreak
964       Lwarp or #1 may need to be updated%
965     }%
966   {Please contact the maintainer of the Lwarp package.}%
967 }
```

29.5 Copying macros

`\csNewCommandCopycs` $\{\langle dest csname \rangle\} \{\langle source csname \rangle\}$

Given a cs-name for each, copies a macro to a new definition.

```
968 \providecommand*\csNewCommandCopycs}[2]{%
969   \expandafter\NewCommandCopy\csname#1\expandafter\endcsname%
970   \csname#2\endcsname%
971 }
```

`\NewEnvironmentCopy` $\{\langle dest \rangle\} \{\langle source \rangle\}$

Copies an environment to a new definition.

```
972 \providecommand*\NewEnvironmentCopy}[2]{%
973   \csNewCommandCopycs{#1}{#2}%
974   \csNewCommandCopycs{end#1}{end#2}%
975 }
```

29.6 Chinese text isolation

`\LWR@isolate` $\{\langle text \rangle\}$ Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```

976 \newcommand{\LWR@isolate}[1]{#1}%
977
978 \IfPackageLoadedTF{ctexpatch}{
979   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
980 }{}
981
982 \IfPackageLoadedTF{xeCJK}{
983   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
984 }{}

```

`\LWR@disablepinyin` Disable xpinyin during file, sideroc, and footnote generation. Set by xpinyin.

```
985 \newcommand*\LWR@disablepinyin{}
```

29.7 Inserting vertical space

`\LWR@forceemptyline` Extra vertical space in the HTML output. Use after `\LWR@stoppars`.

```

986 \newcommand*\LWR@forceemptyline{%
987   \LWR@origrule{0pt}{1\baselineskip}%
988   \LWR@orignewline%
989 }

```

29.8 Argument selection

`\LWR@thir dof three` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\}$

`\LWR@fourth of four` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

`\LWR@first of five` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

`\LWR@second of five` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

`\LWR@third of five` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

`\LWR@fourth of five` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

`\LWR@fifth of five` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\} \{\langle fifth \rangle\}$

Expands to the *n*th of the five arguments. Used for extra cross referencing.

```

990 \long\def\LWR@thir dof three#1#2#3{#3}%
991 \long\def\LWR@fourth of four#1#2#3#4{#4}%
992
993 \long\def\LWR@first of five#1#2#3#4#5{#1}
994 \long\def\LWR@second of five#1#2#3#4#5{#2}
995 \long\def\LWR@third of five#1#2#3#4#5{#3}
996 \long\def\LWR@fourth of five#1#2#3#4#5{#4}
997 \long\def\LWR@fifth of five#1#2#3#4#5{#5}

```

`\LWR@edeffirstoffive` $\langle first \rangle$ $\langle second \rangle$ $\langle third \rangle$ $\langle fourth \rangle$ $\langle fifth \rangle$ \edefs to the first of five arguments. Used for back referencing.

```
998 \long\def\LWR@edeffirstoffive#1#2#3#4#5{%
999   \edef\@tempa{#1}%
1000 }%
```

29.9 Inside boxes

Greater than zero if currently inside a T_EX box, thus should not use `\LWR@orignewpage`. See section 13.2.

```
1001 \newcounter{LWR@textboxdepth}
1002 \setcounter{LWR@textboxdepth}{0}
```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a T_EX box. Avoids nested paragraph tags.

```
1003 \newcommand*\LWR@maybe@orignewpage{%
1004   \LWR@traceinfo{LWR@maybe@orignewpage}%
1005   \ifnumgreater{\value{LWR@textboxdepth}}{0}%
1006     {}%
1007     {\LWR@orignewpage}%
1008   \LWR@traceinfo{LWR@maybe@orignewpage done}%
1009 }
```

29.10 Global boxes

`\LWR@gsavebox` $\langle macroname \rangle$ $\langle contents \rangle$

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```
1010 \DeclareRobustCommand\LWR@gsavebox[1]{%
1011   \@ifnextchar(%)
1012     {\LWR@gsavepicbox#1}{\@ifnextchar[\LWR@gsavebox#1]{\LWR@gsbox#1}}%
1013 \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
1014   \color@setgroup#2\color@endgroup}}
1015 \def\LWR@gsavebox#1[#2]{%
1016   \@ifnextchar [ {\LWR@igsavebox#1[#2]}{\LWR@igsavebox#1[#2][c]}}
1017 \long\def\LWR@igsavebox#1[#2][#3]#4{%
1018   \LWR@gsbox#1{\@imakebox[#2][#3]{#4}}
1019 \def\LWR@gsavepicbox#1(#2,#3){%
1020   \@ifnextchar[%]
1021     {\LWR@igsavepicbox#1(#2,#3)}{\LWR@igsavepicbox#1(#2,#3)[ ]}}
1022 \long\def\LWR@igsavepicbox#1(#2,#3)[#4]#5{%
1023   \LWR@gsbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}
```

`LWR@glrbox` (*env.*) $\langle macroname \rangle$

```
1024 \def\LWR@glrbox#1{%
1025   \edef\reserved@a{%
1026     \endgroup
1027     \global\setbox#1\hbox{%
1028       \begingroup\aftergroup}%
```

```

1029     \def\noexpand\@currenvir{\@currenvir}%
1030     \def\noexpand\@currenvline{\on@line}%
1031     \reserved@a
1032     \endpefalse
1033     \color@setgroup
1034     \ignorespaces}
1035 \let\LWR@endglrbox\LWR@endlrbox

```

29.11 Converting a macro name to a cs name

`\macroto csname` $\{\langle macro\ name\ with\ backslash\rangle\}$

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```

1036 \newcommand*\macroto csname}[1]{%
1037   \ifcat\relax\noexpand#1%
1038     \expandafter\expandafter\expandafter\@gobble\expandafter\string
1039   \fi
1040   #1%
1041 }

```

29.12 Title case

`\LWRtexttitlecase`

```

1042 \ExplSyntaxOn
1043 \newcommand*\LWRtexttitlecase}[1]{%
1044   \text_titlecase:n{#1}%
1045 }
1046 \ExplSyntaxOff

```

29.13 LetLtxMacros

`\LWR@LetLtxMacros` $\{\langle new\ cs\ name\rangle\} \{\langle old\ cs\ name\rangle\}$

`\LetLtxMacro` with cs names.

```

1047 \newcommand*\LWR@LetLtxMacros}[2]{%
1048   \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
1049   \csname#2\endcsname%
1050 }

```

29.14 Absorbing a star

`\LWR@absorbstar` $\{\langle cs\ name\rangle\}$

Modifies a macro to absorb a star. Used for `cleveref`, since `hyperref` is emulated, so the starred macros are not created by `cleveref`.


```

1051 \newcommand*\LWR@absorbstar}[1]{%
1052   \LWR@LetLtxMacros[LWR@origins@#1]{#1}%
1053   \csdef{#1}{\ifstar{\csuse{LWR@origins@#1}}{\csuse{LWR@origins@#1}}}
1054   \expandafter\robustify\csname #1\endcsname
1055 }

```

30 Operating-System portability

- Unix (*Prog*) **lwarp** tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.
- Mac OS (*Prog*)
- Linux (*Prog*)
- MS-Windows (*Prog*) If MS-WINDOWS is not correctly detected, use the **lwarp** option OSWindows.
- Windows (*Prog*)
- OSWindows (*Opt*) When detected or specified, the operating-system path separator used by **lwarp** is modified, and the boolean usingOSWindows is set true. This boolean may be tested by the user for later use.

30.1 Literal characters

Literal characters to be used in `PrintLatexCmd` and `HTMLLatexCmd`. These are defined without @ to easily allow their inclusion in the user’s document.

The literal % character:

```
1056 \let\LWRpercent\@percentchar
```

The literal \$ character:

```

1057 \catcode`\$=12
1058 \def\LWRdollar{$}
1059 \def\LWRdollar{$}% syntax highlighting
1060 \catcode`\$=3

```

The literal & character:

```

1061 \catcode`\&=12
1062 \def\LWRamp{&}
1063 \catcode`\&=4

```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```

1064 \catcode`\&=0
1065 &catcode`\=12
1066 &def&LWRbackslash{\}
1067 &catcode`\=0
1068 \catcode`\&=4

```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```

1069 \catcode`\&=1
1070 \catcode`\{=12

```

```

1071 \def\LWRleftbrace&{}
1072 \catcode`\{=1
1073 \catcode`\&=4

```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```

1074 \catcode`\&=2
1075 \catcode`\}=12
1076 \def\LWRrightbrace{}&
1077 \catcode`\}=2
1078 \catcode`\&=4

```

The literal # character:

```

1079 \catcode`\#=12
1080 \def\LWRhash{#}
1081 \catcode`\#=6

```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```

1082 \def\LWRopquote{' }

```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```

1083 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}

```

30.2 Common portability code

`usingOSWindows` (*bool*) Set if the OSWindows option is used, or if WINDOWS is automatically detected.

```

1084 \newbool{usingOSWindows}
1085 \boolfalse{usingOSWindows}

```

30.3 UNIX, LINUX, and MAC OS

`\OSPathSymbol` Symbol used to separate directories in a path.

```

1086 \newcommand*{\OSPathSymbol}{/}

```

30.4 MS-WINDOWS

For MS-WINDOWS:

`\LWR@setOSWindows` Set defaults for the MS-WINDOWS operating system. `lwarp` attempts to auto-detect the operating system, and the `OSWindows` option may also be used to force MS-WINDOWS compatibility.

```

1087 \newcommand*{\LWR@setOSWindows}
1088 {
1089 \booltrue{usingOSWindows}
1090 \renewcommand*{\OSPathSymbol}{\@backslashchar}
1091 \def\LWRopquote{"}
1092 \def\LWRopseq{\space\LWRamp\space\space}
1093 }

```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```

1094 \ifwindows
1095 \LWR@setOSWindows
1096 \fi

```

31 Package options

`kvoptions` (*Pkg*) Allows key/value package options.

```

1097 \RequirePackage{kvoptions}
1098 \SetupKeyvalOptions{family=LWR,prefix=LWR@}

```

`\lwarpsetup` A user interface to set the keys:

```

1099 \newcommand{\lwarpsetup}[1]{\setkeys{LWR}{#1}}

```

`warpingprint` (*bool*)

`warpingHTML` (*bool*)

`mathjax` (*bool*)

`LWR@origmathjax` (*bool*)

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

`LWR@origmathjax` remembers the original setting to be restored by `\displaymathnormal`.

```

1100 \newbool{warpingprint}
1101 \newbool{warpingHTML}
1102 \newbool{mathjax}
1103 \newbool{LWR@origmathjax}

```

defaults The default is print output, and svg math if the user chose HTML output.

```

1104 \booltrue{warpingprint}%
1105 \boolfalse{warpingHTML}%
1106 \boolfalse{mathjax}%

```

`warpdisable` (*Opt*) If the `warpdisable` option is given, both boolean `warpingprint` and boolean `warpingHTML` are false, and may be used for `\ifbool` tests. This option may be used to disable almost all of `lwarp`, for testing purposes.

```

1107 \DeclareVoidOption{warpdisable}{%
1108   \PackageInfo{lwarp}{Using option 'warpdisable'}
1109   \boolfalse{warpingprint}%
1110   \boolfalse{warpingHTML}%
1111 }

```

`warpprint` (*Opt*) If the `warpprint` option is given, boolean `warpingprint` is true and boolean `warpingHTML` is false, and may be used for `\ifbool` tests.

```
1112 \DeclareVoidOption{warpprint}{%
1113   \PackageInfo{lwarp}{Using option 'warpprint'}
1114   \booltrue{warpingprint}%
1115   \boolfalse{warpingHTML}%
1116 }
```

`warpHTML` (*Opt*) Anything in the `warpHTML` environment will be generated for HTML output only.

`warpHTML` (*Opt*) If the `warpHTML` option is given, boolean `warpingHTML` is true and boolean `warpingprint` is false, and may be used for `\ifbool` tests.

```
1117 \DeclareVoidOption{warpHTML}{%
1118   \PackageInfo{lwarp}{Using option 'warpHTML'}%
1119   \booltrue{warpingHTML}%
1120   \boolfalse{warpingprint}%
1121 }
```

`mathsvg` (*Opt*) Option `mathsvg` selects SVG math display: If the `mathsvg` option is given, boolean `mathjax` is false, and may be used for `\ifbool` tests.

```
1122 \DeclareVoidOption{mathsvg}{%
1123   \PackageInfo{lwarp}{Using option 'mathsvg'}
1124   \boolfalse{mathjax}%
1125   \boolfalse{LWR@origmathjax}%
1126 }
```

`mathjax` (*Opt*) Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```
1127 \DeclareVoidOption{mathjax}{%
1128   \PackageInfo{lwarp}{Using option 'mathjax'}
1129   \booltrue{mathjax}%
1130   \booltrue{LWR@origmathjax}%
1131 }
```

`BaseJobname` (*Opt*) Option `BaseJobname` sets the `\BaseJobname` for this document.

Default: `\jobname`

This is the `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
1132 \DeclareStringOption[\jobname]{BaseJobname}
```

`ImagesDirectory` (*Opt*) Option `ImagesDirectory` sets the name of the directory to use for the `lateximage` images.

Default: `\jobname-images`

```
1133 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}
```

`ImagesName` (*Opt*) Option `ImagesName` sets the prefix to use for the `lateximage` images.

Default: `image-`

```
1134 \DeclareStringOption[image-]{ImagesName}
```

`makeindexStyle` (*Opt*) Selects a custom `.ist` file. A customized file should be based on `lwarp.ist`. See section 8.6.21.
 Default: `lwarp.ist`

```
1135 \DeclareStringOption[lwarp.ist]{makeindexStyle}
```

`xindyStyle` (*Opt*) Selects a custom `.xdy` file. A customized file should be based on `lwarp.xdy`. See section 8.6.22.
 Default: `lwarp.xdy`

```
1136 \DeclareStringOption[lwarp.xdy]{xindyStyle}
```

`xindyLanguage` (*Opt*) Sets the *xindy* language to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index and glossary.
 Default: `english`

```
1137 \DeclareStringOption[english]{xindyLanguage}
```

`xindyCodepage` (*Opt*) Sets the *xindy* codepage to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index.
 Default: `utf8`

```
1138 \DeclareStringOption[utf8]{xindyCodepage}
```

`xindexConfig` (*Opt*) Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`. See section 8.6.23.
 Default: `<empty>`

```
1139 \DeclareStringOption[]{}{xindexConfig}
```

`pdftotextEnc` (*Opt*) The option `pdftotextEnc` sets the encoding used by *pdftotext*. This is passed to *pdftotext* using its `-enc` option, and is used when converting L^AT_EX PDF output with HTML tags into a plain-text file with HTML tags.
 Default: `UTF-8`

```
1140 \DeclareStringOption[UTF-8]{pdftotextEnc}
```

`lwarpmk` (*Opt*) Tells *lwarp* to generate a local copy of *lwarpmk* called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.

If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:

```
1141 \newbool{LWR@creatinglwarpmk}
1142 \boolfalse{LWR@creatinglwarpmk}
1143
1144 \DeclareVoidOption{lwarpmk}{
1145   \PackageInfo{lwarp}{Using option 'lwarpmk'}
1146   \booltrue{LWR@creatinglwarpmk}
1147 }
```

`OSWindows` (*Opt*) Tells *lwarp* to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.

```
1148 \DeclareVoidOption{OSWindows}{
1149   \PackageInfo{lwarp}{Using option 'OSWindows'}
1150   \LWR@setOSWindows
1151 }
```

- HomeHTMLFilename** (*Opt*) The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.
Default: `\BaseJobname`
- ```
1152 \DeclareStringOption[]{HomeHTMLFilename}
```
- HTMLFilename** (*Opt*) The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.  
**Default:** `<empty>`
- ```
1153 \DeclareStringOption[]{HTMLFilename}
```
- PrintLatexCmd** (*Opt*) The shell commands to use to compile the print document.
Default: `<automatic>`
- ```
1154 \DeclareStringOption[]{PrintLatexCmd}
```
- HTMLLatexCmd** (*Opt*) The shell commands to use to compile the HTML document.  
**Default:** `<automatic>`
- ```
1155 \DeclareStringOption[]{HTMLLatexCmd}
```
- PrintIndexCmd** (*Opt*) The shell commands to use to compile the print indexes.
Default: `<empty>`
- ```
1156 \DeclareStringOption[]{PrintIndexCmd}
```
- HTMLIndexCmd** (*Opt*) The shell commands to use to compile the HTML indexes.  
**Default:** `<empty>`
- ```
1157 \DeclareStringOption[]{HTMLIndexCmd}
```
- LatexmkIndexCmd** (*Opt*) The shell commands to be used by *latexmk* to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by *latexmk*.
Default: `<empty>`
- ```
1158 \DeclareStringOption[]{LatexmkIndexCmd}
```
- makeindex** (*Opt*) Tells *lwarp* to use *makeindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *makeindex* with a single index file.
- ```
1159 \DeclareBoolOption[false]{makeindex}
```
- xindy** (*Opt*) Tells *lwarp* to use *xindy* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindy* with a single index file.
- ```
1160 \DeclareBoolOption[false]{xindy}
```
- xindex** (*Opt*) Tells *lwarp* to use *xindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindex* with a single index file.
- ```
1161 \DeclareBoolOption[false]{xindex}
```
- IndexRef** (*Opt*) Tells *lwarp* how to display the index entries in HTML output. See section 7.5.
Default: `cref`
- ```
1162 \DeclareStringOption[cref]{IndexRef}
```

`GlossaryCmd` (*Opt*) The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.  
 Default: `makeglossaries`

```
1163 \DeclareStringOption[makeglossaries]{GlossaryCmd}
```

`latexmk` (*Opt*) Option `latexmk` tells *lwarpmk* to use *latexmk* when compiling documents.

```
1164 \DeclareBoolOption[false]{latexmk}
```

`dvips` (*Opt*) Option `dvips` tells *lwarpmk* to use *dvips* when compiling DVI *latex* documents.

```
1165 \DeclareBoolOption[false]{dvips}
```

`dvipdfm` (*Opt*) Option `dvipdfm` tells *lwarpmk* to use *dvipdfm* when compiling DVI *latex* documents.

```
1166 \DeclareBoolOption[false]{dvipdfm}
```

`dvipdfmx` (*Opt*) Option `dvipdfmx` tells *lwarpmk* to use *dvipdfmx* when compiling DVI *latex* documents.

```
1167 \DeclareBoolOption[false]{dvipdfmx}
```

**Execute options** Execute the package options, with the defaults which have been set just above:

```
1168 \ProcessKeyvalOptions*\relax
```

### 31.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
1169 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
1170 \ifcsemtyp{LWR@HomeHTMLFilename}{
1171 \newcommand*\HomeHTMLFilename{\BaseJobname}
1172 }{
1173 \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
1174 }
1175
1176 \csedef{HTMLFilename}{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
1177 \newcommand*\LWR@sanitized{}
```

`\LWR@sanitize`  $\langle text \rangle$

Sanitizes the text and returns the result in `\LWR@sanitized`.

```

1178 \newcommand*\LWR@sanitize}[1]{%
1179 \edef\LWR@sanitized{#1}%
1180 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1181 }

```

Sanitize some string options to neutralize underscores.

```

1182 \LWR@sanitize{\LWR@BaseJobname}
1183 \edef\LWR@BaseJobname{\LWR@sanitized}
1184
1185 \LWR@sanitize{\LWR@ImagesDirectory}
1186 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1187
1188 \LWR@sanitize{\LWR@ImagesName}
1189 \edef\LWR@ImagesName{\LWR@sanitized}

```

\LWR@PrintIndexCmd and \LWR@HTMLIndexCmd are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the *lwarp* *xindy* option was selected, then likewise for *xindex* if the *xindex* option was selected.

```

1190 \ifdefempty{\LWR@PrintIndexCmd}{
1191 \renewcommand{\LWR@PrintIndexCmd}{%
1192 makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1193 }
1194 \ifbool{\LWR@xindy}{
1195 \renewcommand{\LWR@PrintIndexCmd}{%
1196 xindy
1197 -M \LWR@xindyStyle \space
1198 -L \LWR@xindyLanguage \space
1199 -C \LWR@xindyCodepage \space
1200 \jobname.idx%
1201 }
1202 }{}
1203 \ifbool{\LWR@xindex}{
1204 \ifdefvoid{\LWR@xindexConfig}{
1205 \renewcommand{\LWR@PrintIndexCmd}{%
1206 xindex
1207 \jobname.idx%
1208 }
1209 }{
1210 \renewcommand{\LWR@PrintIndexCmd}{%
1211 xindex
1212 -c \LWR@xindexConfig \space
1213 \jobname.idx%
1214 }
1215 }
1216 }{}
1217 }{}
1218
1219 \ifdefempty{\LWR@HTMLIndexCmd}{
1220 \renewcommand{\LWR@HTMLIndexCmd}{%
1221 makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1222 }
1223 \ifbool{\LWR@xindy}{
1224 \renewcommand{\LWR@HTMLIndexCmd}{%
1225 xindy
1226 -M \LWR@xindyStyle \space
1227 -L \LWR@xindyLanguage \space

```



```

1228 -C \LWR@xindyCodepage \space
1229 \jobname_html.idx%
1230 }
1231 }{}
1232 \ifbool{LWR@xindex}{
1233 \ifdefvoid{\LWR@xindexConfig}{
1234 \renewcommand{\LWR@HTMLIndexCmd}{%
1235 xindex
1236 \jobname_html.idx%
1237 }
1238 }{
1239 \renewcommand{\LWR@HTMLIndexCmd}{%
1240 xindex
1241 -c \LWR@xindexConfig \space
1242 \jobname_html.idx%
1243 }
1244 }
1245 }{}
1246 }{}
1247
1248 \ifdefempty{\LWR@LatexmkIndexCmd}{
1249 \renewcommand{\LWR@LatexmkIndexCmd}{%
1250 makeindex -s \LWR@makeindexStyle%
1251 }
1252 \ifbool{LWR@xindy}{
1253 \renewcommand{\LWR@LatexmkIndexCmd}{%
1254 xindy
1255 -M \LWR@xindyStyle \space
1256 -L \LWR@xindyLanguage \space
1257 -C \LWR@xindyCodepage%
1258 }
1259 }{}
1260 \ifbool{LWR@xindex}{
1261 \ifdefvoid{\LWR@xindexConfig}{
1262 \renewcommand{\LWR@LatexmkIndexCmd}{%
1263 xindex
1264 }
1265 }{
1266 \renewcommand{\LWR@LatexmkIndexCmd}{%
1267 xindex
1268 -c \LWR@xindexConfig
1269 }
1270 }
1271 }{}
1272 }{}

```

## 31.2 Conditional compilation

`\warpprintonly {<contents>}`

Only process the contents if producing printed output.

```
1273 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{} }
```

`\warpHTMLonly {<contents>}`

Only process the contents if producing HTML output.

```
1274 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{}}
```

comment (*Pkg*) Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1275 \RequirePackage{comment}
```

```
\LWR@includecomment {<env name>} {<partial filename>}
```

```
\LWR@excludecomment {<env name>} {<partial filename>}
```

Use many `comment` cut files to avoid collision in case the user uses the `comment` package. Each filename is “comment\_#2.cut”. Based on the `comment` package.

```
1276 \def\LWR@includecomment
1277 #1#2{\message{Lwarp: Including comment '#1'}%
1278 \csarg\def{After#1Comment}{%
1279 \CloseAndInputCutFile%
1280 \csundef{LWR@#1commentused}%
1281 }
1282 \csarg\def{#1}{%
1283 \endgroup
1284 \ifcsdef{LWR@#1commentused}{
1285 \PackageError{lwarp}%
1286 {Nested #1 environment}%
1287 {%
1288 Environment #1 cannot be nested.\MessageBreak
1289 This can happen when a package is loaded
1290 from inside a\MessageBreak
1291 #1 environment.%
1292 }%
1293 }{\relax}
1294 \csdef{LWR@#1commentused}{%
1295 \message{Including '#1' comment.}%
1296 \def\CommentCutFile{comment_#2.cut}
1297 \SetUpCutFile
1298 \ProcessComment{#1}
1299 }%
1300 \CommentEndDef{#1}
1301 }
1302
1303 \def\LWR@excludecomment
1304 #1#2{\message{Lwarp: Excluding comment '#1'}%
1305 \csarg\def{#1}{
1306 \endgroup
1307 \message{Excluding '#1' comment.}%
1308 \begingroup
1309 \def\CommentCutFile{comment_#2.cut}
1310 \def\ProcessCutFile{}%
1311 \def\ThisComment####1{}%
1312 \ProcessComment{#1}
1313 }%
1314 \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1315 \CommentEndDef{#1}}
```

`warpall` (*env.*) Anything in the `warpall` environment will be generated for print or HTML outputs.

```
1316 \LWR@includecomment{warpall}{all}
```

`warpHTML` (*env.*) For HTML output:

```
1317 \ifbool{warpingHTML}
1318 {\LWR@includecomment{warpHTML}{html}}
1319 {\LWR@excludcomment{warpHTML}{html}}
```

`warpprint` (*env.*) Anything in the `warpprint` environment will be generated for print output only.

```
1320 \ifbool{warpingprint}
1321 {\LWR@includecomment{warpprint}{print}}
1322 {\LWR@excludcomment{warpprint}{print}}
```

If `warpdisable`, turn off both print and HTML output:

```
1323 \ifboolexpr{bool {warpingprint} or bool {warpingHTML}}
1324 {}
1325 {
1326 \LWR@excludcomment{warpHTML}{html}
1327 \LWR@excludcomment{warpprint}{print}
1328 \LWR@excludcomment{warpMathJax}{mathjax}
1329 }
```

`warpMathJax` (*env.*) Only if `MATHJAX` is being used along with HTML.

```
1330 \begin{warpprint}
1331 \LWR@excludcomment{warpMathJax}{mathjax}
1332 \end{warpprint}
1333
1334 \begin{warpHTML}
1335 \ifbool{mathjax}
1336 {\LWR@includecomment{warpMathJax}{mathjax}}
1337 {\LWR@excludcomment{warpMathJax}{mathjax}}
1338 \end{warpHTML}
```

`warpsvg` (*env.*) Only if `svg math` is being used along with HTML, or in print mode.

```
1339 \begin{warpprint}
1340 \LWR@includecomment{warpsvg}{mathsvg}
1341 \end{warpprint}
1342
1343 \begin{warpHTML}
1344 \ifbool{mathjax}
1345 {\LWR@excludcomment{warpsvg}{mathsvg}}
1346 {\LWR@includecomment{warpsvg}{mathsvg}}
1347 \end{warpHTML}
```

`LWRcreatelwarpmk` (*env.*) Optionally generate a local copy of `lwarpmk`. Default to no.

```
1348 \ifbool{LWR@creatinglwarpmk}
1349 {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1350 {\LWR@excludcomment{LWRcreatelwarpmk}{lwarpmk}}
```

## 32 Required packages

These packages are automatically loaded by `lwarp` when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

**for HTML output:** 1351 `\begin{warpHTML}`

`fontspec` (*Pkg*) Load `fontspec` if necessary:

```
1352 \ifxetexorluatex
1353 \IfPackageLoadedTF{fontspec}{}{
1354 \usepackage[no-math]{fontspec}
1355 }
```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```
1356 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1357 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1358 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1359 \else
```

**pdf<sub>l</sub>atex only:** Only pre-loaded if *pdf<sub>l</sub>atex* is being used.

`microtype` (*Pkg*)

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping L<sup>A</sup>T<sub>E</sub>X dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```
1360 \RequirePackage{microtype}
1361
1362 \microtypesetup{
1363 protrusion=false,
1364 expansion=false,
1365 tracking=false,
1366 kerning=false,
1367 spacing=false}
1368 % \begin{macrocode}
1369 %
1370 % Disable ligatures for typewriter fonts.
1371 % The comma was causing issues with \MathJax\ and \cs{,} followed by a comma.
1372 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1373 % are now allowed.
1374 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1375 % ^^A \DisableLigatures[,{,},f,q,t,T,Q]{encoding = *,family = *}% previous
1376 % \begin{macrocode}
1377 \DisableLigatures{encoding = *,family = tt*}

1378 \fi

1379 \end{warpHTML}
```

`geometry` (*Pkg*) Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

**for HTML output:** 1380 \begin{warpHTML}

If `geometry` has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by `lwarp \AtBeginDocument` with a very large page size to reduce HTML tag overflow off the page.

```

1381 \IfPackageLoadedTF{geometry}
1382 {}{
1383 \RequirePackage[
1384 reset,
1385 paperwidth=\paperwidth,
1386 paperheight=\paperheight,
1387 textwidth=\textwidth,
1388 textheight=\textheight,
1389 left=\oddsidemargin,
1390 top=\topmargin,
1391 marginparsep=\marginparsep,
1392 marginparwidth=\marginparwidth,
1393]{geometry}
1394 }
```

Remember the original definitions for later reuse. If the `geometry` package is loaded by the user, `lwarp-geometry` will nullify the user-level originals.

```

1395 \LetLtxMacro\LWR@origgeometry\geometry
1396 \LetLtxMacro\LWR@orignewgeometry\newgeometry
1397 \LetLtxMacro\LWR@origrestoregeometry\restoregeometry
1398 \LetLtxMacro\LWR@origsavegeometry\savegeometry
1399 \LetLtxMacro\LWR@origloadgeometry\loadgeometry
```

`LWR@allowanothergeometry` `geometry` may be loaded by the user before `lwarp`, after `lwarp`, or not at all. If *(bool)* before `lwarp`, it will have already been loaded by now and its page layout has already been saved. If `geometry` is loaded after `lwarp`, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads `geometry`, `lwarp-geometry` will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean `LWR@allowanothergeometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```

1400 \newbool{LWR@allowanothergeometry}
1401 \booltrue{LWR@allowanothergeometry}
```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```

1402 \AtEndPreamble{
```

Whatever geometry choices the user has made in the preamble, either before or after `lwarp` was loaded, are now saved for possible temporary reuse, such as by `lyluatex`.

See the `lwarp-geometry` section for what happens if `geometry` is loaded after `lwarp`.

```
1403 \LWR@origsavegeometry{LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```
1404 \newlength{LWR@userspaperwidth}
1405 \setlength{LWR@userspaperwidth}{\paperwidth}
1406
1407 \newlength{LWR@userspaperheight}
1408 \setlength{LWR@userspaperheight}{\paperheight}
1409
1410 \newlength{LWR@usersmarginparwidth}
1411 \setlength{LWR@usersmarginparwidth}{\marginparwidth}
1412
1413 \newlength{LWR@userstextwidth}
1414 \setlength{LWR@userstextwidth}{\textwidth}
1415
1416 \newlength{LWR@userstextheight}
1417 \setlength{LWR@userstextwidth}{\textheight}
```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```
1418 \LWR@origgeometry{
1419 reset,
1420 paperheight=190in,
1421 paperwidth=20in,
1422 left=2in,
1423 right=6in,
1424 top=1in,
1425 bottom=1in,
1426 heightrounded,%
1427 }
```

The `lwarp` page geometry is saved for future restore:

```
1428 \LWR@origsavegeometry{LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1429 \boolfalse{LWR@allowanothergeometry}%
```

`ltsbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```
1430 \setlength{\textheight}{0.8\paperheight}
1431 \setlength{\textwidth}{0.7\paperwidth}
1432
1433 \@twosidefalse
1434 \@mparswitchfalse
1435 }% \AtEndPreamble
1436
1437 \end{warpHTML}
```

**for HTML & PRINT:** 1438 \begin{warpall}

xparse (*Pkg*)

L<sup>A</sup>T<sub>E</sub>X3 command argument parsing

```
1439 \IfFormatAtLeastTF{2020-10-01}{\RequirePackage{xparse}}
```

calc (*Pkg*)

```
1440 \RequirePackage{calc}
```

```
1441 \end{warpall}
```

**for HTML output:** 1442 \begin{warpHTML}

expl3 (*Pkg*)

L<sup>A</sup>T<sub>E</sub>X3 programming

```
1443 \RequirePackage{expl3}
```

getttitlestring (*Pkg*)

Used to emulate \nameref.

```
1444 \RequirePackage{getttitlestring}
```

```
1445
```

```
1446
```

```
1447 \end{warpHTML}
```

**for HTML & PRINT:** 1448 \begin{warpall}

filecontents (*Pkg*)

Used to write helper files while creating the print version.

Recent versions of L<sup>A</sup>T<sub>E</sub>X (as of Fall 2019) now include the functionality of the `filecontents` package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older L<sup>A</sup>T<sub>E</sub>X kernel is used, the original `filecontents` package is used, but it is patched to throw away the new optional argument.

```
1449 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
```

```
1450
```

```
1451 \RequirePackage{filecontents}
```

```
1452
```

```
1453 \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
```

```
1454
```

```
1455 \IfPackageAtLeastTF{filecontents}{2011/10/08}
```

```
1456 {
```

For a newer version of the `filecontents` package, simply discard the optional argument.

```
1457 \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]
```

```
1458 }
```

```
1459 {% patch older package for morewrites
```

For an older version of `filecontents`, discard the optional argument, and also patch to work with `morewrites`, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```

1460 \newwrite\fcwrite
1461 \renewcommand*\filecontents[1][\%
1462 \def\chardef##1\write{\let\reserved@cfwrite}%
1463 \LWR@orig@filecontents%
1464 }
1465 }
1466
1467 }% older kernel
1468 {% newer kernel

```

For a newer kernel with a `filecontents` environment which accepts the optional overwrite argument, use the environment as-is.

```

1469 }% newer kernel, filecontents env accepts optional args, do not load package
1470 \end{warpall}

```

**for HTML output:** 1471 \begin{warpHTML}

`xifthen` (*Pkg*)

```
1472 \RequirePackage{xifthen}
```

`verbatim` (*Pkg*)

```
1473 \RequirePackage{verbatim}
```

`refcount` (*Pkg*)

Provides `\setcounterref`, `\setcounterpageref`, etc.

```
1474 \RequirePackage{refcount}
```

`newfloat` (*Pkg*)

```
1475 \RequirePackage{newfloat}
```

```
1476 \end{warpHTML}
```

**for HTML & PRINT:** 1477 \begin{warpall}

`xstring` (*Pkg*) There was a short-term bug in `xstring` regarding `\IfInteger` which affected `lwarp`'s `index` generation. The updated version is requested here.



`index`

```
1478 \RequirePackage{xstring}[2019/02/01]
```

`environ` (*Pkg*) Used to encapsulate math environments for re-use in HTML `<alt>` text.

```
1479 \RequirePackage{environ}
```

```
1480 \end{warpall}
```



**for HTML output:** 1481 `\begin{warpHTML}`

`println` (*Pkg*) Used to convert lengths for image width/height options.

```
1482 \RequirePackage{println}
```

`\LWR@printlength` {<*length*>}

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

```
1483 \newrobustcmd*\LWR@printlength}[1]{%
1484 \begingroup%
1485 \uselengthunit{PT}%
1486 \renewcommand*\unitspace}{}%
1487 \ifdimless{#1}{10pt}{%
1488 \printlength{#1}%
1489 }{%
1490 \rndprintlength{#1}%
1491 }%
1492 \endgroup%
1493 }

1494 \end{warpHTML}
```

### 33 Loading packages

`\RequirePackage` and `\usepackage` are modified to error-check for certain packages, and for HTML they load the `lwarp-` version if it exists.

**for HTML & PRINT:** 1495 `\begin{warpall}`

Remember the original `\RequirePackage`:

```
1496 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
1497 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions
```

`\LWR@requirepackagenames` Stores the list of required package names.

```
1498 \newcommand*\LWR@requirepackagenames}{}
```

`\LWR@parsedrequirepackagenames` Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

```
1499 \newcommand*\LWR@parsedrequirepackagenames}{}
```

`\LWR@nullifycomment` Remove the preexisting comment environment. Certain packages define it for their own use.

```
1500 \newcommand*\LWR@nullifycomment}{%
1501 \PackageInfo{lwarp}%
1502 {Nullifying the comment environment before loading \LWR@strresulttwo,}%
1503 \let\comment\relax%
```

```
1504 \let\endcomment\relax%
1505 }
```

`\LWR@findword` [*1: separator*] {*2: list*} {*3: index*} [*4: destination*]

Note that argument 4 is passed directly to `\StrBetween`.

```
1506 \newcommand*\LWR@findword[3][,]{%
1507 \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1508 }
```

`\LWR@checkloadnever` {*bad package name*} {*replacement package names*}

From now on, check for incompatible packages loaded via `\usepackage`, instead of packages loaded before `lwarp`:

```
1509 \let\ltxMacro\LWR@checkloadnever\LWR@afterloadnever
```

`\LWR@checkloadfilename` {*filename*} Checks if this filename should be loaded after `lwarp`, or never at all.

```
1510 \newcommand*\LWR@checkloadfilename[1]{%
```

Remember the package name to compare with, to be used by `\LWR@checkloadnever` and `\LWR@checkloadbefore`.

```
1511 \edef\LWR@tempone{#1}%
```

Check against the list of packages which should never be loaded:

```
1512 \LWR@checkloadnevers
```

The following should only be loaded before `lwarp`:

```
1513 \LWR@checkloadbefore{ctex}
1514 \LWR@checkloadbefore{fontspec}
1515 \LWR@checkloadbefore{inputenc}
1516 \LWR@checkloadbefore{inputenx}
1517 \LWR@checkloadbefore{nfssxet-cfr}
1518 \LWR@checkloadbefore{fontaxes}
1519 \LWR@checkloadbefore{kotex}
1520 \LWR@checkloadbefore{kpfonts}% textcomp option clash
1521 \LWR@checkloadbefore{luatexja}
1522 \LWR@checkloadbefore{luatexja-fontspec}
1523 \LWR@checkloadbefore{luatexko}
1524 \LWR@checkloadbefore{morewrites}
1525 \LWR@checkloadbefore{newclude}
1526 \LWR@checkloadbefore{newunicodechar}
1527 \LWR@checkloadbefore{pLext}
1528 \LWR@checkloadbefore{xeCJK}
1529 \LWR@checkloadbefore{xetexko}
1530 \LWR@checkloadbefore{zxjatype}
1531 }
```

`\LWR@lookforpackagename` {*index*}

If HTML, and if this is an lwarp-supported package name, re-direct it to the lwarp version by renaming it lwarp- followed by the original name.

Looks index deep into the list of package names, \LWR@requirepackagenames, and builds \LWR@parsedrequirepackagenames which is the modified list of names.

```
1532 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the index'th package name from the list:

```
1533 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in LWR@strresult and the final name with no blanks goes into LWR@strresulttwo.

```
1534 \StrSubstitute[100]{\LWR@strresult}{ }{\LWR@strresulttwo}%
```

See if the package name was found:

```
1535 \IfStrEq{\LWR@strresulttwo}{}%
```

```
1536 {}% no filename
```

```
1537 {}% yes filename was found
```

Possible adjustments before loading the package. Maybe nullify the comment environment if the new package will be redefining it for a new purpose.

```
1538 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
```

```
1539 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

If HTML, check if the package should be loaded before lwarp, or never at all:

```
1540 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{%}
```

If HTML, and if found, and if an lwarp-equivalent name exists, use lwarp-\* instead.

```
1541 \ifboolexpr{
1542 bool{warpingHTML} and
1543 test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
1544 }%
1545 {% lwarp-* file found
1546 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1547 \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
1548 }{%
1549 \edef\LWR@parsedrequirepackagenames{%
1550 \LWR@parsedrequirepackagenames, lwarp-\LWR@strresulttwo%
1551 }%
1552 }%
1553 }%
1554 {% lwarp-* file not found
```

Otherwise, use the current package name.

```
1555 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1556 \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1557 }{%
1558 \edef\LWR@parsedrequirepackagenames{%
1559 \LWR@parsedrequirepackagenames, \LWR@strresulttwo%
1560 }%
```

```

1561 }%
1562 }% no lwarp-* file
1563 }% yes filename
1564 }

```

`\RequirePackage` [*{1: options}*] *{2: package names}* [*{3: version}*]

For each of many package names in a comma-separated list, if an lwarp version of a package exists, select it instead of the L<sup>A</sup>T<sub>E</sub>X version.

```
1565 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:<sup>17</sup>

```

1566 \renewcommand*\LWR@requirepackagenames{#2}%
1567 \renewcommand*\LWR@parsedrequirepackagenames}{}%
1568 \LWR@lookforpackagename{1}%
1569 \LWR@lookforpackagename{2}%
1570 \LWR@lookforpackagename{3}%
1571 \LWR@lookforpackagename{4}%
1572 \LWR@lookforpackagename{5}%
1573 \LWR@lookforpackagename{6}%
1574 \LWR@lookforpackagename{7}%
1575 \LWR@lookforpackagename{8}%
1576 \LWR@lookforpackagename{9}%
1577 \LWR@lookforpackagename{10}%
1578 \LWR@lookforpackagename{11}%
1579 \LWR@lookforpackagename{12}%
1580 \LWR@lookforpackagename{13}%
1581 \LWR@lookforpackagename{14}%
1582 \LWR@lookforpackagename{15}%
1583 \LWR@lookforpackagename{16}%
1584 \LWR@lookforpackagename{17}%
1585 \LWR@lookforpackagename{18}%
1586 \LWR@lookforpackagename{19}%
1587 \LWR@lookforpackagename{20}%

```

Error if braces are used in optional argument. This can cause an error, so tell how to avoid.

```

1588 \IfSubStr{\detokenize\expandafter{#1}}{\LWRleftbrace}%
1589 {%
1590 \PackageError{lwarp}{%
1591 You used:\MessageBreak
1592 \protect\usepackage[#1]{#2}\MessageBreak
1593 Braces in the package options will fail with Lwarp.\MessageBreak
1594 Instead, use:\MessageBreak
1595 \protect\PassOptionsToPackage{#1}{#2}\MessageBreak
1596 \protect\usepackage{#2}\MessageBreak
1597 near the line number given below.\MessageBreak
1598 Enter 'h' for more info%
1599 }%
1600 }%
1601 See the Lwarp manual troubleshooting index entry for\MessageBreak
1602 ``package, options with braces'%
1603 }%
1604 }%

```

<sup>17</sup>This was originally nine names, but then I came across a package which used twelve...

```
1605 {}% no brace
```

\RequirePackage depending on the options and version:

```
1606 \IfValueTF{#1}%
1607 {}% options given
```

The L<sup>A</sup>T<sub>E</sub>X3 key/value handler does not appear to expand the option argument, so it is pre-expanded here. This was a problem for mathspec, which passed options to fontspec.

```
1608 \edef\LWR@packageoptions{#1}%
1609 \IfValueTF{#3}% version given?
1610 {%
1611 \expandafter\LWR@origRequirePackage%
1612 \expandafter[\LWR@packageoptions]%
1613 {\LWR@parsedrequirepackagenames}[#3]%
1614 }%
1615 {%
1616 \expandafter\LWR@origRequirePackage%
1617 \expandafter[\LWR@packageoptions]%
1618 {\LWR@parsedrequirepackagenames}%
1619 }%
1620 }%
1621 {}% no options given
1622 \IfValueTF{#3}% version given?
1623 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1624 {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1625 }%
1626 }
1627 \LetLtxMacro\usepackage\RequirePackage
1628 \@onlypreamble\RequirePackage
1629 \@onlypreamble\usepackage

1630 \end{warppall}
```

**for HTML output:** 1631 \begin{warppHTML}

```
\LWR@ProvidesPackagePass {<pkgname>} [<version>]
```

Uses the original package, including options.

```
1632 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1633 \PackageInfo{lwarp}{%
1634 Using package `#1', \MessageBreak
1635 and adding lwarp modifications, including options, \MessageBreak%
1636 }%
1637 \IfValueTF{#2}%
1638 {\ProvidesPackage{lwarp-#1}[#2]}%
1639 {\ProvidesPackage{lwarp-#1}}%
1640 \DeclareOption*{%
1641 \PassOptionsToPackage{\CurrentOption}{#1}%
1642 }%
1643 \ProcessOptions\relax%
```

If using catoptions, an error occurs if a package is loaded with an option then loaded again with no options. lwarp does this if a package is preloaded then later

patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```

1644 \IfPackageLoadedTF{#1}{%
1645 \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1646 \IfValueTF{#2}%
1647 {%
1648 \expandafter\LWR@origRequirePackage%
1649 \expandafter[\LWR@tempone]{#1}[#2]%
1650 }%
1651 {%
1652 \expandafter\LWR@origRequirePackage%
1653 \expandafter[\LWR@tempone]{#1}%
1654 }%
1655 }{%
1656 \IfValueTF{#2}%
1657 {\LWR@origRequirePackage{#1}[#2]}%
1658 {\LWR@origRequirePackage{#1}}%
1659 }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading `xcolor` with options.

```

1660 \DeclareOption*{%
1661 \ProcessOptions\relax%
1662 }

```

`\LWR@ProvidesPackageDropA`  $\langle name \rangle$   $\langle date or -NoValue-\rangle$

Declares the package. Factored for reuse.

```

1663 \newcommand*\LWR@ProvidesPackageDropA[2]{%
1664 \PackageInfo{lwarp}{%
1665 Replacing package `#1' with the lwarp version,\MessageBreak
1666 and discarding options,%
1667 }%
1668 \IfValueTF{#2}
1669 {\ProvidesPackage{lwarp-#1}[#2]}
1670 {\ProvidesPackage{lwarp-#1}}
1671 }

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```

1672 \newcommand*\LWR@ProvidesPackageDropB{%
1673 \ProcessOptions\relax% original LaTeX code
1674 \let\ds@\@empty% from the original \ProcessOptions
1675 \edef\@curroptions{% lwarp modification to \ProcessOptions
1676 \@process@options\relax% from the original \ProcessOptions
1677 }

```

`\LWR@ProvidesPackageDrop`  $\langle pkgname \rangle$   $\langle version \rangle$

Ignores the original package and uses `lwarp`’s version instead. Drops/discards all options.

```
1678 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
```

Declare the package:

```
1679 \LWR@ProvidesPackageDropA{#1}{#2}
```

Ignore all options:

```
1680 \DeclareOption*{}{}
```

Process the options:

```
1681 \LWR@ProvidesPackageDropB
1682 }
```

```
1683 \end{warpHTML}
```

## 34 File handles

Defines file handles for writes.

**for HTML & PRINT:** 1684 \begin{warpall}

`\LWR@quickfile` For quick temporary use only. This is reused in several places.

```
1685 \newwrite\LWR@quickfile%
```

```
1686 \end{warpall}
```

**for HTML output:** 1687 \begin{warpHTML}

`\LWR@lateximagesfile` For <project>-images.txt:

```
1688 \newwrite\LWR@lateximagesfile
```

```
1689 \end{warpHTML}
```

## 35 Include a file

During HTML output, `\include{<filename>}` causes the following to occur:

1. `lwarp` creates `<filename>_html_inc.tex` whose contents are:
 

```
\input <filename>.tex
```
2. `<filename>_html_inc.tex` is then `\included` instead of `<filename>.tex`.
3. `<filename>_html_inc.aux` is automatically generated and used by `LATEX`.

**for HTML output:** 1690 \begin{warpHTML}

`\@include {<filename>}` Modified to load `_html_inc` files.

(Below, `\clearpage` caused missing text, and was changed to `\newpage`.)

```

1691 \def\@include#1 {%
1692 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1693 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1694 \immediate\closeout\LWR@quickfile% lwarp
1695 \LWR@maybe@orignewpage% changed from clearpage
1696 \if@filesw
1697 \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1698 \fi
1699 \@tempwattrue
1700 \if@partsw
1701 \@tempwafalse
1702 \edef\reserved@b{#1}%
1703 \@for\reserved@a:=\@partlist\do
1704 {\ifx\reserved@a\reserved@b\@tempwattrue\fi}%
1705 \fi
1706 \if@tempswa
1707 \let\@auxout\@partaux
1708 \if@filesw
1709 \immediate\openout\@partaux #1_html_inc.aux % changed
1710 \immediate\write\@partaux{\relax}%
1711 \fi
1712 \@input@{#1_html_inc.tex}% changed
1713 \LWR@maybe@orignewpage% changed from clearpage
1714 \@writeckpt{#1}%
1715 \if@filesw
1716 \immediate\closeout\@partaux
1717 \fi
1718 \else
1719 \deadcycles\z@
1720 \@nameuse{cp@#1}%
1721 \fi
1722 \let\@auxout\@mainaux%
1723 }

1724 \end{warpHTML}

```

## 36 Copying a file

**for HTML output:** 1725 `\begin{warpHTML}`

`\LWR@copyfile {<source filename>} {<destination filename>}`

Used to copy the `.toc` file to `.sidetoc` to re-print the TOC in the sideroc navigation pane.

```

1726 \newwrite\LWR@copyoutfile % open the file to write to
1727 \newread\LWR@copyinfile % open the file to read from
1728
1729 \newcommand*\LWR@copyfile}[2]{%
1730 \LWR@traceinfo[LWR@copyfile: copying #1 to #2]
1731
1732 \immediate\openout\LWR@copyoutfile=#2

```



```

1733 \openin\LWR@copyinfile=#1
1734 \begingroup\endlinechar=-1
1735 \makeatletter
1736
1737 \LWR@traceinfo{LWR@copyfile: about to loop}
1738
1739 \loop\unless\ifeof\LWR@copyinfile
1740 \LWR@traceinfo{LWR@copyfile: one line}
1741 \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1742% \LWR@fileline\par % print the content into the pdf
1743% print the content:
1744 \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1745 \repeat
1746 \immediate\closeout\LWR@copyoutfile
1747 \LWR@traceinfo{LWR@copyfile: done}
1748 \endgroup
1749 }

1750 \end{warpHTML}

```

## 37 Debugging messages

**HTML comments** To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

**debugging information** To have debug information written to the log, use

```
\tracinglwarp
```

**for HTML & PRINT:** 1751 \begin{warpall}

`LWR@tracinglwarp` (*bool*) True if tracing is turned on.

```
1752 \newbool{LWR@tracinglwarp}
```

`\tracinglwarp` Turns on the debug tracing messages.

```
1753 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

`\LWR@traceinfo` `{\text}` If tracing is turned on, writes the text to the .log file.

```

1754 \newcommand{\LWR@traceinfo}[1]{%
1755 \ifbool{LWR@tracinglwarp}%
1756 {%
1757 \typeout{*** lwarp: #1}%
1758 }%
1759 }%
1760 }

```

`HTMLDebugComments` (*bool*) Add comments in HTML about closing `<div>`s, sections, etc.

**Default:** false

```

1761 \newbool{HTMLDebugComments}
1762 \boolfalse{HTMLDebugComments}

```

If `\tracinglwarp`, show where preamble hooks occur:

```

1763 \AfterEndPreamble{
1764 \LWR@traceinfo{AfterEndPreamble}
1765 }
1766
1767 \AtBeginDocument{
1768 \LWR@traceinfo{AtBeginDocument}
1769 }

1770 \end{warpall}

```

## 38 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, and may also be of some use for package authors to adapt their packages for `lwarp`. The following is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by `LATEX` and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

**For a preexisting macro:** An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}

```

`\LWR@formatted{name}` copies the original print version to a new name `\LWR@print@<name>`, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using.

**For a preexisting environment:** The process is similar. Note the use of `\LWR@formattdenv` instead of `\LWR@formatted`.

```

\begin{warpHTML}
\newenvironment{LWR@HTML@name}{...}{..}

\LWR@formattedenv{name}
\end{warpHTML}

```

**For a new macro or environment:** The print version is defined inside `warpall`, so that it can also be seen and modified by during HTML output.

```

\begin{warpall}
\newcommand{\name}{...}% The print version.
\end{warpall}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}

\LWR@formatted{name}
\end{warpHTML}

```

Similar for an environment, using `\formattedenv`.

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
  1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
  2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`. For an environment, `\endname` is directed to `\endLWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.
- Since the new `\name` does not process any arguments, they are processed by `\LWR@print@name` or `\LWR@HTML@name`.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

```

\LWR@expandableformatted
\LWR@expandableformattedenv

```



Misplaced `\omit` error

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

Print or disabled versions:

**for HTML & PRINT:** 1771 `\begin{warpall}`

```
1772 \newcommand*\LWR@formatted}[1]{}
1773 \newcommand*\LWR@expandableformatted}[1]{}
1774 \newcommand*\LWR@formattedenv}[1]{}
1775 \newcommand*\LWR@expandableformattedenv}[1]{}

```

```
1776 \end{warpall}

```

**for HTML output:** HTML versions:

```
1777 \begin{warpHTML}

```

`\LWR@formatting` Remembers if selected print/HTML formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “print” or “HTML”.

```
1778 \newcommand*\LWR@formatting}{HTML}

```

`\LWR@formatted@checkname`  $\langle name \rangle$

Verify that a print and HTML version exist.

```
1779 \newcommand*\LWR@formatted@checkname}[1]{%
1780 \ifcsundef{#1}{%
1781 \ifcsundef{LWR@print@#1}{%
1782 \PackageError{lwarp}
1783 {%
1784 \LWRbackslash#1 or \protect\LWR@print@#1\MessageBreak
1785 must be defined before using \protect\LWR@formatted, etc%
1786 }
1787 {Perhaps #1 is misspelled.}
1788 }{\relax}%
1789 }{\relax}%
1790 \ifcsundef{LWR@HTML@#1}{%
1791 \PackageError{lwarp}
1792 {%
1793 \protect\LWR@HTML@#1 must be defined
1794 before using \protect\LWR@formatted, etc%
1795 }
1796 {Perhaps #1 is misspelled.}
1797 }{\relax}%
1798 }

```

`\LWR@formatted@checkendname`  $\langle name \rangle$

```
1799 \newcommand*\LWR@formatted@checkendname}[1]{%
1800 \ifcsundef{end#1}{%
1801 \ifcsundef{endLWR@print@#1}{%
1802 \PackageError{lwarp}

```

```

1803 {%
1804 \protect\end#1 or \protect\endLWR@print@#1\MessageBreak
1805 must be defined before using \protect\LWR@formatted, etc%
1806 }
1807 {Perhaps #1 is misspelled.}
1808 }{\relax}%
1809 }{\relax}%
1810 \ifcsundef{endLWR@HTML@#1}{%
1811 \PackageError{lwarp}
1812 {%
1813 \protect\endLWR@HTML@#1 must be defined
1814 before using \protect\LWR@formatted, etc%
1815 }
1816 {Perhaps #1 is misspelled.}
1817 }{\relax}%
1818 }

```

`\LWR@formatted`  $\langle\textit{macroname}\rangle$  No backslash in the macro name.

If not yet defined, defines `\LWR@print@<name>` as the original print-mode `\<name>`. Also redefines `\<name>` to use `\LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1819 \renewcommand*{\LWR@formatted}[1]{%
1820 \LWR@formatted@checkname{#1}%
1821 \ifcsundef{LWR@print@#1}{%
1822 \csNewCommandCopycs{LWR@print@#1}{#1}%
1823 }{}%
1824 \ifcsundef{#1}{%
1825 \expandafter\newrobustcmd\csname #1\endcsname{%
1826 \@nameuse{LWR@\LWR@formatting @#1}%
1827 }%
1828 }{%
1829 \expandafter\renewrobustcmd\csname #1\endcsname{%
1830 \@nameuse{LWR@\LWR@formatting @#1}%
1831 }%
1832 }%
1833 }

```

`\LWR@expandableformatted`  $\langle\textit{macroname}\rangle$  No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```

1834 \renewcommand*{\LWR@expandableformatted}[1]{%
1835 \LWR@formatted@checkname{#1}%
1836 \ifcsundef{LWR@print@#1}{%
1837 \csNewCommandCopycs{LWR@print@#1}{#1}%
1838 }{}%
1839 \ifcsundef{#1}{%
1840 \expandafter\newcommand\csname #1\endcsname{%
1841 \@nameuse{LWR@\LWR@formatting @#1}%
1842 }%
1843 }{%
1844 \expandafter\renewcommand\csname #1\endcsname{%
1845 \@nameuse{LWR@\LWR@formatting @#1}%
1846 }%
1847 }%
1848 }

```

`\LWR@formattedenv {<environmentname>}`

If not yet defined, defines the environment `LWR@print@<name>` as the original print-mode `<name>`. Also redefines the environment `<name>` to use environment `LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is print or HTML.

```

1849 \renewcommand*{\LWR@formattedenv}[1]{%
1850 \LWR@formatted@checkname{#1}%
1851 \LWR@formatted@checkendname{#1}%
1852 \ifcsundef{LWR@print@#1}{%
1853 \NewEnvironmentCopy{LWR@print@#1}{#1}%
1854 }{}%
1855 \DeclareDocumentEnvironment{#1}{}%
1856 {%
1857 \@nameuse{LWR@\LWR@formatting @#1}%
1858 }%
1859 {%
1860 \@nameuse{endLWR@\LWR@formatting @#1}%
1861 }%
1862 }
```

`\LWR@expandableformattedenv {<environmentname>}`

An expandable version of `LWR@formattedenv`.

```

1863 \renewcommand*{\LWR@expandableformattedenv}[1]{%
1864 \LWR@formatted@checkname{#1}%
1865 \LWR@formatted@checkendname{#1}%
1866 \ifcsundef{LWR@print@#1}{%
1867 \NewEnvironmentCopy{LWR@print@#1}{#1}%
1868 }{}%
1869 \DeclareExpandableDocumentEnvironment{#1}{}%
1870 {%
1871 \@nameuse{LWR@\LWR@formatting @#1}%
1872 }%
1873 {%
1874 \@nameuse{endLWR@\LWR@formatting @#1}%
1875 }%
1876 }

1877 \end{warpHTML}
```

## 39 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

**for HTML & PRINT:** 1878 `\begin{warpall}`

### 39.1 User-level controls

`FormatEPUB` (*bool*) Changes HTML output for easy EPUB conversion via an external program. Removes  
 Default: `false`

per-file headers, footers, and nav. Adds footnotes per chapter/section.

```
1879 \newbool{FormatEpub}
1880 \boolfalse{FormatEpub}
```

`FormatWP` (*bool*) Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.

Default: `false`

```
1881 \newbool{FormatWP}
1882 \boolfalse{FormatWP}
```

`WPMarkFloats` (*bool*) Adds

Default: `false`

```
=== begin table ===
. . .
=== end ===
```

or

```
=== begin figure ===
. . .
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions. <sup>18</sup>

```
1883 \newbool{WPMarkFloats}
1884 \boolfalse{WPMarkFloats}
```

`WPMarkMinipages` (*bool*) Adds

Default: `false`

```
=== begin minipage ===
. . .
=== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```
1885 \newbool{WPMarkMinipages}
1886 \boolfalse{WPMarkMinipages}
```

`WPMarkTOC` (*bool*) While formatting for word processors, adds

Default: `true`

```
=== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

*If set false, the actual toc is printed instead.*

```
1887 \newbool{WPMarkTOC}
1888 \booltrue{WPMarkTOC}
```

`WPMarkLOFT` (*bool*) While formatting for word processors, adds

Default: `false`

<sup>18</sup>Perhaps some day word processors will have HTML import options for identifying `<figure>` and caption tags for figures and tables.

```
=== list of figures === and/or
=== list of tables ===
```

where each of these lists would have been. This helps identify where to insert the actual lists.

*If set false, the actual lists are printed instead.*

```
1889 \newbool{WPMarkLOFT}
1890 \boolfalse{WPMarkLOFT}
```

**WPMarkMath** (*bool*) While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.  
**Default:** false

```
1891 \newbool{WPMarkMath}
1892 \boolfalse{WPMarkMath}
```

**WPTitleHeading** (*bool*) While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOFFICE. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.  
**Default:** false

See table 11 on page 190.

```
1893 \newbool{WPTitleHeading}
1894 \boolfalse{WPTitleHeading}
```

```
1895 \end{warpall}
```

## 39.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

**for HTML output:** 1896 \begin{warpHTML}

```
1897 \AtBeginDocument{
1898 \ifbool{FormatWP}{
1899 \@ifundefined{chapter}{
1900 \ifbool{WPTitleHeading}{% part and section starting at h2
1901 \renewcommand*\LWR@tagtitle}{h1}
1902 \renewcommand*\LWR@tagtitleend}{/h1}
1903 \renewcommand*\LWR@tagpart}{h2}
1904 \renewcommand*\LWR@tagpartend}{/h2}
1905 \renewcommand*\LWR@tagsection}{h3}
1906 \renewcommand*\LWR@tagsectionend}{/h3}
1907 \renewcommand*\LWR@tagsubsection}{h4}
1908 \renewcommand*\LWR@tagsubsectionend}{/h4}
1909 \renewcommand*\LWR@tagsubsubsection}{h5}
1910 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1911 \renewcommand*\LWR@tagparagraph}{h6}
1912 \renewcommand*\LWR@tagparagraphend}{/h6}
```



```

1913 \renewcommand*\LWR@tagsubparagraph}{%
1914 span class=\textquotedbl{}subparagraph\textquotedbl%
1915 }
1916 \renewcommand*\LWR@tagsubparagraphend}{/span}
1917 }% WPTitleHeading
1918 {% not WPTitleHeading, part and section starting at h1
1919 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1920 \renewcommand*\LWR@tagtitleend}{/div}
1921 \renewcommand*\LWR@tagpart}{h1}
1922 \renewcommand*\LWR@tagpartend}{/h1}
1923 \renewcommand*\LWR@tagsection}{h2}
1924 \renewcommand*\LWR@tagsectionend}{/h2}
1925 \renewcommand*\LWR@tagsubsection}{h3}
1926 \renewcommand*\LWR@tagsubsectionend}{/h3}
1927 \renewcommand*\LWR@tagsubsubsection}{h4}
1928 \renewcommand*\LWR@tagsubsubsectionend}{/h4}
1929 \renewcommand*\LWR@tagparagraph}{h5}
1930 \renewcommand*\LWR@tagparagraphend}{/h5}
1931 \renewcommand*\LWR@tagsubparagraph}{h6}
1932 \renewcommand*\LWR@tagsubparagraphend}{/h6}
1933 }% not WPTitleHeading
1934 }% chapter undefined
1935 {% chapter defined
1936 \ifbool{WPTitleHeading}{}
1937 {% not WPTitleHeading, part and chapter starting at h1
1938 \renewcommand*\LWR@tagtitle}{div class=\textquotedbl{}title\textquotedbl}
1939 \renewcommand*\LWR@tagtitleend}{/div}
1940 \renewcommand*\LWR@tagpart}{h1}
1941 \renewcommand*\LWR@tagpartend}{/h1}
1942 \renewcommand*\LWR@tagchapter}{h2}
1943 \renewcommand*\LWR@tagchapterend}{/h2}
1944 \renewcommand*\LWR@tagsection}{h3}
1945 \renewcommand*\LWR@tagsectionend}{/h3}
1946 \renewcommand*\LWR@tagsubsection}{h4}
1947 \renewcommand*\LWR@tagsubsectionend}{/h4}
1948 \renewcommand*\LWR@tagsubsubsection}{h5}
1949 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1950 \renewcommand*\LWR@tagparagraph}{h6}
1951 \renewcommand*\LWR@tagparagraphend}{/h6}
1952 \renewcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
1953 \renewcommand*\LWR@tagsubparagraphend}{/span}
1954 }% not WPTitleHeading
1955 }% chapter defined
1956 }{}% FormatWP
1957 }% AtBeginDocument

1958 \end{warpHTML}

```

## 40 Remembering original formatting macros

for HTML output: 1959 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any lateximage environment and inside a tabbing environment. Also nullify unused commands.

Some packages redefine \#, which is used to generate HTML, so the original must be remembered here.

```

1960 \chardef\LWR@origpound=`\#

1961 \let\LWR@origcomma\,
1962 \letLtxMacro\LWR@origtilde~
1963 \letLtxMacro\LWR@orignobreakspace\nobreakspace
1964 \let\LWR@origfil\hfil
1965 \let\LWR@orighss\hss
1966 \let\LWR@origllap\llap
1967 \let\LWR@origrlap\rlap
1968 \let\LWR@origfilneg\hfilneg
1969 \let\LWR@origspace\hspace
1970
1971 \let\LWR@origrule\rule
1972
1973 \let\LWR@origmedskip\medskip
1974 \let\LWR@origbigskip\bigskip

```

**libertinus-otf** has too much kerning for \textquotedbl, causing an extra space.

```

1975 \letLtxMacro\LWR@orig@@textquotedbl\textquotedbl
1976 \letLtxMacro\LWR@orig@textquotedbl\LWR@orig@@textquotedbl
1977
1978 \AtEndPreamble{
1979 \IfPackageLoadedTF{libertinus-otf}{
1980 \renewcommand{\LWR@orig@textquotedbl}{\LWR@orig@@textquotedbl\kern-.15em}
1981 \letLtxMacro\textquotedbl\LWR@orig@textquotedbl
1982 }{}
1983 }

1984 \letLtxMacro\LWR@origttfamily\ttfamily
1985
1986 \letLtxMacro\LWR@origem\em
1987
1988 \letLtxMacro\LWR@orignormalfont\normalfont
1989
1990 \let\LWR@origonecolumn\onecolumn
1991
1992 \let\LWR@origsp\sp
1993 \let\LWR@origsb\sb
1994
1995 \letLtxMacro\LWR@origunderline\underline

1996 \let\LWR@orignewpage\newpage
1997
1998 \let\LWR@origpagestyle\pagestyle
1999 \let\LWR@origthispagestyle\thispagestyle
2000 \letLtxMacro\LWR@origpagenumbering\pagenumbering
2001
2002 \let\LWR@orignewline\newline
2003
2004 \AtBeginDocument{% in case packages change definitions
2005 \let\LWR@orig@trivlist@trivlist
2006 \let\LWR@origtrivlist\trivlist
2007 \let\LWR@origendtrivlist\endtrivlist
2008 \letLtxMacro\LWR@origitem\item
2009 \letLtxMacro\LWR@origitemize\itemize

```

```

2010 \LetLtxMacro\LWR@endorigitemize\enditemize
2011 \LetLtxMacro\LWR@origenumerate\enumerate
2012 \LetLtxMacro\LWR@endorigenumerate\endenumerate
2013 \LetLtxMacro\LWR@origdescription\description
2014 \LetLtxMacro\LWR@endorigdescription\enddescription
2015 \let\LWR@orig@mklab@mklab
2016 \let\LWR@origmakelabel\makelabel
2017 \let\LWR@orig@donoparitem\@donoparitem
2018 \LetLtxMacro\LWR@orig@item\@item
2019 \let\LWR@orig@nbitem\@nbitem
2020 }
2021
2022 \let\LWR@origpar\par
2023
2024 \LetLtxMacro\LWR@origfootnote\footnote
2025 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
2026
2027
2028 \AtBeginDocument{% in case packages change definition
2029 \LetLtxMacro\LWR@orighline\hline%
2030 \LetLtxMacro\LWR@origcline\cline%
2031 }

2032 \end{warpHTML}

```

## 41 Accents

Native L<sup>A</sup>T<sub>E</sub>X accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X. If using accents in section names which will become file names, it is recommended to use the L<sup>A</sup>T<sub>E</sub>X accents such as `\`` and `\v` instead of Unicode accents. The L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

**for HTML output:** 2033 \begin{warpHTML}

Without `\AtBeginDocument`, `\t` was being re-defined somewhere.

```
2034 \AtBeginDocument{
```

The following are restored for print when inside a `lateximage`.

For Unicode engines, only `\t` needs to be redefined:

```
2035 \LetLtxMacro\LWR@origtie\t
```

For PDF L<sup>A</sup>T<sub>E</sub>X, additional work is required:

```

2036 \ifPDFTeX% pdfLatex or dvi latex
2037 \LetLtxMacro\LWR@origgraveaccent\`
2038 \LetLtxMacro\LWR@origacuteaccent\'
2039 \LetLtxMacro\LWR@origcircumflexaccent\^
2040 \LetLtxMacro\LWR@origtildeaccent\~
2041 \LetLtxMacro\LWR@origmacronaccent\=
2042 \LetLtxMacro\LWR@origbreve\u
2043 \LetLtxMacro\LWR@origdotaccent\.

```

```

2044 \LetLtxMacro\LWR@origdiaeresisaccent\"
2045 \LetLtxMacro\LWR@origdoubleacuteaccent\H
2046 \LetLtxMacro\LWR@origcaronaccent\v
2047 \LetLtxMacro\LWR@origdotbelowaccent\d
2048 \LetLtxMacro\LWR@origcedillaaccent\c
2049 \LetLtxMacro\LWR@origmacronbelowaccent\b

```

The HTML redefinitions follow.

For PDF L<sup>A</sup>T<sub>E</sub>X, Unicode diacritical marks are used:

```

2050 \renewcommand*{\`}[1]{#1\HTMLUnicode{0300}}
2051 \renewcommand*{\'}[1]{#1\HTMLUnicode{0301}}
2052 \renewcommand*{\^}[1]{#1\HTMLUnicode{0302}}
2053 \renewcommand*{\~}[1]{#1\HTMLUnicode{0303}}
2054 \renewcommand*{\=}[1]{#1\HTMLUnicode{0304}}
2055 \renewcommand*{\u}[1]{#1\HTMLUnicode{0306}}
2056 \renewcommand*{\.}[1]{#1\HTMLUnicode{0307}}
2057 \renewcommand*{\"}[1]{#1\HTMLUnicode{0308}}
2058 \renewcommand*{\H}[1]{#1\HTMLUnicode{030B}}
2059 \renewcommand*{\v}[1]{#1\HTMLUnicode{030C}}
2060 \renewcommand*{\d}[1]{#1\HTMLUnicode{0323}}
2061 \renewcommand*{\c}[1]{#1\HTMLUnicode{0327}}
2062 \renewcommand*{\b}[1]{#1\HTMLUnicode{0331}}
2063 \fi

```

For all engines, a Unicode diacritical tie is used:

```

2064 \def\LWR@t#1#2{#1\HTMLUnicode{0361}#2}
2065 \renewcommand*{\t}[1]{\LWR@t#1}

```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a lateximage is begun.

```

2066 \ifPDFTeX% pdflatex or dvi latex
2067 \newcommand*{\LWR@restoreorigaccents}{%
2068 \LetLtxMacro\` \LWR@origgraveaccent%
2069 \LetLtxMacro\' \LWR@origacuteaccent%
2070 \LetLtxMacro\^ \LWR@origcircumflexaccent%
2071 \LetLtxMacro\~ \LWR@origtildeaccent%
2072 \LetLtxMacro\= \LWR@origmacronaccent%
2073 \LetLtxMacro\u \LWR@origbreve%
2074 \LetLtxMacro\. \LWR@origdotaccent%
2075 \LetLtxMacro\" \LWR@origdiaeresisaccent%
2076 \LetLtxMacro\H \LWR@origdoubleacuteaccent%
2077 \LetLtxMacro\v \LWR@origcaronaccent%
2078 \LetLtxMacro\t \LWR@origtie%
2079 \LetLtxMacro\d \LWR@origdotbelowaccent%
2080 \LetLtxMacro\c \LWR@origcedillaaccent%
2081 \LetLtxMacro\b \LWR@origmacronbelowaccent%
2082 }%
2083 \else% XeLaTeX, LuaLaTeX:
2084 \newcommand*{\LWR@restoreorigaccents}{%
2085 \LetLtxMacro\t \LWR@origtie%
2086 }%
2087 \fi%
2088 }% AtBeginDocument

2089 \end{warpHTML}

```

## 42 Configuration files

### 42.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a `pstool` image. `pstool` uses an additional compile for each image using the original document's preamble, which includes `lwarp`, so the `lwarp` configuration files are turned off if `-pstool` is part of the `\jobname`.

Default to no configuration files:

```
2090 \LWR@exludecomment{LWRwriteconf}{writeconf}
```

Generate configuration files if print mode and not `-pstool`:

```
for PRINT output: 2091 \begin{warpprint}
2092 \fullexpandarg%
2093 \IfSubStr*{\jobname}{-pstool}
2094 {
2095 \PackageInfo{lwarp}{%
2096 Jobname with -pstool is found.\MessageBreak
2097 Not generating lwarp configuration files,%
2098 }
2099 }
2100 {
2101 \PackageInfo{lwarp}{Generating lwarp configuration files,}%
2102 \LWR@includecomment{LWRwriteconf}{writeconf}
2103 }
2104 \end{warpprint}
```

### 42.2 <project>\_html.tex

`*_html.tex` (*file*) Used to allow an HTML version of the document to exist alongside the print version.

```
Config file: 2105 \begin{LWRwriteconf}
2106 \immediate\openout\LWR@quickfile=\jobname_html.tex
2107 \immediate\write\LWR@quickfile{%
2108 \detokenize{\PassOptionsToPackage}%
2109 {warpHTML,BaseJobname=\jobname}{lwarp}%
2110 }
2111 \immediate\write\LWR@quickfile{%
2112 \detokenize{\input}\string{\jobname.tex}\string }%
2113 }
2114 \immediate\closeout\LWR@quickfile
2115 \end{LWRwriteconf}
```

### 42.3 *lwarpmk* configuration files

```
Config file: 2116 \begin{LWRwriteconf}
```

`\LWR@lwarpcnfversion` The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the `lwarp` version number.)

2117 \newcommand\*{\LWR@lwarpcnfversion}{2}% also in lwarpmk.lua

### 42.3.1 Helper macros

`\LWR@shellescapecmd` The LaTeX compile option for shell escape, if used.

```
2118 \ifshellescape
2119 \def\LWR@shellescapecmd{--shell-escape }
2120 \else
2121 \def\LWR@shellescapecmd{}
2122 \fi
```

`\LWR@compilecmd`  $\langle engine \rangle$   $\langle suffix \rangle$

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdf $\text{\LaTeX}$* , etc. Suffix is empty or `_html`

```
2123 \newcommand*{\LWR@compilecmd}[2]{%
2124 #1 \LWR@shellescapecmd \jobname#2%
2125 }
```

`\LWR@addcompilecmd`  $\langle cmd \rangle$   $\langle suffix \rangle$

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or `_html`

```
2126 \newcommand*{\LWR@addcompilecmd}[2]{%
2127 \LWRopseq
2128 #1 \jobname#2%
2129 }
```

`\LWR@unknownengine` Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
2130 \newcommand*{\LWR@unknownengine}{%
2131 \PackageError{lwrap}%
2132 {Unknown LaTeX engine}%
2133 {%
2134 Lwarp only knows about pdf \LaTeX , DVI latex,
2135 xelatex, lua \LaTeX , and up \LaTeX .%
2136 }%
2137 }
```

`\LWR@latexmkvar`  $\langle varname \rangle$   $\langle value \rangle$

Adds a *latexmk* variable assignment.

```
2138 \newcommand*{\LWR@latexmkvar}[2]{%
2139 -e
2140 \LWRopquote%
2141 \LWRdo\lar #1=q/#2/%
2142 \LWRopquote
2143 }
```

`\LWR@Latexmkcmd` {*⟨latexmk options⟩*}

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```
2144 \newcommand*\LWR@Latexmkcmd[1]{%
2145 latexmk \space \LWR@shellescapecmd \space #1 \space
2146 -recorder \space
2147 \LWR@Latexmkvar{makeindex}\LWR@LatexmkIndexCmd}%
2148 }
```

`\LWR@Latexmkdvipdfm` {*⟨dvipdfm or dvipdfmx⟩*}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
2149 \newcommand*\LWR@Latexmkdvipdfm[1]{%
2150 -pdfdvi \space
2151 \LWR@Latexmkvar{dvipdf}{%
2152 #1
2153 \@percentchar O
2154 -o \@percentchar D
2155 \@percentchar S%
2156 }
2157 }
```

`\LWR@compileuplatex` Sets compile options for upL<sup>A</sup>T<sub>E</sub>X with *ujarticle* or related classes.

```
2158 \newcommand*\LWR@compileuplatex{
2159 \def\LWR@tempprintlatexcmd{%
2160 \LWR@compilecmd{uplatex}{}}
2161 \LWR@addcompilecmd{dvipdfmx}{}
2162 }
2163 \def\LWR@tempHTMLlatexcmd{%
2164 \LWR@compilecmd{uplatex}{_html}
2165 \LWR@addcompilecmd{dvipdfmx}{_html}
2166 }
2167 }
```

`\LWR@PrintLatexCmd` If not set by the user, the following sets the command to use to compile the source `\LWR@HTMLLatexCmd` to PDF form.

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with `--shell-escape`:

---

```
[[latexmk -xelatex --shell-escape -recorder
 -e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For *dvipdfmx*:

---

```
[[latexmk -pdfdvi -e '$dvipdf=q/dvipdfmx %0 -o %D %S/'
 -recorder
 -e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>_html]]
```

---

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
2168 \ifbool{LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
2169 \ifpdf
```

For *latexmk* with *pdflatex*:

```
2170 \ifPDFTeX
2171 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
2172 \else
```

For *latexmk* with *lualatex*:

```
2173 \ifLuaTeX
2174 \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
2175 \else
2176 \LWR@unknownengine
2177 \fi
2178 \fi
2179 \else% \ifpdf
```

For *latexmk* with *xelatex* or DVI *latex*:

```
2180 \ifXeTeX
```

For *latexmk* with *xelatex*:

```
2181 \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
2182 \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
2183 \ifbool{LWR@dviPDFm}{
2184 \def\LWR@latexcmd{%
2185 \LWR@latexmkcmd{%
2186 \LWR@latexmkdviPDFm{dviPDFm}%
2187 }
2188 }
2189 }{
2190 \ifbool{LWR@dviPDFmx}{
2191 \def\LWR@latexcmd{%
2192 \LWR@latexmkcmd{%
2193 \LWR@latexmkdviPDFm{dviPDFmx}%
2194 }
2195 }
2196 }{
2197 \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
2198 }
2199 }
2200 \fi
2201 \fi% \ifpdf
```

The final assignment if *latexmk*:



```

2202 \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
2203 \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
2204 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

2205 {% not latexmk
2206 \ifpdf

```

For *pdflatex* or *lualatex*:

```

2207 \ifPDFTeX

```

For *pdflatex*:

```

2208 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
2209 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
2210 \else
2211 \ifLuaTeX

```

For *lualatex*:

```

2212 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
2213 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
2214 \else
2215 \LWR@unknownengine
2216 \fi
2217 \fi
2218 \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```

2219 \ifXeTeX

```

For *xelatex*:

```

2220 \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2221 \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2222 \else

```

For DVI *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```

2223 \ifbool{LWR@dvipdfm}{

```

For DVI *latex* with *dvipdfm*:

```

2224 \def\LWR@tempprintlatexcmd{%
2225 \LWR@compilecmd{latex}{}
2226 \LWR@addcompilecmd{dvipdfm}{}
2227 }
2228 \def\LWR@tempHTMLlatexcmd{%
2229 \LWR@compilecmd{latex}{_html}
2230 \LWR@addcompilecmd{dvipdfm}{_html}
2231 }
2232 }{
2233 \ifbool{LWR@dvipdfmx}{

```

For DVI *latex* with *dvipdfmx*:

```

2234 \def\LWR@tempprintlatexcmd{%
2235 \LWR@compilecmd{latex}{ }
2236 \LWR@addcompilecmd{dvipdfmx}{ }
2237 }
2238 \def\LWR@tempHTMLlatexcmd{%
2239 \LWR@compilecmd{latex}{_html}
2240 \LWR@addcompilecmd{dvipdfmx}{_html}
2241 }
2242 }{% dvips

```

For DVI *latex* with *dvips* and *ps2pdf*:

```

2243 \def\LWR@tempprintlatexcmd{%
2244 \LWR@compilecmd{latex}{ }
2245 \LWR@addcompilecmd{dvips}{ }
2246 \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSPARENCY}{ }.ps
2247 }
2248 \def\LWR@tempHTMLlatexcmd{%
2249 \LWR@compilecmd{latex}{_html}
2250 \LWR@addcompilecmd{dvips}{_html}
2251 \LWR@addcompilecmd{ps2pdf -dALLOWPSTRANSPARENCY}{_html}.ps
2252 }
2253 }
2254 }
2255 \fi% \ifXeTeX
2256 \fi% \ifpdf
2257 }% latexmk

```

For *ujarticle*, *utarticle*, and related, using upL<sup>A</sup>T<sub>E</sub>X and *dvipdfmx*:

```

2258 \IfClassLoadedTF{ujarticle}{\LWR@compileuplatex}{ }
2259 \IfClassLoadedTF{ujbook}{\LWR@compileuplatex}{ }
2260 \IfClassLoadedTF{ujreport}{\LWR@compileuplatex}{ }
2261 \IfClassLoadedTF{utarticle}{\LWR@compileuplatex}{ }
2262 \IfClassLoadedTF{utbook}{\LWR@compileuplatex}{ }
2263 \IfClassLoadedTF{utreport}{\LWR@compileuplatex}{ }

```

Only make the setting permanent if the original was empty:

```

2264 \ifdefempty{\LWR@PrintLatexCmd}{
2265 \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2266 }{ }
2267 \ifdefempty{\LWR@HTMLLatexCmd}{
2268 \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
2269 }{ }

```

`\LWR@writeconf {<filename>}`

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. Each entry is a variable name, the equal sign, and a quoted string inside `[[` and `]]`, which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```

2270 \newcommand{\LWR@writeconf}[1]{
2271 \ifcsdef{LWR@quickfile}{ }\newwrite{\LWR@quickfile}
2272 \immediate\openout\LWR@quickfile=#1
2273 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpconfversion]]}

```

```

2274 \ifbool{usingOSWindows}{
2275 \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
2276 }{
2277 \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2278 }
2279 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2280 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2281 \immediate\write\LWR@quickfile{htmlfilename = [[\HTMLFilename]]}
2282 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2283 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2284 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{LWR@latexmk}{true}{false}]]}
2285 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2286 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2287 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2288 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2289 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2290 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2291 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2292 \immediate\closeout\LWR@quickfile
2293 }
2294

2295 \end{LWRwriteconf}

```

### 42.3.2 lwarpmk.conf

`lwarpmk.conf` (*file*) `lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing `pdflatex <project.tex>`, or similar for `xelatex` or `lualatex`, in print-document generation mode, which is the default unless the `warpHTML` option is given. `lwarpmk.conf` is then used by the utility `lwarpmk`.

**Config file:** 2296 \begin{LWRwriteconf}  
2297  
2298 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}  
2299  
2300 \end{LWRwriteconf}

### 42.3.3 <project>.lwarpmkconf

`project.lwarpmkconf` (*file*) A project-specific configuration file for `lwarpmk`.

The `makeindex` and `xindy` options have already been handled for `lwarp.conf`.

**Config file:** 2301 \begin{LWRwriteconf}  
2302  
2303 \AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}  
2304  
2305 \end{LWRwriteconf}

## 42.4 lwarp.css

`lwarp.css` (*file*) This is the base css layer used by `lwarp`.

This must be present both when compiling the project and also when distributing the HTML files.

```
Config file: 2306 \begin{LWRwriteconf}
2307 \begin{filecontents*}[overwrite]{lwarp.css}
2308 /*
2309 CSS stylesheet for the LaTeX Lwarp package
2310 Copyright 2016-2025 Brian Dunn – BD Tech Concepts LLC
2311 */
2312
2313
2314
2315
2316 /* Page layout */
2317
2318 div.sidetoccontainer {
2319 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2320 "Lucida Bright", Georgia, serif;
2321 float: left ;
2322 width: 19%; /* room for border-right next to 80% main */
2323 margin: 0pt 0em 3ex 0pt ;
2324 border-right: 1px solid silver;
2325 border-bottom: 1px solid silver;
2326 background: #FAF7F4 ;
2327 font-size:.9em ;
2328 border-radius: 0px 0px 20px 0px ;
2329 max-height: 100vh ;
2330 overflow-y: auto ;
2331 }
2332
2333 div.sidetoccontents {
2334 overflow-y: auto ;
2335 width: 100% ;
2336 text-align: left ;
2337 }
2338
2339
2340 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
2341 text-indent: 0 ; }
2342
2343 nav.sidetoc p a {color:black ; font-size: .7em ;}
2344
2345 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
2346 border-bottom: 1px solid silver ; }
2347
2348 nav.sidetoc a:hover {text-decoration: underline ; }
2349
2350
2351 nav.topnavigation{
2352 text-align: left ;
2353 padding: 0.5ex 1em 0.5ex 1em ;
2354 /* margin: 2ex 0em 3ex 0em ; */
2355 margin: 0 ;
2356 border-bottom: 1px solid silver ;
2357 border-top: 1px solid silver ;
2358 clear:both ;
2359 }
2360
2361 nav.botnavigation{
2362 text-align: left ;
```

```
2363 padding: 0.5ex 1em 0.5ex 1em ;
2364 /* margin: 3ex 0em 2ex 0em ; */
2365 margin: 0 ;
2366 border-top: 1px solid silver ;
2367 border-bottom: 1px solid silver ;
2368 clear:both ;
2369 }
2370
2371
2372 header {
2373 line-height: 1.2 ;
2374 font-size: 1em ;
2375 border-bottom: 1px solid silver ;
2376 margin: 0px ;
2377 padding: 2ex 1em 2ex 1em ;
2378 text-align:left ;
2379 }
2380
2381
2382 footer {
2383 font-size: .85em ;
2384 line-height: 1.2 ;
2385 margin-top: 1ex ;
2386 border-top: 1px solid silver ;
2387 padding: 2ex 1em 2ex 1em ;
2388 clear:both ;
2389 text-align:left ;
2390 }
2391
2392
2393
2394 /* a fix for older browsers: */
2395 header, section, footer, aside, nav, main,
2396 article, figure { display: block; }
2397
2398
2399 A:link {color:#000080 ; text-decoration: none ; }
2400 A:visited {color:#800000 ; }
2401 A:hover {color:#000080 ; text-decoration: underline ;}
2402 A:active {color:#800000 ; }
2403
2404 a.tocbook {display: inline-block ; margin-left: 0em ;
2405 font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2406 a.tocpart {display: inline-block ; margin-left: 0em ;
2407 font-weight: bold ;}
2408 a.tocchapter {display: inline-block ; margin-left: 0em ;
2409 font-weight: bold ;}
2410 a.tocsection {display: inline-block ; margin-left: 1em ;
2411 text-indent: -.5em ; font-weight: bold ; }
2412 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2413 text-indent: -.5em ; }
2414 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2415 text-indent: -.5em ; }
2416 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2417 text-indent: -.5em ; }
2418 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2419 text-indent: -.5em ; }
2420 a.tocfigure {margin-left: 0em}
2421 a.tocsubfigure {margin-left: 2em}
2422 a.tocfigure {margin-left: 0em}
```

```
2423 a.tocsubtable {margin-left: 2em}
2424 a.toctheorem {margin-left: 0em}
2425 a.toclstlisting {margin-left: 0em}
2426
2427 body {
2428 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2429 "Lucida Bright", Georgia, serif;
2430 background: #FAF7F4 ;
2431 color: black ;
2432 margin:0em ;
2433 padding:0em ;
2434 font-size: 100% ;
2435 line-height: 1.2 ;
2436 }
2437
2438
2439 p {margin: 1.5ex 0em 1.5ex 0em ;}
2440 table p {margin: .5ex 0em .5ex 0em ;}
2441
2442 /* Holds a section number */
2443 span.sectionnumber { margin-right: 0em }
2444
2445 /* Inserted in front of index lines */
2446 span.indexitem {margin-left: 0em}
2447 span.indexsubitem {margin-left: 2em}
2448 span.indexsubsubitem {margin-left: 4em}
2449 div.indexheading {margin-top: 2ex ; font-weight: bold}
2450
2451 div.hidden, span.hidden { display: none ; }
2452
2453 kbd, span.texttt, p span.texttt {
2454 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2455 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2456 "Courier New", monospace;
2457 font-size: 100% ;
2458 }
2459
2460 pre { padding: 3pt ; }
2461
2462 span.strong, span.textbf, div.strong, div.textbf, table td.tdbfseries { font-weight: bold; }
2463
2464 span.textit, div.textit, table td.tditshape { font-style: italic; }
2465
2466 table td.tdbfit { font-weight: bold ; font-style:italic }
2467
2468 span.textnormal, div.textnormal {
2469 font-weight: normal;
2470 font-style: normal;
2471 font-variant: normal;
2472 font-variant-numeric: normal ;
2473 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2474 "Lucida Bright", Georgia, serif;
2475 }
2476
2477 span.textmd, div.textmd { font-weight: normal; }
2478
2479 span.textup, div.textup {
2480 font-style: normal;
2481 font-variant: normal;
2482 font-variant-numeric: normal ;
```

```
2483 }
2484
2485
2486 /* For complex number i,j symbols */
2487 span.ijit {font-style: italic; font-variant: normal}
2488 span.ijup {font-style: normal; font-variant: normal}
2489
2490
2491 span.textsc, div.textsc {
2492 font-variant: small-caps;
2493 font-variant-numeric: oldstyle-nums ;
2494 }
2495
2496 span.textulc, div.textulc {
2497 font-variant: normal ;
2498 font-variant-numeric: normal ;
2499 }
2500
2501 span.textsl, div.textsl { font-style: oblique; }
2502
2503 span.textrm, div.textrm {
2504 font-family: "DejaVu Serif", "Bitstream Vera Serif",
2505 "Lucida Bright", Georgia, serif;
2506 }
2507
2508 span.textsf, div.textsf {
2509 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2510 Geneva, Verdana, sans-serif ;
2511 }
2512
2513 /* nfssext-cfr lining figures */
2514 span.textln, div.textln {
2515 font-variant-numeric: lining-nums ;
2516 }
2517
2518 /* nfssext-cfr proportional figures */
2519 span.textp, div.textp {
2520 font-variant-numeric: proportional-nums ;
2521 }
2522
2523 /* nfssext-cfr tabular figures */
2524 span.textt, div.textt {
2525 font-variant-numeric: tabular-nums ;
2526 }
2527
2528 /* nfssext-cfr font weights */
2529 span.textdb, div.textdb {
2530 font-weight: 500 ;
2531 }
2532
2533 span.textsb, div.textsb {
2534 font-weight: 600 ;
2535 }
2536
2537 span.texteb, div.texteb {
2538 font-weight: 800 ;
2539 }
2540
2541 span.textub, div.textub {
2542 font-weight: 900 ;
```

```
2543 }
2544
2545 span.textlg, div.textlg {
2546 font-weight: 300 ;
2547 }
2548
2549 span.textel, div.textel {
2550 font-weight: 200 ;
2551 }
2552
2553 span.textul, div.textul {
2554 font-weight: 100 ;
2555 }
2556
2557
2558
2559 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2560
2561 span.underline {
2562 text-decoration: underline ;
2563 text-decoration-skip: auto ;
2564 }
2565
2566 span.overline {
2567 text-decoration: overline ;
2568 text-decoration-skip: auto ;
2569 }
2570
2571 div.hrule { border-top: 1px solid silver }
2572
2573
2574 /* for vertical text: */
2575 div.verticalrl { writing-mode: vertical-rl }
2576 div.horizontaltb { writing-mode: horizontal-tb }
2577
2578
2579 /* for diagbox */
2580 div.diagboxtitleN { border-bottom: 1px solid gray }
2581 div.diagboxtitleS { border-top: 1px solid gray }
2582
2583 div.diagboxE {
2584 padding-left: 2em ;
2585 text-align: right ;
2586 }
2587
2588 div.diagboxW {
2589 padding-right: 2em ;
2590 text-align: left ;
2591 }
2592
2593
2594
2595 /* For realscripts */
2596 .supsubscript {
2597 display: inline-block;
2598 text-align:left ;
2599 }
2600
2601 .supsubscript sup,
2602 .supsubscript sub {
```



```
2603 position: relative;
2604 display: block;
2605 font-size: .7em;
2606 line-height: 1;
2607 }
2608
2609 .supsubscript sup {
2610 top: .3em;
2611 }
2612
2613 .supsubscript sub {
2614 top: .3em;
2615 }
2616
2617 div.attribution p {
2618 text-align: right ;
2619 font-size: 80%
2620 }
2621
2622 span.poemtitle {
2623 font-size: 120% ; font-weight: bold;
2624 }
2625
2626 pre.tabbing {
2627 font-family: "Linux Libertine Mono O", "Lucida Console",
2628 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2629 "Liberation Mono", "FreeMono", "Andale Mono",
2630 "Nimbus Mono L", "Courier New", monospace;
2631 }
2632
2633 blockquote {
2634 display: block ;
2635 margin-left: 2em ;
2636 margin-right: 2em ;
2637 }
2638
2639 /* quotchap is for the quotchap package */
2640 div.quotchap {
2641 display: block ;
2642 font-style: oblique ;
2643 overflow-x: auto ;
2644 margin-left: 2em ;
2645 margin-right: 2em ;
2646 }
2647
2648 blockquote p, div.quotchap p {
2649 line-height: 1.5;
2650 text-align: left ;
2651 font-size: .85em ;
2652 }
2653
2654 /* qauthor is for the quotchap package */
2655 div.qauthor {
2656 display: block ;
2657 text-align: right ;
2658 margin-left: auto ;
2659 margin-right: 2em ;
2660 font-size: 80% ;
2661 font-variant: small-caps;
2662 }
```

```
2663
2664 div.qauthor p {
2665 text-align: right ;
2666 }
2667
2668 div.epigraph, div.dictum {
2669 line-height: 1.2;
2670 text-align: left ;
2671 padding: 3ex 1em 0ex 1em ;
2672 /* margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2673 margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2674 /* margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2675 font-size: .85em ;
2676 max-width: 27em ;
2677 }
2678
2679 div.epigraphsource, div.dictumauthor {
2680 text-align:right ;
2681 margin-left:auto ;
2682 /* max-width: 50% ; */
2683 border-top: 1px solid #A0A0A0 ;
2684 padding-bottom: 3ex ;
2685 line-height: 1.2;
2686 }
2687
2688 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2689 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2690 div.dictumauthor { font-style:italic }
2691
2692
2693 /* copyrightbox package: */
2694 div.copyrightbox { margin: .5ex .5em }
2695 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2696 div.copyrightboxnote {text-align: left ; font-size: 60%}
2697
2698
2699 /* lettrine package: */
2700 span.lettrine { font-size: 4ex ; float: left ; }
2701 span.lettrinetext { font-variant: small-caps ; }
2702
2703 /* ulem, soul, umoline packages: */
2704 span.uleme {
2705 text-decoration: underline ;
2706 text-decoration-skip: auto ;
2707 }
2708
2709 span.uuline {
2710 text-decoration: underline ;
2711 text-decoration-skip: auto ;
2712 text-decoration-style: double ;
2713 }
2714
2715 span.uwave {
2716 text-decoration: underline ;
2717 text-decoration-skip: auto ;
2718 text-decoration-style: wavy ;
2719 }
2720
2721 span.sout {
2722 text-decoration: line-through ;
```

```
2723 }
2724
2725 span.oline {
2726 text-decoration: overline ;
2727 text-decoration-skip: auto ;
2728 }
2729
2730 span.xout {
2731 text-decoration: line-through ;
2732 }
2733
2734 span.dashuline {
2735 text-decoration: underline ;
2736 text-decoration-skip: auto ;
2737 text-decoration-style: dashed ;
2738 }
2739
2740 span.dotuline {
2741 text-decoration: underline ;
2742 text-decoration-skip: auto ;
2743 text-decoration-style: dotted ;
2744 }
2745
2746 span.letterspacing { letter-spacing: .2ex ; }
2747
2748 span.capsspacing {
2749 font-variant: small-caps ;
2750 letter-spacing: .1ex ;
2751 }
2752
2753 span.highlight { background: #F8E800 ; }
2754
2755
2756 /* keystroke package: */
2757 span.keystroke {
2758 border-style: outset ;
2759 padding: 0pt .5em 0pt .5em ;
2760 }
2761
2762
2763 html body {
2764 margin: 0 ;
2765 line-height: 1.2;
2766 }
2767
2768
2769 body div {
2770 margin: 0ex;
2771 }
2772
2773
2774 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2775 {
2776 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2777 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2778 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2779 "Times New Roman", serif;
2780 font-style: normal ;
2781 font-weight: bold ;
2782 text-align: left ;
```

```
2783 }
2784
2785 h1 { /* title of the entire website, used on each page */
2786 text-align: center ;
2787 font-size: 2.5em ;
2788 padding: .4ex 0em 0ex 0em ;
2789 }
2790
2791 div.book {
2792 text-align: center ;
2793 font-size: 2.325em ;
2794 padding: .4ex 0em 0ex 0em ;
2795 }
2796
2797 h2 { font-size: 2.25em }
2798 h3 { font-size: 2em }
2799 h4 { font-size: 1.75em }
2800 h5 { font-size: 1.5em }
2801 h6 { font-size: 1.25em }
2802 span.paragraph {font-size: 1em ; font-variant: normal ;
2803 margin-right: 1em ; }
2804 span.subparagraph {font-size: 1em ; font-variant: normal ;
2805 margin-right: 1em ; }
2806
2807 div.minisec {
2808 font-family: "DejaVu Sans", "Bitstream Vera Sans",
2809 Geneva, Verdana, sans-serif ;
2810 font-style: normal ;
2811 font-weight: bold ;
2812 text-align: left ;
2813 }
2814
2815 h1 {
2816 margin: 0ex 0em 0ex 0em ;
2817 line-height: 1.3;
2818 text-align: center ;
2819 }
2820
2821 h2 {
2822 margin: 1ex 0em 1ex 0em ;
2823 line-height: 1.3;
2824 text-align: center ;
2825 }
2826
2827 h3 {
2828 margin: 3ex 0em 1ex 0em ;
2829 line-height: 1.3;
2830 }
2831
2832 h4 {
2833 margin: 3ex 0em 1ex 0em ;
2834 line-height: 1.3;
2835 }
2836
2837 h5 {
2838 margin: 3ex 0em 1ex 0em ;
2839 line-height: 1.3;
2840 }
2841
2842 h6 {
```

```
2843 margin: 3ex 0em 1ex 0em ;
2844 line-height: 1.3;
2845 }
2846
2847
2848 div.titlepage {
2849 text-align: center ;
2850 }
2851
2852 .footnotes {
2853 text-align: left ;
2854 font-size: .85em ;
2855 margin: 3ex 2em 0ex 2em ;
2856 border-top: 1px solid silver ;
2857 }
2858
2859 .marginpar, .marginparblock {
2860 max-width: 50%;
2861 float: right ;
2862 clear: both ;
2863 text-align: left ;
2864 margin: 1ex 0.5em 1ex 1em ;
2865 padding: 1ex 0.5em 1ex 0.5em ;
2866 font-size: 85% ;
2867 border-top: 1px solid silver ;
2868 border-bottom: 1px solid silver ;
2869 overflow-x: auto ;
2870 }
2871
2872 .marginpar br { margin-bottom: 2ex ; }
2873
2874 div.marginblock, div.marginparblock {
2875 max-width:50%;
2876 min-width: 10em; /* room for caption */
2877 float:right;
2878 text-align:left;
2879 margin: 1ex 0.5em 1ex 1em ;
2880 padding: 1ex 0.5em 1ex 0.5em ;
2881 overflow-x: auto;
2882 }
2883
2884 div.marginblock div.minipage,
2885 div.marginparblock div.minipage {
2886 display: inline-block ;
2887 margin: 0pt auto 0pt auto ;
2888 }
2889
2890 div.marginblock div.minipage p ,
2891 div.marginparblock div.minipage p
2892 { font-size: 85%}
2893
2894 div.marginblock br ,
2895 div.marginparblock br
2896 { margin-bottom: 2ex ; }
2897
2898 main.bodycontainer {
2899 float: left ;
2900 width: 80% ;
2901 }
2902
```

```
2903 div.bodywithoutsidetoc main.bodycontainer {
2904 float: none ;
2905 width: 100% ;
2906 }
2907
2908 section.textbody div.footnotes{
2909 margin: 1ex 2em 2ex 2em ;
2910 border-bottom: 2px solid silver ;
2911 }
2912
2913 .footnoteheader {
2914 border-top: 2px solid silver ;
2915 margin-top: 3ex ;
2916 padding-top: 1ex ;
2917 font-weight: bold ;
2918 }
2919
2920 .mpfootnotes {
2921 text-align: left ;
2922 font-size: .85em ;
2923 margin-left: 1em ;
2924 border-top: 1px solid silver ;
2925 }
2926
2927 /* Remove footnote top border in the title page. */
2928 div.titlepage div.mpfootnotes {
2929 border-top: none ;
2930 }
2931
2932
2933
2934 ul, ol {
2935 margin: 1ex 1em 1ex 0em;
2936 line-height: 1.2;
2937 }
2938
2939 body dir, body menu {
2940 margin: 3ex 1em 3ex 0em;
2941 line-height: 1.2;
2942 }
2943
2944 li { margin: 0ex 0em 1ex 0em; }
2945
2946 li.p { display: inline ; }
2947
2948 html {
2949 margin: 0;
2950 padding: 0;
2951 }
2952
2953 .programlisting {
2954 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2955 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2956 "Courier New", monospace;
2957 margin: 1ex 0ex 1ex 0ex ;
2958 padding: .5ex 0pt .5ex 0pt ;
2959 overflow-x: auto;
2960 }
2961
2962 section.textbody>pre.programlisting {
```

```
2963 border-top: 1px solid silver ;
2964 border-bottom: 1px solid silver ;
2965 }
2966
2967
2968 div.displaymath {
2969 text-align: center ;
2970 }
2971
2972 div.displaymathnumbered {
2973 text-align: right ;
2974 margin-left: 5% ;
2975 margin-right: 5% ;
2976 min-width: 2.5in ;
2977 }
2978
2979 @media all and (min-width: 400px) {
2980 div.displaymathnumbered {
2981 margin-left: 10% ;
2982 margin-right: 10% ;
2983 }
2984 }
2985
2986 @media all and (min-width: 800px) {
2987 div.displaymathnumbered {
2988 margin-right: 20% ;
2989 }
2990 }
2991
2992 @media all and (min-width: 1200px) {
2993 div.displaymathnumbered {
2994 margin-right: 30% ;
2995 }
2996 }
2997
2998
2999 .inlineprogramlisting {
3000 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3001 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3002 "Courier New", monospace;
3003 overflow-x: auto;
3004 }
3005
3006 span.listinglabel {
3007 display: inline-block ;
3008 font-size: 70% ;
3009 width: 4em ;
3010 text-align: right ;
3011 margin-right: 2em ;
3012 }
3013
3014 div.abstract {
3015 margin: 2em 5% 2em 5% ;
3016 padding: 1ex 1em 1ex 1em ;
3017 /* font-weight: bold ; */
3018 font-size: 90% ;
3019 text-align: left ;
3020 }
3021
3022 div.abstract dl {line-height:1.5;}
```

```
3023 div.abstract dt {color:#304070;}
3024
3025 div.abstracttitle{
3026 font-family: "URW Classico", Optima, "Linux Biolinum O",
3027 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3028 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3029 font-weight:bold;
3030 font-size:1.25em;
3031 text-align: center ;
3032 }
3033
3034 span.abstracruntitile{
3035 font-family: "URW Classico", Optima, "Linux Biolinum O",
3036 "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3037 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3038 font-weight:bold;
3039 }
3040
3041
3042 .verbatim {
3043 overflow-x: auto ;
3044 }
3045
3046 .alltt {
3047 overflow-x: auto ;
3048 }
3049
3050
3051 .bverbatim {
3052 margin: 1ex 0pt 1ex 0pt ;
3053 padding: .5ex 0pt .5ex 0pt ;
3054 overflow-x: auto ;
3055 }
3056
3057 .lverbatim {
3058 margin: 1ex 0pt 1ex 0pt ;
3059 padding: .5ex 0pt .5ex 0pt ;
3060 overflow-x: auto ;
3061 }
3062
3063 .fancyvrb {
3064 margin: 3ex 0pt 3ex 0pt ;
3065 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3066 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3067 "Courier New", monospace;
3068 }
3069
3070 .fancyvrblabel {
3071 font-size: .85em ;
3072 text-align: center ;
3073 font-weight: bold ;
3074 margin-top: 1ex ;
3075 margin-bottom: 1ex ;
3076 }
3077
3078
3079 .verse {
3080 font-family: "Linux Libertine Mono O", "Lucida Console",
3081 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
3082 "Liberation Mono", "FreeMono", "Andale Mono",
```



```
3083 "Nimbus Mono L", "Courier New", monospace;
3084 margin-left: 1em ;
3085 }
3086
3087
3088 div.singlespace { line-height: 1.2 ; }
3089 div.onehalfspace { line-height: 1.5 ; }
3090 div.doublespace { line-height: 2 ; }
3091
3092
3093 /* Word processor format output: */
3094 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
3095 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
3096 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ;}
3097
3098
3099
3100
3101 /* Minipage environments, vertically aligned to top, center, bottom: */
3102 .minipage, .fminipage, .fcolorminipage {
3103 /* display: inline-block ; */
3104 /* Mini pages which follow each other will be tiled. */
3105 text-align:left;
3106 margin: .25em .25em .25em .25em;
3107 padding: .25em .25em .25em .25em;
3108 display: inline-flex;
3109 flex-direction: column ;
3110 overflow: auto;
3111 }
3112
3113 .inlineminipage {
3114 display: inline-block ;
3115 text-align: left
3116 }
3117
3118 /* Paragraphs in the flexbox did not collapse their margins. */
3119 /* Have not yet researched this. */
3120 .minipage p {margin: .75ex 0em .75ex 0em ;}
3121
3122 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
3123 .fcolorbox .minipage, .fcolorboxBlock .minipage
3124 {border: none ; background: none;}
3125
3126 .fbox, .fboxBlock { border: 1px solid black ; padding: 4pt }
3127
3128 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
3129 .fminipage, .fcolorminipage
3130 {display: inline-block}
3131
3132 .shadowbox, .shabox {
3133 border: 1px solid black;
3134 box-shadow: 3px 3px 3px #808080 ;
3135 border-radius: 0px ;
3136 padding: .4ex .3em .4ex .3em ;
3137 margin: 0pt .3ex 0pt .3ex ;
3138 display: inline-block ;
3139 }
3140
3141 .doublebox {
3142 border: 3px double black;
```

```
3143 border-radius: 0px ;
3144 padding: .4ex .3em .4ex .3em ;
3145 margin: 0pt .3ex 0pt .3ex ;
3146 display: inline-block ;
3147 }
3148
3149 .ovalbox, .Ovalbox {
3150 border: 1px solid black;
3151 border-radius: 1ex ;
3152 padding: .4ex .3em .4ex .3em ;
3153 margin: 0pt .3ex 0pt .3ex ;
3154 display: inline-block ;
3155 }
3156
3157 .Ovalbox { border-width: 2px ; }
3158
3159 .framebox {
3160 border: 1px solid black;
3161 border-radius: 0px ;
3162 padding: .3ex .2em 0ex .2em ;
3163 margin: 0pt .1ex 0pt .1ex ;
3164 display: inline-block ;
3165 }
3166
3167
3168 /* mdframed, tcolorbox, shadebox packages */
3169 .mdframed, .tcolorbox, .shadebox {
3170 padding: 0ex ;
3171 margin: 2ex 0em 2ex 0em ;
3172 border: 1px solid black ;
3173 }
3174
3175 .tcolorbox {
3176 border-radius: 10pt ;
3177 margin: 2ex 1em 2ex 1em ;
3178 }
3179
3180 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
3181
3182 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
3183
3184 .mdframedtitle, .tcolorboxtitle {
3185 padding: .5ex 0pt 0pt 0pt ;
3186 border-radius: 10pt 10pt 0pt 0pt ;
3187 display: block ;
3188 margin-bottom: 1ex ;
3189 border-bottom: 1px solid silver ;
3190 }
3191
3192 .tcolorboxsubtitle .tcolorbox {
3193 margin: 2ex 0em 2ex 0em ;
3194 border-radius: 0pt ;
3195 }
3196
3197 .mdframedsubtitle {
3198 display: block ;
3199 }
3200
3201 .mdframedsubsubtitle {
3202 display: block ;
```

```
3203 }
3204
3205 .mdtheorem {
3206 padding: 0ex .5em 0ex .5em ;
3207 margin: 3ex 5% 3ex 5% ;
3208 }
3209
3210
3211 /* framed package */
3212 .framed, pre.boxedverbatim, fcolorbox {
3213 margin: 3ex 0em 3ex 0em ;
3214 border: 1px solid black;
3215 border-radius: 0px ;
3216 padding: .3ex 1em 0ex 1em ;
3217 display: block ;
3218 }
3219
3220 .shaded {
3221 margin: 3ex 0em 3ex 0em ;
3222 padding: .3ex 1em .3ex 1em ;
3223 display: block ;
3224 }
3225
3226 .snugframed {
3227 margin: 3ex 0em 3ex 0em ;
3228 border: 1px solid black;
3229 border-radius: 0px ;
3230 display: block ;
3231 }
3232
3233 .framedleftbar {
3234 margin: 3ex 0em 3ex 0em ;
3235 border-left: 3pt solid black;
3236 border-radius: 0px ;
3237 padding: .3ex .2em .3ex 1em ;
3238 display: block ;
3239 }
3240
3241 .framedtitle {
3242 margin: 0em ;
3243 padding: 0em ;
3244 font-size: 130%
3245 }
3246
3247 .framedtitle p { padding: .3em }
3248
3249
3250 /* For the niceframe package: */
3251
3252 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
3253 padding: 1ex ;
3254 margin: 2ex auto ;
3255 border-radius: 2ex ;
3256 }
3257
3258 div.niceframe {
3259 border: 6px groove black ;
3260 }
3261
3262 div.curlyframe {
```

```
3263 border-left: 3px dotted black ;
3264 border-right: 3px dotted black ;
3265 border-radius: 6ex ;
3266 }
3267
3268 div.artdecoframe {
3269 border-left: 10px double black ;
3270 border-right: 10px double black ;
3271 border-radius: 6ex ;
3272 }
3273
3274 div.generalframe {
3275 border: 6px groove black ;
3276 }
3277
3278
3279 /* For beamerarticle: */
3280 div.beamerframe {
3281 margin: 3ex 1em 3ex 1em ;
3282 border: 1px solid gray;
3283 border-radius: 0px ;
3284 padding: .3ex 1em 0ex 1em ;
3285 display: block ;
3286 }
3287
3288
3289 dl {
3290 margin: 1ex 2em 1ex 0em;
3291 line-height: 1.3;
3292 }
3293
3294 li dl { margin-left: 2em }
3295
3296 dl dt {
3297 display: block ;
3298 float:left ;
3299 font-weight: bold;
3300 padding-right: 1em ;
3301 }
3302
3303 dl dd { display: block ; }
3304
3305 dl dd:after { content: "" ; display: block ; clear: both }
3306
3307 dl dd p { margin-top: 0em; }
3308
3309 dd ul, dd ol, dd dl {
3310 clear: both ;
3311 /* padding-top: 1ex ; */
3312 }
3313
3314
3315 nav {
3316 font-family: "URW Classico", Optima, "Linux Biolinum O",
3317 "DejaVu Sans", "Bitstream Vera Sans",
3318 Geneva, Verdana, sans-serif ;
3319 margin-bottom: 4ex ;
3320 }
3321
3322 nav p {
```

```
3323 line-height: 1.2 ;
3324 margin-top:.5ex ;
3325 margin-bottom:.5ex;
3326 font-size: .9em ;
3327 }
3328
3329
3330
3331 img, img.hyperimage, img.borderimage {
3332 max-width: 600px;
3333 border: 1px solid silver;
3334 box-shadow: 3px 3px 3px #808080 ;
3335 padding: .5% ;
3336 margin: .5% ;
3337 background: none ;
3338 }
3339
3340 img.inlineimage{
3341 padding: 0px ;
3342 box-shadow: none ;
3343 border: none ;
3344 background: none ;
3345 margin: 0px ;
3346 display: inline-block ;
3347 border-radius: 0px ;
3348 }
3349
3350 img.logoimage{
3351 max-width: 300px ;
3352 box-shadow: 3px 3px 3px #808080 ;
3353 border: 1px solid black ;
3354 background:none ;
3355 padding:0 ;
3356 margin:.5ex ;
3357 border-radius: 10px ;
3358 }
3359
3360
3361 .section {
3362 /*
3363 To have each section float relative to each other:
3364 */
3365 /*
3366 display: block ;
3367 float: left ;
3368 position: relative ;
3369 background: white ;
3370 border: 1px solid silver ;
3371 padding: .5em ;
3372 */
3373 margin: 0ex .5em 0ex .5em ;
3374 padding: 0 ;
3375 }
3376
3377
3378 figure {
3379 margin: 5ex auto 5ex auto ;
3380 padding: 1ex 1em 1ex 1em ;
3381 overflow-x: auto ;
3382 }
```

```
3383
3384
3385 /* To automatically center images in figures: */
3386 /*
3387 figure img.inlineimage {
3388 margin: 0ex auto 0ex auto ;
3389 display: block ;
3390 }
3391 */
3392
3393 /* To automatically center minipages in figures: */
3394 /*
3395 figure div.minipage, figure div.minipage div.minipage {
3396 margin: 1ex auto 1ex auto ;
3397 display: block ;
3398 }
3399 */
3400
3401 figure figure { margin: 0pt }
3402
3403 figure div.minipage p { font-size: 85% ; }
3404
3405 figure.subfigure, figure.subtable {
3406 display: inline-block ; margin: 3ex 1em 3ex 1em ;
3407 }
3408
3409 div.figurecaption .minipage { margin:0 ; padding: 0 }
3410
3411 /* for subcaptions: */
3412 figure div.minipage div.figurecaption {
3413 max-width: 100% ; /* fallback if min() does not work */
3414 max-width: min(30em,100%)
3415 }
3416
3417 div.minipage figure { border: none ; box-shadow: none ; }
3418 div.minipage figure.table { margin: 0ex }
3419 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3420
3421 div.floatrow { text-align: center; }
3422
3423 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3424
3425 div.floatfoot { font-size: .85em ;
3426 border-top: 1px solid silver ; line-height: 1.2 ; }
3427
3428 /* Center if only one line, "start" align if more than one line: */
3429 div.figurecaption , .lstlistingtitle {
3430 font-size: .85em ;
3431 font-weight: bold ;
3432 text-align: start ;
3433 margin: 1ex auto;
3434 width: max-content;
3435 max-width: 100%;
3436 }
3437
3438 /* A marginblock is small, so always center and don't mess with the width. */
3439 div.marginblock div.figurecaption {
3440 width: 100% ;
3441 text-align: center ;
3442 }
```

```
3443
3444 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3445 border-bottom: none ; background: none ;
3446 }
3447
3448 div.nonfloatcaption {
3449 margin: 1ex auto 1ex auto ;
3450 font-size: .85em ;
3451 text-align: center ;
3452 font-weight: bold ;
3453 }
3454
3455 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3456 figure div.floatrow div.minipage div.figurecaption {
3457 border: none ;
3458 background: none ;
3459 }
3460
3461
3462 /* For packages such as float, rotfloat, and algorithm2e: */
3463
3464 figure.boxed, figure.boxruled {
3465 border: 1px solid black ;
3466 }
3467
3468 figure.ruled {
3469 border-top: 1px solid black ;
3470 border-bottom: 1px solid black ;
3471 border-left: 0px ;
3472 border-right: 0px ;
3473 border-radius: 0px ;
3474 background: none ;
3475 box-shadow: none ;
3476 }
3477
3478 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3479 border-top: 1px solid silver ;
3480 border-bottom: 1px solid silver ;
3481 }
3482
3483
3484 table {
3485 margin: 1ex auto 1ex auto ;
3486 border-collapse: separate ;
3487 border-spacing: 0px ;
3488 line-height: 1.3 ;
3489 }
3490
3491 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3492 margin-bottom: 0ex ; } /* for \hline */
3493
3494 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3495 margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
3496
3497 td {padding: .5ex .5em .5ex .5em ;}
3498
3499 table td.tdl { text-align: left ; vertical-align: middle ; }
3500 table td.tdc { text-align: center ; vertical-align: middle ; }
3501 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3502 table td.tdbang { text-align: center ; vertical-align: middle ; }
```

```
3503 table td.tdr { text-align: right ; vertical-align: middle ; }
3504 table td.tdp { text-align: left ; vertical-align: bottom ; }
3505 table td.tdm { text-align: left ; vertical-align: middle ; }
3506 table td.tdb { text-align: left ; vertical-align: top ; }
3507
3508 table td.tvertbarl { border-left: 1px solid black }
3509 table td.tvertbarldouble { border-left: 4px double black }
3510 table td.tvertbarr { border-right: 1px solid black }
3511 table td.tvertbarrdouble { border-right: 4px double black }
3512
3513 table td.tvertbarldash { border-left: 1px dashed black }
3514 table td.tvertbarldoubledash { border-left: 2px dashed black }
3515 table td.tvertbarrdash { border-right: 1px dashed black }
3516 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3517
3518 table td.tdcenter { text-align: center }
3519 table td.tdleft { text-align: left }
3520 table td.tdright { text-align: right }
3521
3522
3523 /* for cmidrules: */
3524 table td.tdrule {
3525 border-top: 1px solid #A0A0A0 ;
3526 }
3527
3528 table td.tdrulel {
3529 border-top-left-radius:.5em ;
3530 border-top: 1px solid #A0A0A0 ;
3531 }
3532
3533 table td.tdruler {
3534 border-top-right-radius:.5em ;
3535 border-top: 1px solid #A0A0A0 ;
3536 }
3537
3538 table td.tdrulelr {
3539 border-top-left-radius:.5em ;
3540 border-top-right-radius:.5em ;
3541 border-top: 1px solid #A0A0A0 ;
3542 }
3543
3544
3545 /* Margins of paragraphs inside table cells: */
3546 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3547 padding-bottom: 1ex ; margin: 0ex ; }
3548 td.tdm p , td.tdmrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3549 padding-bottom: 1ex ; margin: 0ex ; }
3550 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3551 padding-bottom: 1ex ; margin: 0ex ; }
3552
3553 td.tdp , td.tdprule , td.tdP , td.tdPrule
3554 { padding: 0ex .5em 0ex .5em ; }
3555 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3556 { padding: 0ex .5em 0ex .5em ; }
3557 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3558 { padding: 0ex .5em 0ex .5em ; }
3559
3560
3561 /* table notes: */
3562 .tnotes {
```



```
3563 margin: 0ex 5% 1ex 5% ;
3564 padding: 0.5ex 1em 0.5ex 1em;
3565 font-size:.80em;
3566 text-align: left ;
3567 }
3568
3569 .minipage .tnotes {
3570 margin: 0pt ;
3571 padding: 0pt ;
3572 }
3573
3574 .tnotes dl dt p {margin-bottom:0px;}
3575
3576 .tnoteitemheader {margin-right: 1em;}
3577
3578
3579 /* for colortbl and cell color */
3580 div.cellcolor {
3581 width: 100% ;
3582 padding: .5ex .5em .5ex .5em ;
3583 margin: -.5ex -.5em -.5ex -.5em ;
3584 }
3585
3586
3587 /* for lyluatex */
3588 span.lyluateX {
3589 display: inline-block ;
3590 }
3591
3592 div.lyluateX p span.lateximagesource img {
3593 display: block ;
3594 margin-top: 3ex ;
3595 margin-bottom: 3ex ;
3596 }
3597
3598
3599 /* for bigdelim */
3600 .ldelim, .rdelim { font-size: 200% }
3601
3602
3603 /* center, flushleft, flushright environments */
3604 div.center{text-align:center;}
3605 div.center table {margin-left:auto;margin-right:auto;}
3606 div.flushleft{text-align:left;}
3607 div.flushleft table {margin-left:0em ; margin-right:auto;}
3608 div.flushright{text-align:right;}
3609 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3610
3611
3612 /* Fancybox */
3613 div.Btrivlist table tr td {
3614 padding: .2ex 0em ;
3615 }
3616
3617
3618 /* program listing callouts: */
3619 span.callout {
3620 font-family: "DejaVu Sans", "Bitstream Vera Sans",
3621 Geneva, Verdana, sans-serif ;
3622 border-radius: .5em;
```

```
3623 background-color:black;
3624 color:white;
3625 padding:0px .25em 0px .25em;
3626 margin: 0 ;
3627 font-weight: bold;
3628 font-size:.72em ;
3629 }
3630
3631 div.programlisting pre.verbatim span.callout{
3632 font-size: .85em ;
3633 }
3634
3635 span.verbatim, span.verb {
3636 font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3637 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3638 "Courier New", monospace;
3639 }
3640
3641
3642
3643 div.titlehead
3644 {
3645 text-align: left ;
3646 font-style: normal ;
3647 font-weight: normal ;
3648 font-style: normal ;
3649 font-size: .8em ;
3650 margin: 1ex 0em 1ex 0em ;
3651 }
3652
3653 div.subject
3654 {
3655 text-align: center ;
3656 font-style: normal ;
3657 font-weight: bold ;
3658 font-style: normal ;
3659 font-size: .8em ;
3660 margin: 1ex 0em 1ex 0em ;
3661 }
3662
3663 div.published
3664 {
3665 text-align: center ;
3666 font-variant: normal ;
3667 font-style: italic ;
3668 font-size: 1em ;
3669 margin: 1ex 0em 1ex 0em ;
3670 }
3671
3672 div.subtitle
3673 {
3674 text-align: center ;
3675 font-variant: normal ;
3676 font-style: italic ;
3677 font-size: 1.25em ;
3678 margin: 1ex 0em 1ex 0em ;
3679 }
3680
3681 div.subtitle p { margin: 1ex ; }
3682
```

```
3683 div.author
3684 {
3685 text-align: center ;
3686 font-variant: normal ;
3687 font-style: normal ;
3688 font-size: 1em ;
3689 margin: 1ex 0em 1ex 0em ;
3690 }
3691
3692 div.oneauthor {
3693 display: inline-block ;
3694 margin: 0ex 1em 0ex 1em ;
3695 }
3696
3697 /*
3698 div.author table {
3699 margin: 1ex auto 0ex auto ;
3700 background: none ;
3701 }
3702
3703 div.author table tbody tr td { padding: .25ex ; }
3704 */
3705
3706 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3707
3708 div.titledate {
3709 text-align: center ;
3710 font-size: .85em ;
3711 font-style: italic;
3712 margin: 1ex 0em 1ex 0em ;
3713 }
3714
3715
3716
3717 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3718 a.linkhome { font-weight:bold ; font-size: 1em ;}
3719
3720
3721 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3722
3723 img.lateximage{
3724 padding: 0pt ;
3725 margin: 0pt ;
3726 box-shadow: none ;
3727 border: none ;
3728 background: none ;
3729 max-width: 100% ;
3730 border-radius: 0ex ;
3731 border: none ;
3732 }
3733
3734
3735
3736
3737 section.textbody { margin: 0ex 1em 0ex 1em ;}
3738
3739
3740 div.multicolshheading { -webkit-column-span: all;
3741 -moz-column-span: all; column-span: all; }
3742 div.multicols {
```

```
3743 -webkit-columns: 3 auto ;
3744 -moz-columns: 3 auto ;
3745 columns: 3 auto ;
3746 }
3747 div.multicols p {margin-top: 0ex}
3748
3749
3750 /* Used for xfrac and nicefrac: */
3751 span.numerator {
3752 font-size: 60% ;
3753 vertical-align: .4em ;
3754 }
3755
3756 span.denominator {
3757 font-size: 60%
3758 }
3759
3760
3761 /* Used for algorithm2e: */
3762 div.alg2evline{
3763 margin-left: 1em ;
3764 padding-left: 1em ;
3765 border-left: 1px solid black ;
3766 border-radius: 0px 0px 0px 1ex ;
3767 }
3768
3769 div.alg2evsline{
3770 margin-left: 1em ;
3771 padding-left: 1em ;
3772 border-left: 1px solid black ;
3773 }
3774
3775 div.alg2enoline{
3776 margin-left: 1em ;
3777 padding-left: 1em ;
3778 }
3779
3780 span.alg2elinenumber{
3781 margin-right: .5em ;
3782 font-size: 60% ;
3783 color: red ;
3784 }
3785
3786
3787 /* Used for algorithmicx: */
3788 span.floatright { float: right ; }
3789
3790
3791 /* keyfloat and tocdata: */
3792 .floatnotes {
3793 margin: 0ex 5% 0ex 5% ;
3794 padding: 0ex 1em 0ex 1em ;
3795 font-size:.80em ;
3796 text-align: left ;
3797 }
3798
3799 .authorartist{
3800 display:block ;
3801 font-size:.70em ;
3802 font-style: italic;
```

```
3803 }
3804
3805 nav .authorartist{ display:inline; }
3806
3807
3808
3809 /* Native LaTeX theorems: */
3810
3811 .theoremcontents {
3812 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3813 }
3814
3815 .theoremlabel {
3816 font-style: normal; font-weight: bold ; margin-right: .5em ;
3817 }
3818
3819
3820
3821 /* theorem, amsthm, and ntheorem packages */
3822
3823 span.theoremheader,
3824 span.theoremheaderplain,
3825 span.theoremheaderdefinition,
3826 span.theoremheaderbreak,
3827 span.theoremheadermarginbreak,
3828 span.theoremheaderchangebreak,
3829 span.theoremheaderchange,
3830 span.theoremheadermargin
3831 {
3832 font-style:normal ; font-weight: bold ; margin-right: 1em ;
3833 }
3834
3835 span.amsthmnameplain,
3836 span.amsthmnamedefinition,
3837 span.amsthmnumberplain,
3838 span.amsthmnumberdefinition
3839 {
3840 font-style:normal ; font-weight: bold ;
3841 }
3842
3843
3844 span.amsthmnameremark,
3845 span.amsthmnumberremark
3846 {font-style:italic ; font-weight: normal ; }
3847
3848
3849 span.amsthmnoteplain,
3850 span.amsthmnotedefinition
3851 {font-style:normal ;}
3852
3853
3854 span.theoremheaderremark,
3855 span.theoremheaderproof,
3856 span.amsthmproofname
3857 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3858
3859 span.theoremheadersc
3860 {
3861 font-style:normal ;
3862 font-variant: small-caps ;
```

```
3863 font-weight: normal ;
3864 margin-right: 1em ;
3865 }
3866
3867 .theoremendmark {float:right}
3868
3869 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynumberplain,
3870 div.theorembodybreak, div.theorembodynumberbreak,
3871 div.theorembodymarginbreak,
3872 div.theorembodychangebreak,
3873 div.theorembodychange,
3874 div.theorembodymargin
3875 {
3876 font-style:italic;
3877 margin-top: 3ex ; margin-bottom: 3ex ;
3878 }
3879
3880 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3881 div.theorembodyplainupright, nonumberplainuprightsc,
3882 div.amsthmbodydefinition, div.amsthmbodyremark,
3883 div.amsthmproof
3884 {
3885 font-style: normal ;
3886 margin-top: 3ex ; margin-bottom: 3ex ;
3887 }
3888
3889 span.amsthmnoteremark {}
3890
3891
3892 /* thmbox */
3893
3894 .thmbox {
3895 font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3896 border: 1px solid gray ;
3897 padding: 1ex ;
3898 }
3899
3900 .thmboxtitle {
3901 font-style: normal; font-weight: bold ; margin-right: .5em ;
3902 border-bottom: 1px solid gray ;
3903 }
3904
3905 span.thmboxproofname, span.thmboxexemplename {
3906 font-weight: bold ;
3907 }
3908
3909 div.thmboxproof, div.thmboxexample {
3910 font-size: 0.85em ;
3911 margin: 2ex ;
3912 }
3913
3914 div.thmboxleftbar {
3915 border-left: 2px solid black ;
3916 padding-left: 1em ;
3917 }
3918
3919
3920
3921 /* For the backnaur package: */
3922 div.backnaur {
```

```
3923 display: block ;
3924 margin: 2ex 2em 2ex 2em ;
3925 }
3926
3927 div.backnaur p {
3928 margin: .25ex 0ex .25ex 0ex ;
3929 }
3930
3931 div.backnaurprod {
3932 display: inline-block ;
3933 min-width: 8em ;
3934 text-align:right ;
3935 }
3936
3937 div.backnaurdesc {
3938 display: inline-block ;
3939 }
3940
3941
3942 /* For the notes package: */
3943 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3944 clear: both ;
3945 margin: 2ex 2em 2ex 2em ;
3946 border: 1px solid silver ;
3947 }
3948
3949 div.notesicon {
3950 float:left ;
3951 display: inline-block ;
3952 background: gold ;
3953 padding: 0ex 1em 0ex 1em ;
3954 margin-right: 1em ;
3955 font-weight: bold ;
3956 }
3957
3958 div.notescontents { font-style: italic }
3959
3960
3961 /* nolbreaks package: */
3962 span.nolbreaks { white-space: nowrap ; }
3963
3964
3965 /*
3966 For CSS LaTeX and related logos:
3967 Based on spacing demonstrated by the metafont package.
3968
3969 The subscripts are shrunk instead of lowered below the baseline,
3970 to avoid browser rendering errors with the line height in lists, etc.
3971 */
3972
3973 .latexlogofont {
3974 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3975 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3976 font-variant: normal ;
3977 }
3978
3979 .latexlogo {
3980 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3981 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3982 }
```

```
3983
3984 .latexlogosup {
3985 text-transform: uppercase;
3986 letter-spacing: .03em ;
3987 font-size: 0.7em;
3988 vertical-align: 0.25em;
3989 margin-left: -0.4em;
3990 margin-right: -0.15em;
3991 }
3992
3993 .latexlogosub {
3994 text-transform: uppercase;
3995 /* vertical-align: -0.27ex; */
3996 margin-left: -0.08em;
3997 margin-right: -0.07em;
3998 /* font-size: 1em; */
3999 font-size: .7em ;
4000 }
4001
4002 .latexlogotwoe {
4003 text-transform: none ;
4004 font-variant-numeric: oldstyle-nums ;
4005 }
4006
4007 .latexlogotwoesub {
4008 font-style:italic ;
4009 /* vertical-align: -0.27ex; */
4010 margin-left: -0.11em;
4011 margin-right: -0.1em;
4012 /* font-size: 1em; */
4013 font-size: .7em ;
4014 }
4015
4016 .xelatexlogo {
4017 font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
4018 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4019 letter-spacing: .03em ;
4020 }
4021
4022 .xelatexlogosub {
4023 /* vertical-align: -0.27ex; */
4024 margin-left: -0.0667em;
4025 margin-right: -.05em;
4026 /* font-size: 1em; */
4027 font-size: .7em ;
4028 letter-spacing: .03em ;
4029 }
4030
4031 .amslogo {
4032 font-family: "TeXGyreChorus","URW Chancery L",
4033 "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
4034 "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
4035 "Hoefler Text", Times, "Times New Roman", serif ;
4036 font-style: italic ;
4037 }
4038
4039 .lyxlogo {
4040 font-family: "URW Classico", Optima, "Linux Biolinum O",
4041 "DejaVu Sans", "Bitstream Vera Sans", Geneva,
4042 Verdana, sans-serif ;
```



```
4043 }
4044
4045
4046 /* Only display top and bottom navigation if a small screen: */
4047 /* Hide the sidetoc if a small screen: */
4048 nav.topnavigation { display:none; }
4049 nav.botnavigation { display:none; }
4050
4051 /* Only display the sidetoc's webpage title if a small screen */
4052 span.sidetocsthetitle { display: none }
4053
4054 @media screen and (max-width: 100em) {
4055 div.multicols {
4056 -webkit-columns: 2 auto ;
4057 -moz-columns: 2 auto ;
4058 columns: 2 auto ;
4059 }
4060 }
4061
4062 @media screen and (max-width: 50em) {
4063 div.sidetoccontainer {
4064 float: none ;
4065 width: 100% ;
4066 padding: 0 ;
4067 border-radius: 0 ;
4068 border-bottom: 1px solid black ;
4069 border-top: 1px solid black ;
4070 box-shadow: none ;
4071 }
4072 span.sidetocsthetitle { display: inline }
4073 nav.topnavigation { display:block }
4074 nav.botnavigation { display:block }
4075 main.bodycontainer { width: 100% }
4076 .marginpar {
4077 max-width: 100%;
4078 float: none;
4079 display:block ;
4080 margin: 1ex 1em 1ex 1em ;
4081 }
4082 div.multicols {
4083 -webkit-columns: 1 auto ;
4084 -moz-columns: 1 auto ;
4085 columns: 1 auto ;
4086 }
4087 }
4088
4089 @media print {
4090 body {
4091 font-family: "Linux Libertine O",
4092 "DejaVu Serif", "Bitstream Vera Serif",
4093 "Liberation Serif", "Nimbus Roman No 9 L",
4094 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4095 }
4096 div.sidetoccontainer { display:none; }
4097 nav.topnavigation { display: none; }
4098 nav.botnavigation { display: none; }
4099 main.bodycontainer { width: 100% }
4100 }
4101
4102 @media handheld {
```

```

4103 div.sidetoccontainer { display:none; }
4104 nav.topnavigation { display:block }
4105 nav.botnavigation { display:block }
4106 main.bodycontainer { width: 100% }
4107 }
4108
4109 @media projection {
4110 div.sidetoccontainer { display:none; }
4111 nav.topnavigation { display:block }
4112 nav.botnavigation { display:block }
4113 main.bodycontainer { width: 100% }
4114 }
4115 \end{filecontents*}
4116 % \end{Verbatim}% for syntax highlighting
4117 \end{LWRwriteconf}

```

## 42.5 lwarp\_sagebrush.css

lwarp\_sagebrush.css (*file*) An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 4118 \begin{LWRwriteconf}
4119 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
4120 @import url("lwarp.css") ;
4121
4122
4123 A:link {color:#105030 ; text-decoration: none ; }
4124 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
4125 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
4126 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
4127
4128
4129
4130 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4131 {
4132 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4133 "Linux Libertine 0", "Liberation Serif",
4134 "Nimbus Roman No 9 L", "FreeSerif",
4135 "Hoefler Text", Times, "Times New Roman", serif;
4136 font-variant: small-caps ;
4137 font-weight: normal ;
4138 color: #304070 ;
4139 text-shadow: 2px 2px 3px #808080;
4140 }
4141
4142 h1 { /* title of the entire website, used on each page */
4143 font-variant: small-caps ;
4144 color: #304070 ;
4145 text-shadow: 2px 2px 3px #808080;
4146 background-color: #F7F7F0 ;
4147 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
4148 }
4149
4150 h1 {
4151 border-bottom: 1px solid #304070;
4152 /* border-top: 2px solid #304070; */

```

```
4153 }
4154
4155 h2 {
4156 border-bottom: 1px solid #304070;
4157 /* border-top: 2px solid #304070; */
4158 background-color: #F7F7F0 ;
4159 background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
4160 }
4161
4162
4163
4164 div.abstract {
4165 background: #f5f5eb ;
4166 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4167
4168 border: 1px solid silver;
4169 border-radius: 1em ;
4170 }
4171
4172 div.abstract dl {line-height:1.5;}
4173 div.abstract dt {color:#304070;}
4174
4175 div.abstracttitle{
4176 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4177 "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4178 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4179 font-weight:bold;
4180 font-variant: small-caps ;
4181 font-size:1.5em;
4182 border-bottom: 1px solid silver ;
4183 color: #304070 ;
4184 text-align: center ;
4185 text-shadow: 1px 1px 2px #808080;
4186 }
4187
4188 span.abstracruntintitle{
4189 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4190 "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4191 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4192 font-weight:bold;
4193 }
4194
4195
4196 div.epigraph, div.dictum {
4197 background: #f5f5eb ;
4198 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4199
4200 border: 1px solid silver ;
4201 border-radius: 1ex ;
4202 box-shadow: 3px 3px 3px #808080 ;
4203 }
4204
4205
4206 .example {
4207 background-color: #f5f5eb ;
4208 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4209
4210 }
4211
4212 div.exampletitle{
```

```
4213 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4214 "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4215 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4216 font-weight:bold;
4217 font-variant: small-caps ;
4218 border-bottom: 1px solid silver ;
4219 color: #304070 ;
4220 text-align: center ;
4221 text-shadow: 1px 1px 2px #808080;
4222 }
4223
4224
4225 .sidebar {
4226 background-color: #f5f5eb ;
4227 background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
4228
4229 }
4230
4231 div.sidebar{
4232 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4233 "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4234 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4235 font-weight:bold;
4236 font-variant: small-caps ;
4237 border-bottom: 1px solid silver ;
4238 color: #304070 ;
4239 text-align: center ;
4240 text-shadow: 1px 1px 2px #808080;
4241 }
4242
4243
4244 .fancyvlabel {
4245 font-family: "URW Classico", Optima, "Linux Biolinum 0",
4246 "Linux Libertine 0", "Liberation Serif", "Nimbus Roman No 9 L",
4247 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
4248 font-weight:bold;
4249 font-variant: small-caps ;
4250 font-size: 1.5em ;
4251 color: #304070 ;
4252 text-align: center ;
4253 text-shadow: 1px 1px 2px #808080;
4254 }
4255
4256 div.minipage {
4257 background-color: #eeeeee7 ;
4258 border: 1px solid silver ;
4259 border-radius: 1ex ;
4260 }
4261
4262 table div.minipage { background: none ; border: none ; }
4263
4264 div.framebox div.minipage {border:none ; background:none}
4265
4266 section.textbody > div.minipage {
4267 box-shadow: 3px 3px 3px #808080 ;
4268 }
4269
4270 div.fboxBlock div.minipage { box-shadow: none ; }
4271
4272 .framed .minipage , .framedleftbar .minipage {
```

```
4273 border: none ;
4274 background: none ;
4275 padding: 0ex ;
4276 margin: 0ex ;
4277 }
4278
4279 figure.figure .minipage, div.figurecaption .minipage { border: none; }
4280
4281 div.marginblock div.minipage ,
4282 div.marginparblock div.minipage
4283 { border: none; }
4284
4285 figure , div.marginblock {
4286 background-color: #eeeeee7 ;
4287 border: 1px solid silver ;
4288 border-radius: 1ex ;
4289 box-shadow: 3px 3px 3px #808080 ;
4290 }
4291
4292 figure figure {
4293 border: 1px solid silver ;
4294 margin: 0em ;
4295 box-shadow: none ;
4296 }
4297
4298 /*
4299 div.figurecaption {
4300 border-top: 1px solid silver ;
4301 border-bottom: 1px solid silver ;
4302 background-color: #e8e8e8 ;
4303 }
4304 */
4305
4306
4307 div.table {
4308 box-shadow: 3px 3px 3px #808080 ;
4309 }
4310
4311 /*
4312 .tnotes {
4313 background: #e8e8e8;
4314 border: 1px solid silver;
4315 }
4316 */
4317
4318
4319 nav.topnavigation{
4320 background-color: #b0b8b0 ;
4321 background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4322 }
4323
4324 nav.botnavigation{
4325 background-color: #b0b8b0 ;
4326 background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4327 }
4328
4329
4330
4331 header{
4332 background-color: #F7F7F0 ;
```

```

4333 background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4334 }
4335
4336 footer{
4337 background-color: #F7F7F0 ;
4338 background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4339 }
4340
4341
4342
4343 div.sidetoccontainer {
4344 background-color: #F7F7F0 ;
4345 background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4346 box-shadow: 3px 3px 3px #808080 ;
4347 }
4348
4349 div.sidetocitle {color: #304070 ; }
4350
4351 nav.sidetoc a:hover {
4352 color:#006000 ;
4353 text-decoration: none ;
4354 text-shadow:0px 0px 2px #a0a0a0;
4355 }
4356
4357
4358 @media screen and (max-width: 45em) {
4359 div.sidetoccontainer { border-radius: 0 ; }
4360 }
4361
4362
4363 \end{filecontents*}
4364 % \end{Verbatim}% for syntax highlighting
4365 \end{LWRwriteconf}

```

## 42.6 lwarp\_formal.css

lwarp\_formal.css (*file*) An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```

Config file: 4366 \begin{LWRwriteconf}
4367 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4368 @import url("lwarp.css") ;
4369
4370
4371
4372 A:link {color:#802020 ; text-decoration:none; }
4373 A:visited {color:#802020 ; text-shadow:none ;}
4374 A:hover {color:#400000 ; text-shadow:none ;}
4375 A:active {color:#C00000 ; text-shadow:none ;}
4376
4377
4378 body {
4379 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4380 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4381 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4382 "Times New Roman", serif;

```

```
4383 background: #ffffcf5;
4384 }
4385
4386 span.textrm {
4387 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4388 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4389 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4390 "Times New Roman", serif;
4391 }
4392
4393 span.textsf {
4394 font-family: "DejaVu Sans", "Bitstream Vera Sans",
4395 Geneva, Verdana, sans-serif ;
4396 }
4397
4398
4399
4400 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4401 {
4402 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4403 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4404 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4405 "Times New Roman", serif;
4406 color: #800000 ;
4407 text-shadow: none ;
4408 }
4409
4410 h1, h2 {
4411 background-color: #ffffcf5 ;
4412 background-image: none ;
4413 border-bottom: 1px solid #808080;
4414 /* border-top: 2px solid #808080; */
4415 }
4416
4417 div.abstracttitle {
4418 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4419 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4420 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4421 "Times New Roman", serif;
4422 color: black ;
4423 text-shadow: none ;
4424 }
4425
4426 span.abstracrunintitle {
4427 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4428 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4429 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4430 "Times New Roman", serif;
4431 color: black ;
4432 text-shadow: none ;
4433 }
4434
4435 div.abstract { font-size: 100% }
4436
4437 .sidebar {
4438 background: #ffffcf5;
4439 background-image: none ;
4440 margin: 2em 5% 2em 5%;
4441 padding: 0.5em 1em;
4442 border: none ;
```

```
4443 border-top : 1px solid silver;
4444 border-bottom : 1px solid silver;
4445 font-size: 90% ;
4446 }
4447
4448 div.sidebartitle{
4449 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4450 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4451 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4452 "Times New Roman", serif;
4453 color: #800000 ;
4454 text-shadow: none ;
4455 border: none ;
4456 }
4457
4458 .example {
4459 background: #fffcf5;
4460 background-image: none ;
4461 margin: 2em 5% 2em 5%;
4462 padding: 0.5em 1em;
4463 border: none ;
4464 border-top : 1px solid silver;
4465 border-bottom : 1px solid silver;
4466 }
4467
4468 div.exampletitle{
4469 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4470 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4471 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4472 "Times New Roman", serif;
4473 color: #800000 ;
4474 text-shadow: none ;
4475 border: none ;
4476 }
4477
4478 div.fancyvrlabel{
4479 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4480 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4481 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4482 "Times New Roman", serif;
4483 color: #800000 ;
4484 text-shadow: none ;
4485 border: none ;
4486 }
4487
4488
4489
4490 figure {
4491 margin: 5ex 5% 5ex 5% ;
4492 padding: 1ex 1em 1ex 1em ;
4493 background-color: #fffcf5 ;
4494 overflow-x: auto ;
4495 border: none ;
4496 /* border-top: 1px solid silver; */
4497 /* border-bottom: 1px solid silver; */
4498 }
4499
4500
4501 div.figurecaption , .lstlisting {
4502 border: none ;
```



```
4503 /* border-top: 1px solid silver ; */
4504 /* border-bottom: 1px solid silver ; */
4505 background-color: #fffcf5 ;
4506 }
4507
4508 .tnotes {
4509 background: #fffcf5 ;
4510 border-top: 1px solid silver ;
4511 border-bottom: 1px solid silver ;
4512 }
4513
4514 .theorem {
4515 background: none ;
4516 }
4517
4518 .minipage {
4519 background-color: #fffcf5 ;
4520 border: none ;
4521 }
4522
4523 div.floatrow figure { border: none ; }
4524
4525 figure figure { border: none ; }
4526
4527
4528 nav.toc, nav.lof, nav.lot, nav.lol {
4529 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4530 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4531 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4532 "Times New Roman", serif;
4533 }
4534
4535 div.sidetoccontainer {
4536 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4537 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4538 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4539 "Times New Roman", serif;
4540 background-image: linear-gradient(to bottom, #fffcf5, #C0C0C0);
4541 }
4542
4543 div.sidetoctitle{
4544 color: #800000 ;
4545 }
4546
4547 header{
4548 background-color: #e0e0e0 ;
4549 background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
4550 text-align:center ;
4551 }
4552
4553 footer{
4554 background-color: #e0e0e0 ;
4555 background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
4556 padding: 2ex 1em 2ex 1em ;
4557 text-align:left ;
4558 }
4559
4560 nav.botnavigation {
4561 background: #dedcd5 ;
4562 border-top: 1px solid black ;
```

```

4563 }
4564 \end{filecontents*}
4565 % \end{Verbatim}% for syntax highlighting
4566 \end{LWRwriteconf}

```

## 42.7 sample\_project.css

sample\_project.css (*file*) The project-specific css file. Use with \CSSFilename.

If used, this must be present both when compiling the project and also when distributing the HTML files.

**Config file:**

```

4567 \begin{LWRwriteconf}
4568 \begin{filecontents*}[overwrite]{sample_project.css}
4569 /* (--- Start of project.css ---) */
4570 /* (--- A sample project-specific CSS file for lwarp ---) */
4571
4572 /* Uncomment one of the following: */
4573 @import url("lwarp.css") ;
4574 /* @import url("lwarp_formal.css") ; */
4575 /* @import url("lwarp_sagebrush.css") ; */
4576
4577 /* Project-specific CSS setting follow here. */
4578 /* . . . */
4579
4580 /* (--- End of project.css ---) */
4581 \end{filecontents*}
4582 % \end{Verbatim}% for syntax highlighting
4583 \end{LWRwriteconf}

```

## 42.8 lwarp.ist

lwarp.ist (*file*) Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's \specialindex.

**Config file:**

```

4584 \begin{LWRwriteconf}
4585 \begin{filecontents*}[overwrite]{lwarp.ist}
4586 preamble
4587 "\begin{theindex}
4588 \providecommand*\lettergroupDefault[1]{
4589 \providecommand*\lettergroup[1]{%
4590 \par\textbf{#1}\par
4591 \nopagebreak
4592 }
4593 "
4594 headings_flag 1
4595 heading_prefix "
4596 \lettergroup{"
4597 heading_suffix "}"
4598 delim_0 " , \hyperindexref{"
4599 delim_1 " , \hyperindexref{"
4600 delim_2 " , \hyperindexref{"
4601 delim_n " }, \hyperindexref{"

```

```

4602 delim_r " } -- \hyperindexref{"
4603 delim_t "}"
4604 page_compositor "."
4605 \end{filecontents*}
4606 % \end{Verbatim}% for syntax highlighting
4607 \end{LWRwriteconf}

```

## 42.9 lwarp.xdy

lwarp.xdy (*file*) Used to modify the index for lwarp.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

<https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely>

**Config file:**

```

4608 \begin{LWRwriteconf}
4609 \begin{filecontents*}[overwrite]{lwarp.xdy}
4610 (require "tex/inputenc/latin.xdy")
4611 (merge-rule "\\PS *" "Postscript")
4612 (require "texindy.xdy")
4613 (require "page-ranges.xdy")
4614 (require "book-order.xdy")
4615 (define-location-class "arabic-page-numbers"
4616 ("arabic-numbers") :min-range-length 1)
4617 (require "makeindex.xdy")
4618 (define-attributes (("hyperindexref")))
4619 (markup-locref :open "\hyperindexref{" :close "}")
4620 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4621 (markup-locref :open "\textbf{\hyperindexref{" :close "}})" :attr "textbf")
4622 (markup-locref :open "\textit{\hyperindexref{" :close "}})" :attr "textit")
4623 (define-location-class-order ("roman-page-numbers"
4624 "arabic-page-numbers"
4625 "alpha-page-numbers"
4626 "Roman-page-numbers"
4627 "Alpha-page-numbers"
4628 "see"
4629 "seealso"))
4630 \end{filecontents*}
4631 % \end{Verbatim}% for syntax highlighting
4632 \end{LWRwriteconf}

```

## 42.10 lwarp\_one\_limage.cmd

lwarp\_one\_limage.cmd (*file*) Used by lwarp to help make lateximages when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from <project>-images.txt, and also the base name of the source file.

*MiKTeX* does not allow file `lwarp_one_limage.cmd` to be created directly by *lwarpmk*, so `lwarp_one_limage.txt` is created instead, then copied to `lwarp_one_limage.cmd` by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

**Config file:**

```

4633 \begin{LWRwriteconf}
4634 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4635 \immediate\write\LWR@quickfile{%
4636 pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4637 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4638 }
4639 \immediate\write\LWR@quickfile{%
4640 pdfcrop --hires --margins \LWRopquote0 1 0 0\LWRopquote\space %
4641 \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4642 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4643 }
4644 \immediate\write\LWR@quickfile{%
4645 pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4646 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4647 }
4648 \immediate\write\LWR@quickfile{%
4649 del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4650 }
4651 \immediate\write\LWR@quickfile{%
4652 del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4653 }
4654 \immediate\write\LWR@quickfile{exit}
4655 \immediate\closeout\LWR@quickfile
4656 \end{LWRwriteconf}

```

## 42.11 lwarp\_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE, BRIAN DUNN.)

`lwarp_mathjax.txt` (*file*) The default MATHJAX script used by *lwarp* when using MATHJAX. A recent version of MATHJAX is used, as served by the recommended repository. Adjustments are made to allow L<sup>A</sup>T<sub>E</sub>X to control the equation tags and provide for starred macros.

`\MathJaxFilename` determines which script file is copied into the HTML pages, and defaults to `lwarp_mathjax.txt`. The script files must be present when compiling the project, but do not need to be present when distributing the resulting HTML files.

**custom script** To generate a custom script, such as to use a local repository, copy `lwarp_mathjax.txt` to a new file, make changes while keeping *lwarp*'s adjustments for equation numbering and starred macros, and use `\MathJaxFilename` to select the new filename.

**Config file:**

```

4657 \begin{LWRwriteconf}
4658 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4659 <script>
4660 // Lwarp MathJax emulation code
4661 //
4662 // Based on code by Davide P. Cervone.
4663 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4664 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4665 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4666 //
4667 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4668 //

```

```
4669 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4670 // subequations? is 0 usually, 1 if inside subequations.
4671 // section is a string printed as-is, or empty.
4672 // number is auto-incremented by MathJax between equations.
4673 //
4674 MathJax = {
4675 subequations: "0",
4676 section: "",
4677 loader: {
4678 load: ['[tex]/tagformat', '[tex]/textmacros'],
4679 },
4680 startup: {
4681 ready() {
4682 // These would be replaced by import commands if you wanted to make
4683 // a proper extension.
4684 const Configuration = MathJax._.input.tex.Configuration.Configuration;
4685 const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4686 const Macro = MathJax._.input.tex.Symbol.Macro;
4687 const TexError = MathJax._.input.tex.TexError.default;
4688 const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4689 const expandable = MathJax._.util.Options.expandable;
4690
4691 // Insert the replacement string into the TeX string, and check
4692 // that there haven't been too many macro substitutions (prevents
4693 // infinite loops).
4694 const useArgument = (parser, text) => {
4695 parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4696 parser.i = 0;
4697 if (++parser.macroCount > parser.configuration.options.maxMacros) {
4698 throw new TexError('MaxMacroSub1',
4699 'MathJax maximum macro substitution count exceeded; ' +
4700 'is there a recursive macro call?');
4701 }
4702 }
4703
4704 // Create the command map for:
4705 // \ifstar, \ifnextchar, \ifblank, \ifstrequal, \gsub, \seteqnumber
4706 new CommandMap('Lwarp-macros', {
4707 ifstar: 'IfstarFunction',
4708 ifnextchar: 'IfnextcharFunction',
4709 ifblank: 'IfblankFunction',
4710 ifstrequal: 'IfstrequalFunction',
4711 gsubstitute: 'GsubstituteFunction',
4712 seteqnumber: 'SeteqnumberFunction'
4713 }, {
4714 // This function implements an ifstar macro.
4715 IfstarFunction(parser, name) {
4716 const resultstar = parser.GetArgument(name);
4717 const resultnostar = parser.GetArgument(name);
4718 const star = parser.GetStar(); // true if there is a *
4719 useArgument(parser, star ? resultstar : resultnostar);
4720 },
4721
4722 // This function implements an ifnextchar macro.
4723 IfnextcharFunction(parser, name) {
4724 let whichchar = parser.GetArgument(name);
4725 if (whichchar.match(/^(?:0x[0-9A-F]+|[0-9]+)$/i)) {
4726 // $ syntax highlighting
4727 whichchar = String.fromCharCode(parseInt(whichchar));
4728 }

```

```
4729 const resultnextchar = parser.GetArgument(name);
4730 const resultnotnextchar = parser.GetArgument(name);
4731 const gotchar = (parser.GetNext() === whichchar);
4732 useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4733 },
4734
4735 // This function implements an ifblank macro.
4736 IfblankFunction(parser, name) {
4737 const blankarg = parser.GetArgument(name);
4738 const resultblank = parser.GetArgument(name);
4739 const resultnotblank = parser.GetArgument(name);
4740 const isblank = (blankarg.trim() == "");
4741 useArgument(parser, isblank ? resultblank : resultnotblank);
4742 },
4743
4744 // This function implements an ifstrequal macro.
4745 IfstrequalFunction(parser, name) {
4746 const strequalfirst = parser.GetArgument(name);
4747 const strequalsecond = parser.GetArgument(name);
4748 const resultequal = parser.GetArgument(name);
4749 const resultnotequal = parser.GetArgument(name);
4750 const isequal = (strequalfirst == strequalsecond);
4751 useArgument(parser, isequal ? resultequal : resultnotequal);
4752 },
4753
4754 // This function implements a gsub macro.
4755 GsubstituteFunction(parser, name) {
4756 const gsubfirst = parser.GetArgument(name);
4757 const gsubsecond = parser.GetArgument(name);
4758 const gsubthird = parser.GetArgument(name);
4759 let gsubresult=gsubfirst.replace(gsubsecond, gsubthird);
4760 useArgument(parser, gsubresult);
4761 },
4762
4763 // This function modifies the equation numbers.
4764 SeteqnumberFunction(parser, name) {
4765 // Get the macro parameters
4766 const star = parser.GetStar(); // true if there is a *
4767 const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4768 const newsubequations = parser.GetArgument(name); // the subequations argument
4769 const neweqsection = parser.GetArgument(name); // the eq section argument
4770 const neweqnumber = parser.GetArgument(name); // the eq number argument
4771 MathJax.config.subequations=newsubequations ; // a string with boolean meaning
4772 MathJax.config.section=neweqsection ; // a string with numeric meaning
4773 parser.tags.counter = parser.tags.allCounter = neweqnumber ;
4774 }
4775
4776 });
4777
4778 // Create the Lwarp-macros package
4779 Configuration.create('Lwarp-macros', {
4780 handler: {macro: ['Lwarp-macros']}
4781 });
4782
4783 MathJax.startup.defaultReady();
4784
4785 // For forward references:
4786 MathJax.startup.input[0].preFilters.add(({math}) => {
4787 if (math.inputData.recompile){
4788 MathJax.config.subequations = math.inputData.recompile.subequations;
```

```

4789 MathJax.config.section = math.inputData.recompile.section;
4790 }
4791 });
4792 MathJax.startup.input[0].postFilters.add(({math}) => {
4793 if (math.inputData.recompile){
4794 math.inputData.recompile.subequations = MathJax.config.subequations;
4795 math.inputData.recompile.section = MathJax.config.section;
4796 }
4797 });
4798
4799 // For \left, \right with unicode-math:
4800 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4801 const {Symbol} = MathJax._.input.tex.Symbol;
4802 const {MapHandler} = MathJax._.input.tex.MapHandler;
4803 const delimiter = MapHandler.getMap('delimiter');
4804 delimiter.add('\lBrack', new Symbol('\lBrack', '\u27E6'));
4805 delimiter.add('\rBrack', new Symbol('\rBrack', '\u27E7'));
4806 delimiter.add('\lAngle', new Symbol('\lAngle', '\u27EA'));
4807 delimiter.add('\rAngle', new Symbol('\rAngle', '\u27EB'));
4808 delimiter.add('\lbrbrak', new Symbol('\lbrbrak', '\u2772'));
4809 delimiter.add('\rbrbrak', new Symbol('\rbrbrak', '\u2773'));
4810 delimiter.add('\lbag', new Symbol('\lbag', '\u27C5'));
4811 delimiter.add('\rbag', new Symbol('\rbag', '\u27C6'));
4812 delimiter.add('\llparenthesis', new Symbol('\llparenthesis', '\u2987'));
4813 delimiter.add('\rrparenthesis', new Symbol('\rrparenthesis', '\u2988'));
4814 delimiter.add('\llangle', new Symbol('\llangle', '\u2989'));
4815 delimiter.add('\rrangle', new Symbol('\rrangle', '\u298A'));
4816 delimiter.add('\Lbrbrak', new Symbol('\Lbrbrak', '\u27EC'));
4817 delimiter.add('\Rbrbrak', new Symbol('\Rbrbrak', '\u27ED'));
4818 delimiter.add('\lBrace', new Symbol('\lBrace', '\u2983'));
4819 delimiter.add('\rBrace', new Symbol('\rBrace', '\u2984'));
4820 delimiter.add('\lParen', new Symbol('\lParen', '\u2985'));
4821 delimiter.add('\rParen', new Symbol('\rParen', '\u2986'));
4822 delimiter.add('\lbrackubar', new Symbol('\lbrackubar', '\u298B'));
4823 delimiter.add('\rbrackubar', new Symbol('\rbrackubar', '\u298C'));
4824 delimiter.add('\lbrackultick', new Symbol('\lbrackultick', '\u298D'));
4825 delimiter.add('\rbracklrtick', new Symbol('\rbracklrtick', '\u298E'));
4826 delimiter.add('\lbracklltick', new Symbol('\lbracklltick', '\u298F'));
4827 delimiter.add('\rbrackurtick', new Symbol('\rbrackurtick', '\u2990'));
4828 delimiter.add('\langedot', new Symbol('\langedot', '\u2991'));
4829 delimiter.add('\rangledot', new Symbol('\rangledot', '\u2992'));
4830 delimiter.add('\lparenless', new Symbol('\lparenless', '\u2993'));
4831 delimiter.add('\rparengtr', new Symbol('\rparengtr', '\u2994'));
4832 delimiter.add('\lparengtr', new Symbol('\lparengtr', '\u2995'));
4833 delimiter.add('\Rparenless', new Symbol('\Rparenless', '\u2996'));
4834 delimiter.add('\lblkbrbrak', new Symbol('\lblkbrbrak', '\u2997'));
4835 delimiter.add('\rblkbrbrak', new Symbol('\rblkbrbrak', '\u2998'));
4836 delimiter.add('\lvzigzag', new Symbol('\lvzigzag', '\u29D8'));
4837 delimiter.add('\rvzigzag', new Symbol('\rvzigzag', '\u29D9'));
4838 delimiter.add('\Lvzigzag', new Symbol('\Lvzigzag', '\u29DA'));
4839 delimiter.add('\Rvzigzag', new Symbol('\Rvzigzag', '\u29DB'));
4840 delimiter.add('\lcurvyangle', new Symbol('\lcurvyangle', '\u29FC'));
4841 delimiter.add('\rcurvyangle', new Symbol('\rcurvyangle', '\u29FD'));
4842 delimiter.add('\Vvert', new Symbol('\Vvert', '\u2980'));
4843 } // ready
4844 }, // startup
4845
4846 tex: {
4847 packages: {'[+]': ['tagformat', 'Lwarp-macros', 'textmacros']},
4848 tags: "ams",

```

```

4849 tagformat: {
4850 number: function (n) {
4851 if(MathJax.config.subequations==0)
4852 return(MathJax.config.section + n);
4853 else
4854 return(MathJax.config.section + String.fromCharCode(96+n));
4855 },
4856 },
4857 }
4858 }
4859 </script>
4860
4861 <script
4862 id="MathJax-script"
4863 src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-svg.js"
4864 ></script>
4865 \end{filecontents*}
4866 % \end{Verbatim}% for syntax highlighting
4867 \end{LWRwriteconf}

```

## 42.12 lwarpmk.lua — lwarpmk option

`lwarpmk (Opt)` Creates a local copy of *lwarpmk*.

`lwarpmk (Prog)` Command-line utility to process *lwarp* files and images.

**parallel processing** `lateximages` and `SVG` math images are generated using multiple processes in parallel. For `UNIX` and `LINUX`, every 32 images the `wait` command is issued to wait for the previous batch of images to finish processing before starting a new batch. For `WINDOWS`, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the `lwarpmk` option was given to `lwarp`.

```

4868 \begin{LWRcreatelwarpmk}

4869 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4870 #!/usr/bin/env texlua
4871
4872 -- Copyright 2016-2025 Brian Dunn
4873
4874
4875 printversion = "v0.919"
4876 requiredconfversion = "2" -- also at *lwarpmk.conf
4877
4878 function printhelp ()
4879 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.");
4880 end
4881
4882
4883 function printusage ()
4884 --
4885 -- Print the usage of the lwarpmk command:

```



```
4886 --
4887 print ([
4888
4889 lwarpmk print [-p project]: Compile the print version if necessary.
4890 lwarpmk print1 [-p project]: Forced single compile of the print version.
4891 lwarpmk printindex [-p project]: Process print indexes.
4892 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4893 lwarpmk html [-p project]: Compile the HTML version if necessary.
4894 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4895 lwarpmk htmlindex [-p project]: Process HTML indexes.
4896 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4897 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4898 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4899 lwarpmk pdftohtml [-p project]:
4900 For use with latexmk or a Makefile:
4901 Converts project_html.pdf to project_html.html and individual HTML files.
4902 Finishes the HTML conversion even if there was a compile error.
4903 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4904 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4905 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4906 *.idx, *.ind, *.bbl, *.log, *_html_inc.*, .gl*,
4907 *_html.pdf, *_html.html, *_html.sidetoc
4908 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
4909 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
4910 lwarpmk -v: Print the version number.
4911 lwarpmk -h: Print this help message.
4912 lwarpmk --help: Print this help message.
4913
4914]])
4915 -- printconf ()
4916 end
4917
4918
4919 function splitfilename (pathandfilename)
4920 --
4921 -- Separates out the path and extension from a filename.
4922 -- Returns path, filename with extension, and extension.
4923 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4924 --
4925 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4926 -- split_filename_in_to_path_filename_and_extension
4927 --
4928 if lfs.attributes(pathandfilename,"mode") == "directory" then
4929 local strPath = pathandfilename:gsub("[\\/]$", "") -- $ (syntax highlighting)
4930 return strPath.."\\", "", ""
4931 end
4932 pathandfilename = pathandfilename.."."
4933 return pathandfilename:match("^(-)([^\\"/]-)%.(^[^\\"/%.]-)%?.?$")
4934 end
4935
4936
4937 function splitfile (destfile,sourcefile)
4938 --
4939 -- Split one large sourcefile into a number of files,
4940 -- starting with destfile.
4941 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4942 -- If lwarp is in use, sets usinglwarp.
4943 --
4944 usinglwarp = false ;
4945 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
```

```
4946 local sfile = io.open(sourcefile)
4947 io.output(destfile)
4948 for line in sfile:lines() do
4949 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*|") ;
4950 if ((i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4951 -- split the file
4952 io.output(newfilename) ;
4953 else
4954 if ((i~= nil) and (copen == "<!--") and (cstart == "Using lwarp")) then
4955 -- verified the use of \usepackage{lwarp}
4956 usinglwarp = true ;
4957 else
4958 -- not a splitpoint
4959 io.write (line .. "\n") ;
4960 end end
4961 end -- do
4962 io.close(sfile)
4963 if (usinglwarp == false) then
4964 print ("lwarpmk: ===")
4965 print ("lwarpmk: \usepackage{lwarp} was not detected.")
4966 print ("lwarpmk: The HTML output will not be correct.")
4967 print ("lwarpmk: Ensured that \usepackage{lwarp} is enabled,")
4968 print ("lwarpmk: then lwarpmk print and lwarpmk html again.")
4969 print ("lwarpmk: ===")
4970 end
4971 end -- function
4972
4973
4974 function cvalueerror (line, linenum , cvalue)
4975 --
4976 -- Incorrect value, so print an error and exit.
4977 --
4978 print ("lwarpmk: ===")
4979 print ("lwarpmk: " .. linenum .. " : " .. line) ;
4980 print (
4981 "lwarpmk: incorrect variable value \"\" .. cvalue ..
4982 "\" in lwarpmk.conf.\n"
4983) ;
4984 print ("lwarpmk: ===")
4985 -- printconf () ;
4986 os.exit(1) ;
4987 end
4988
4989
4990 function printhowtorecompile ()
4991 -- Tells the user how to recompile to regenerate the configuration files.
4992 print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf")
4993 print ("lwarpmk: must be updated. To do so, recompile")
4994 print ("lwarpmk: " , sourcename.."tex")
4995 if (printlatexcmd == "") then
4996 print ("lwarpmk: using xe/luatex/pdflatex,")
4997 else
4998 print ("lwarpmk: using the command:")
4999 print ("lwarpmk: " , printlatexcmd)
5000 end
5001 print ("lwarpmk: then use lwarpmk again.")
5002 end -- printhowtorecompile
5003
5004
5005 function ignoreconf ()
```

```
5006 -- Global argument index
5007 argindex = 2
5008 end
5009
5010 function loadconf ()
5011 --
5012 -- Load settings from the project's "lwarpmk.conf" file:
5013 --
5014 -- Default configuration filename:
5015 local conffile = "lwarpmk.conf"
5016 local confroot = "lwarpmk"
5017 -- Global argument index
5018 argindex = 2
5019 -- Optional configuration filename:
5020 if (arg[argindex] == "-p") then
5021 argindex = argindex + 1
5022 confroot = arg[argindex]
5023 conffile = confroot.."lwarpmk.conf"
5024 argindex = argindex + 1
5025 end
5026 -- Additional defaults:
5027 confversion = "0"
5028 opsystem = "Unix"
5029 imagesdirectory = "lateximages"
5030 imagesname = "image-"
5031 latexmk = "false"
5032 printlatexcmd = ""
5033 HTMLlatexcmd = ""
5034 printindexcmd = ""
5035 HTMLindexcmd = ""
5036 latexmkindexcmd = ""
5037 -- to be removed:
5038 -- indexprog = "makeindex"
5039 -- makeindexstyle = "lwarp.ist"
5040 -- xindylanguage = "english"
5041 -- xindycodepage = "utf8"
5042 -- xindystyle = "lwarp.xdy"
5043 -- pdftotextenc = "UTF-8"
5044 glossarycmd = "makeglossaries"
5045 -- Verify the file exists:
5046 if (lfs.attributes(conffile,"mode")==nil) then
5047 -- file not exists
5048 print ("lwarpmk: ===")
5049 print ("lwarpmk: File \".. conffile ..\" does not exist.")
5050 print ("lwarpmk: Move to the project's source directory,")
5051 print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
5052 print ("lwarpmk: then try using lwarpmk again.")
5053 if (arg[argindex] ~= nil) then
5054 print (
5055 "lwarpmk: (\\".. confroot ..
5056 "\" does not appear to be a project name.)"
5057)
5058 end
5059 print ("lwarpmk: ===")
5060 printhehelp () ;
5061 os.exit(1) -- exit the entire lwarpmk script
5062 else -- file exists
5063 -- Read the file:
5064 print ("lwarpmk: Reading \".. conffile ..\"")
5065 local cfile = io.open(conffile)
```

```

5066-- Scan each line, parsing each line as: name = [[string]]
5067 local linenum = 0
5068 for line in cfile:lines() do -- scan lines
5069 linenum = linenum + 1
5070 i,j,cvarname,cvalue = string.find (line,"([%w-_*])%s*=%s*%[[%^]]*%]");
5071 -- Error if incorrect enclosing characters:
5072 if (i == nil) then
5073 print ("lwarpmk: ===")
5074 print ("lwarpmk: " .. linenum .. " : " .. line);
5075 print ("lwarpmk: Incorrect entry in " .. conffile .."\n");
5076 print ("lwarpmk: ===")
5077 -- printconf ();
5078 os.exit(1) ;
5079 end -- nil
5080 if (cvarname == "confversion") then
5081 confversion = cvalue
5082 elseif (cvarname == "opssystem") then
5083 -- Verify choice of opssystem:
5084 if ((cvalue == "Unix") or (cvalue == "Windows")) then
5085 opssystem = cvalue
5086 else
5087 cvalueerror (line, linenum , cvalue)
5088 end
5089 elseif (cvarname == "sourcename") then sourcename = cvalue
5090 elseif (cvarname == "homehtmlfilename") then homehtmlfilename = cvalue
5091 elseif (cvarname == "htmlfilename") then htmlfilename = cvalue
5092 elseif (cvarname == "imagesdirectory") then imagesdirectory = cvalue
5093 elseif (cvarname == "imagesname") then imagesname = cvalue
5094 elseif (cvarname == "latexmk") then latexmk = cvalue
5095 elseif (cvarname == "printlatexcmd") then printlatexcmd = cvalue
5096 elseif (cvarname == "HTMLlatexcmd") then HTMLlatexcmd = cvalue
5097 elseif (cvarname == "printindexcmd") then printindexcmd = cvalue
5098 elseif (cvarname == "HTMLindexcmd") then HTMLindexcmd = cvalue
5099 elseif (cvarname == "latexmkindexcmd") then latexmkindexcmd = cvalue
5100 elseif (cvarname == "glossarycmd") then glossarycmd = cvalue
5101 elseif (cvarname == "pdftotextenc") then pdftotextenc = cvalue
5102 else
5103 print ("lwarpmk: ===")
5104 print ("lwarpmk: " .. linenum .. " : " .. line);
5105 print (
5106 "lwarpmk: Incorrect variable name \" .. cvarname .. "\" in " ..
5107 conffile .."\n"
5108);
5109 print ("lwarpmk: ===")
5110 -- printconf ();
5111 os.exit(1) ;
5112 end -- cvarname
5113 end -- do scan lines
5114 io.close(cfile)
5115 end -- file exists
5116 -- Error if sourcename is "lwarp".
5117 -- This could happen if a local copy of lwarp has recently been recompiled.
5118 if sourcename=="lwarp" then
5119 print ("lwarpmk: ===")
5120 print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
5121 print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
5122 print ("lwarpmk: (Perhaps you are not in your project's directory?)")
5123 print ("lwarpmk: In your project directory, recompile your project")
5124 print ("lwarpmk: using pdf/luaxelatex <projectname>.")
5125 print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")

```

```
5126 print ("lwarpmk: and you may again use lwarpmk.")
5127 print ("lwarpmk: ===")
5128 os.exit(1)
5129 end -- sourcename of "lwarp"
5130 -- Select some operating-system commands:
5131 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
5132 rmname = "rm"
5133 mvname = "mv"
5134 cpname = "cp"
5135 touchnamepre = "touch"
5136 touchnamepost = ""
5137 newtouchname = "touch"
5138 dirslash = "/"
5139 opquote= "\""
5140 cmdgroupopenname = " ("
5141 cmdgroupclosename = ") "
5142 seqname = " && "
5143 bgname = " &"
5144 elseif opsystem=="Windows" then -- For Windows
5145 rmname = "DEL"
5146 mvname = "MOVE"
5147 cpname = "COPY"
5148 touchnamepre = "COPY /b"
5149 touchnamepost = "+,,"
5150 newtouchname = "echo empty >"
5151 dirslash = "\\\"
5152 opquote= "\""
5153 cmdgroupopenname = ""
5154 cmdgroupclosename = ""
5155 seqname = " & "
5156 bgname = ""
5157 else
5158 print ("lwarpmk: ===")
5159 print ("lwarpmk: Select Unix or Windows for opsystem.")
5160 print ("lwarpmk: ===")
5161 os.exit(1)
5162 end --- for Windows
5163 -- Warning if the operating system does not appear to be correct,
5164 -- in case files were transferred to another system.
5165 if ((package.config:sub(1,1)) ~= dirslash) then
5166 print ("lwarpmk: ===")
5167 print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system.")
5168 printhowtorecompile ()
5169 print ("lwarpmk: ===")
5170 os.exit(1)
5171 end
5172 -- Error if the configuration file's version is not current:
5173 if (confversion ~= requiredconfversion) then
5174 print ("lwarpmk: ===")
5175 printhowtorecompile ()
5176 print ("lwarpmk: ===")
5177 os.exit(1)
5178 end
5179 end -- loadconf
5180
5181
5182 function executecheckerror (executecommands , errormessage)
5183 --
5184 -- Execute an operating system call,
5185 -- and maybe exit with an error message.
```

```
5186 --
5187 local err
5188 err = os.execute (executecommands)
5189 if (err ~= 0) then
5190 print ("lwarpmk: ===")
5191 print ("lwarpmk: " .. errormessage)
5192 print ("lwarpmk: ===")
5193 os.exit(1)
5194 end
5195 end -- executecheckerror
5196
5197
5198 function refreshdate ()
5199 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
5200 end
5201
5202
5203
5204 function reruntoget (filesource)
5205 --
5206 -- Scan the LaTeX log file for the phrase "Rerun to get",
5207 -- indicating that the file should be compiled again.
5208 -- Return true if found.
5209 --
5210 local fsource = io.open(filesource)
5211 for line in fsource:lines() do
5212 if (string.find(line,"Rerun to get") ~= nil) then
5213 io.close(fsource)
5214 return true
5215 end -- if
5216 end -- do
5217 io.close(fsource)
5218 return false
5219 end
5220
5221
5222
5223 function onetime (latexcmd, fsuffix)
5224 --
5225 -- Compile one time, return true if should compile again.
5226 -- fsuffix is "" for print, "_html" for HTML output.
5227 --
5228 print("lwarpmk: Compiling with: " .. latexcmd)
5229 executecheckerror (
5230 latexcmd ,
5231 "Compile error."
5232)
5233 return (reruntoget(sourcename .. fsuffix .. ".log")) ;
5234 end
5235
5236
5237 function manytimes (latexcmd, fsuffix)
5238 --
5239 -- Compile up to five times.
5240 -- fsuffix is "" for print, "_html" for HTML output
5241 --
5242 if onetime(latexcmd, fsuffix) == true then
5243 if onetime(latexcmd, fsuffix) == true then
5244 if onetime(latexcmd, fsuffix) == true then
5245 if onetime(latexcmd, fsuffix) == true then
```

```
5246 if onetime(latexcmd, fsuffix) == true then
5247 end end end end end
5248 end
5249
5250
5251 function verifyfileexists (filename)
5252 --
5253 -- Exit if the given file does not exist.
5254 --
5255 if (lfs.attributes (filename , "modification") == nil) then
5256 print ("lwarpmk: ===")
5257 print ("lwarpmk: " .. filename .. " not found.");
5258 print ("lwarpmk: ===")
5259 os.exit (1) ;
5260 end
5261 end
5262
5263
5264
5265 function pdftohtml ()
5266 --
5267 -- Convert <project>_html.pdf into HTML files:
5268 --
5269 -- Convert to text:
5270 print ("lwarpmk: Converting " .. sourcename
5271 .. "_html.pdf to " .. sourcename .. "_html.html")
5272 err = os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
5273 .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
5274 if (err ~= 0) then
5275 print ("lwarpmk: ===")
5276 print ("lwarpmk: Ensure that the Poppler utilities are installed.")
5277 print ("lwarpmk: See the Lwarp manual: `Installing additional utilities'.")
5278 print ("lwarpmk: ===")
5279 os.exit(1)
5280 end
5281 -- Split the result into individual HTML files:
5282 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
5283 end
5284
5285
5286 function removeaux ()
5287 --
5288 -- Remove auxiliary files:
5289 -- All .aux files are removed since there may be many bbl*.aux files.
5290 -- Also removes sourcename_html.pdf, sourcename_html.html,
5291 -- and sourcename_html.sidetoc, plus comment_*.cut.
5292 --
5293 os.execute (rmname .. " *.aux " ..
5294 sourcename .. ".toc " .. sourcename .. "_html.toc " ..
5295 sourcename .. ".lof " .. sourcename .. "_html.lof " ..
5296 sourcename .. ".lot " .. sourcename .. "_html.lot " ..
5297 sourcename .. ".bbl " .. sourcename .. "_html.bbl " ..
5298 " *.idx " ..
5299 " *.ind " ..
5300 sourcename .. ".ps " .. sourcename .. "_html.ps " ..
5301 sourcename .. ".log " .. sourcename .. "_html.log " ..
5302 sourcename .. ".gl* " .. sourcename .. "_html.gl* " ..
5303 sourcename .. "_html.pdf " ..
5304 sourcename .. "_html.html " ..
5305 sourcename .. "_html.sidetoc " ..
```

```
5306 " *_html_inc.* " ..
5307 " comment_*.cut"
5308)
5309 end
5310
5311 function checkhtmlpdfexists ()
5312 --
5313 -- Error if the HTML document does not exist.
5314 -- The lateximages are drawn from the HTML PDF version of the document,
5315 -- so "lwarpmk html" must be done before "lwarpmk limages".
5316 --
5317 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
5318 if (htmlpdffile == nil) then
5319 print ("")
5320 print ("lwarpmk: ===")
5321 print ("lwarpmk: The HTML version of the document does not exist.")
5322 print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
5323 print ("lwarpmk: ===")
5324 os.exit(1)
5325 end
5326 io.close (htmlpdffile)
5327 end -- checkhtmlpdfexists
5328
5329
5330 function warnlimages ()
5331 --
5332 -- Warning of a missing <sourcename>-images.txt file:
5333 print ("lwarpmk: ===")
5334 print ("lwarpmk: \" .. sourcename .. "-images.txt\" does not exist.")
5335 print ("lwarpmk: Your project does not use SVG math or other lateximages,")
5336 print ("lwarpmk: or the file has been deleted somehow.")
5337 print ("lwarpmk: Use \"lwarpmk html\" to recompile your project")
5338 print ("lwarpmk: and recreate \" .. sourcename .. "-images.txt\".")
5339 print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5340 print ("lwarpmk: then \" .. sourcename .. "-images.txt\" will never exist, and")
5341 print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5342 print ("lwarpmk: ===")
5343 end -- warnlimages
5344
5345
5346 function warnlimagesrecompile ()
5347 -- Warning if must recompile before creating limages:
5348 print ("")
5349 print ("lwarpmk: ===")
5350 print ("lwarpmk: Cross-references are not yet correct.")
5351 print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5352 print ("lwarpmk: Enter \"lwarpmk html\" again, then try \"lwarpmk limages\" again.")
5353 print ("lwarpmk: ===")
5354 end --warnlimagesrecompile
5355
5356
5357 function checklimages ()
5358 --
5359 -- Check <sourcename>.txt to see if need to recompile first.
5360 -- If any entry has a page number of zero, then there were incorrect images.
5361 --
5362 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
5363 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5364 if (limagesfile == nil) then
5365 warnlimages ()
```



```

5366 os.exit(1)
5367 end
5368 -- Track warning to recompile if find a page 0
5369 local pagezerowarning = false
5370 -- Scan <sourcename>.txt
5371 for line in limagesfile:lines() do
5372 -- lwimgpage is the page number in the PDF which has the image
5373 -- lwimghash is true if this filename is a hash
5374 -- lwimgname is the lateximage filename root to assign for the image
5375 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*|)")
5376 -- For each entry:
5377 if ((i~=nil)) then
5378 -- If the page number is 0, image references are incorrect
5379 -- and must recompile the source document:
5380 if (lwimgpage == "0") then
5381 pagezerowarning = true
5382 end
5383 end -- if i~=nil
5384 end -- do
5385 -- The last line should be |end|end|end|.
5386 -- If not, the compile must have aborted, and the images are incomplete.
5387 if (lwimgpage ~= "end") then
5388 warnlimagesrecompile()
5389 os.exit(1) ;
5390 end
5391 if (pagezerowarning) then
5392 warnlimagesrecompile()
5393 os.exit(1) ;
5394 end -- pagezerowarning
5395 end -- checklimages
5396
5397
5398 function createuniximage (lwimgfullname)
5399 --
5400 -- Create one lateximage for Unix / Linux / Mac OS.
5401 --
5402 executecheckerror (
5403 cmdgroupopename ..
5404 "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
5405 sourcename .. "_html.pdf " ..
5406 imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5407 seqname ..
5408 -- Crop the image:
5409 "pdfcrop --hires --margins \0100\0 " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5410 lwimgpage .. ".pdf " ..
5411 imagesdirectory .. dirslash .. lwimgname .. ".pdf" ..
5412 seqname ..
5413 -- Convert the image to svg:
5414 "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf " ..
5415 imagesdirectory .. dirslash .. lwimgname .. ".svg" ..
5416 seqname ..
5417 -- Remove the temporary files:
5418 rmname .. " " .. imagesdirectory .. dirslash .. lwimgname .. ".pdf" .. seqname ..
5419 rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
5420 cmdgroupclosename .. " >/dev/null " .. bname
5421 ,
5422 "File error trying to convert " .. lwimgfullname
5423)
5424 -- Every 32 images, wait for completion at below normal priority,
5425 -- allowing other image tasks to catch up.

```

```

5426 numimageprocesses = numimageprocesses + 1
5427 if (numimageprocesses > 32) then
5428 numimageprocesses = 0
5429 print ("lwarpmk: waiting")
5430 executecheckerror ("wait" , "File error trying to wait.")
5431 end
5432 end -- createuniximage
5433
5434
5435 function createwindowsimage (lwimgfullname)
5436 --
5437 -- Create one lateximage for Windows.
5438 --
5439 -- Every 32 images, wait for completion at below normal priority,
5440 -- allowing other image tasks to catch up.
5441 numimageprocesses = numimageprocesses + 1
5442 if (numimageprocesses > 32) then
5443 numimageprocesses = 0
5444 thiswaitcommand = "/WAIT /BELOWNORMAL"
5445 print ("lwarpmk: waiting")
5446 else
5447 thiswaitcommand = ""
5448 end
5449 -- Execute the image generation command
5450 executecheckerror (
5451 "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5452 lwimgpage .. " " ..
5453 lwimghash .. " " ..
5454 lwimgname .. " " ..
5455 sourcename .. " <nul >nul"
5456 ,
5457 "File error trying to create image."
5458)
5459 end -- createwindowsimage
5460
5461
5462 function createonelateximage (line)
5463 --
5464 -- Given the next line of <sourcename>.txt, convert a single image.
5465 --
5466 -- lwimgpage is the page number in the PDF which has the image
5467 -- lwimghash is true if this filename is a hash
5468 -- lwimgname is the lateximage filename root to assign for the image
5469 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*|)")
5470 -- For each entry:
5471 if ((i~=nil)) then
5472 -- Skip if the page number is 0:
5473 if (lwimgpage == "0") then
5474 pagezerowarning = true
5475 -- Skip if the page number is "end":
5476 else if (lwimgpage == "end") then
5477 else
5478 -- Skip is this image is hashed and already exists:
5479 local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
5480 if (
5481 (lwimghash ~= "true") or
5482 (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5483)
5484 then -- not hashed or not exists:
5485 -- Print the name of the file being generated:

```

```
5486 print ("lwarpmk: " .. lwimgname)
5487 -- Touch/create the dest so that only once instance tries to build it:
5488 executecheckerror (
5489 newtouchname .. " " .. lwimgfullname ,
5490 "File error trying to touch " .. lwimgfullname
5491)
5492 -- Separate out the image into its own single-page pdf:
5493 if opsystem=="Unix" then
5494 createuniximage (lwimgfullname)
5495 elseif opsystem=="Windows" then
5496 createwindowsimage (lwimgfullname)
5497 end
5498 end -- not hashed or not exists
5499 end -- not page "end"
5500 end -- not page 0
5501 end -- not nil
5502 end -- createonelateximage
5503
5504
5505 function createlateximages ()
5506 --
5507 -- Create lateximages based on <sourcename>-images.txt:
5508 --
5509 -- See if the document must be recompiled first:
5510 checklimages ()
5511 -- See if the HTML version exists:
5512 checkhtmlpdfexists ()
5513 -- Attempt to create the lateximages:
5514 print ("lwarpmk: Creating lateximages.")
5515 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5516 if (limagesfile == nil) then
5517 warnlimages ()
5518 os.exit(1)
5519 end
5520 -- Create the lateximages directory, ignore error if already exists
5521 err = os.execute("mkdir " .. imagesdirectory)
5522 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5523 if opsystem=="Windows" then
5524 executecheckerror (
5525 cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5526 "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5527)
5528 end -- create lwarp_one_limage.cmd
5529 -- Track the number of parallel processes
5530 numimageprocesses = 0
5531 -- Track warning to recompile if find a page 0
5532 pagezerowarning = false
5533 -- Scan <sourcename>.txt
5534 for line in limagesfile:lines() do
5535 createonelateximage (line)
5536 end -- do
5537 io.close(limagesfile)
5538 print ("lwarpmk limages: ===")
5539 print ("lwarpmk limages: Wait a moment for the images to complete")
5540 print ("lwarpmk limages: before reloading the page.")
5541 print ("lwarpmk limages: ===")
5542 print ("lwarpmk limages: Done.")
5543 if (pagezerowarning == true) then
5544 print ("lwarpmk limages: WARNING: Images will be incorrect.")
5545 print ("lwarpmk limages: Enter \"lwarpmk cleanlimages\", then")
```

```
5546 print ("lwarpmk limages: recompile the document one more time, then")
5547 print ("lwarpmk limages: repeat \"lwarpmk images\" again.")
5548 end -- pagezerowarning
5549 end -- function
5550
5551
5552 function convertepstopdf ()
5553 --
5554 -- Converts EPS files to PDF files.
5555 -- The filenames are arg[argindex] and up.
5556 -- arg[1] is the command "epstopdf".
5557 --
5558 ignoreconf ()
5559 for i = argindex , #arg do
5560 if (lfs.attributes(arg[i],"mode")==nil) then
5561 print ("lwarpmk: File \"\" .. arg[i] .. "\"" does not exist.")
5562 else
5563 print ("lwarpmk: Converting \"\" .. arg[i] .. "\""
5564 thispath, thisfilename, thisextension = splitfilename(arg[i])
5565 if (thispath == nil) then
5566 os.execute ("epstopdf " .. arg[i])
5567 else
5568 os.execute (
5569 "epstopdf " ..
5570 thispath .. thisfilename .. "." .. thisextension .. " " ..
5571 thispath .. thisfilename .. ".pdf"
5572)
5573 end
5574 end -- if
5575 end -- do
5576 end --function
5577
5578
5579 function convertpdfptosvg ()
5580 --
5581 -- Converts PDF files to SVG files.
5582 -- The filenames are arg[argindex] and up.
5583 -- arg[1] is the command "pdftosvg".
5584 --
5585 ignoreconf ()
5586 for i = argindex , #arg do
5587 if (lfs.attributes(arg[i],"mode")==nil) then
5588 print ("lwarpmk: File \"\" .. arg[i] .. "\"" does not exist.")
5589 else
5590 print ("lwarpmk: Converting \"\" .. arg[i] .. "\""
5591 thispath, thisfilename, thisextension = splitfilename(arg[i])
5592 if (thispath == nil) then
5593 os.execute ("pdftocairo -svg " .. arg[i])
5594 else
5595 os.execute (
5596 "pdftocairo -svg " ..
5597 thispath .. thisfilename .. "." .. thisextension .. " " ..
5598 thispath .. thisfilename .. ".svg"
5599)
5600 end
5601 end -- if
5602 end -- do
5603 end --function
5604
5605
```

```
5606-- Force an update and conclude processing:
5607function updateanddone ()
5608print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5609refreshdate ()
5610print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5611print ("lwarpmk: Done.")
5612end -- function
5613
5614
5615-- Start of the main code: --
5616
5617
5618-- lwarpmk --version :
5619
5620if (arg[1] == "--version") then
5621print ("lwarpmk: " .. printversion)
5622
5623else -- not --version
5624
5625
5626-- print intro:
5627
5628print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5629
5630
5631-- lwarpmk print:
5632
5633if arg[1] == "print" then
5634loadconf ()
5635if (latexmk == "true") then
5636 print ("lwarpmk: Compiling with: " .. printlatexcmd)
5637 executecheckerror (
5638 printlatexcmd ,
5639 "Compile error."
5640)
5641 print ("lwarpmk: Done.")
5642else -- not latexmk
5643 verifyfileexists (sourcename .. ".tex") ;
5644 -- See if up to date:
5645 if (
5646 (lfs.attributes (sourcename .. ".pdf" , "modification") == nil) or
5647 (
5648 lfs.attributes (sourcename .. ".tex" , "modification") >
5649 lfs.attributes (sourcename .. ".pdf" , "modification")
5650)
5651) then
5652 -- Recompile if not yet up to date:
5653 manytimes(printlatexcmd, "")
5654 print ("lwarpmk: Done.") ;
5655 else
5656 print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
5657 end
5658end -- not latexmk
5659
5660
5661-- lwarpmk print1:
5662
5663elseif arg[1] == "print1" then
5664 loadconf ()
5665 verifyfileexists (sourcename .. ".tex") ;
```

```
5666 onetime(printlatexcmd, "")
5667 print ("lwarpmk: Done.");
5668
5669
5670 -- lwarpmk printindex:
5671 -- Compile the index then touch the source
5672 -- to trigger a recompile of the document:
5673
5674 elseif arg[1] == "printindex" then
5675 loadconf ()
5676 os.execute (printindexcmd)
5677 print ("lwarpmk: -----")
5678 updateanddone ()
5679
5680
5681 -- lwarpmk printglossary:
5682 -- Compile the glossary then touch the source
5683 -- to trigger a recompile of the document:
5684
5685 elseif arg[1] == "printglossary" then
5686 loadconf ()
5687 print ("lwarpmk: Processing the glossary.")
5688
5689 os.execute(glossarycmd .. " " .. sourcename)
5690 updateanddone ()
5691
5692
5693 -- lwarpmk html:
5694
5695 elseif arg[1] == "html" then
5696 loadconf ()
5697 if (latexmk == "true") then
5698 print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5699 executecheckerror (
5700 HTMLlatexcmd ,
5701 "Compile error."
5702)
5703 pdftohtml ()
5704 print ("lwarpmk: Done.")
5705 else -- not latexmk
5706 verifyfileexists (sourcename .. ".tex");
5707 -- See if exists and is up to date:
5708 if (
5709 (lfs.attributes (homehtmlfilename .. ".html" , "modification") == nil) or
5710 (
5711 lfs.attributes (sourcename .. ".tex" , "modification") >
5712 lfs.attributes (homehtmlfilename .. ".html" , "modification")
5713)
5714) then
5715 -- Recompile if not yet up to date:
5716 manytimes(HTMLlatexcmd, "_html")
5717 pdftohtml ()
5718 print ("lwarpmk: Done.")
5719 else
5720 print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5721 end
5722 end -- not latexmk
5723
5724
5725 -- lwarpmk html1:
```

```
5726
5727 elseif arg[1] == "html1" then
5728 loadconf ()
5729 verifyfileexists (sourcename .. ".tex");
5730 onetime(HTMLlatexcmd, "_html")
5731 pdftohtml ()
5732 print ("lwarpmk: Done.")
5733
5734
5735 -- lwarpmk pdftohtml:
5736 elseif arg[1] == "pdftohtml" then
5737 loadconf ()
5738 pdftohtml ()
5739
5740
5741 -- lwarpmk htmlindex:
5742 -- Compile the index then touch the source
5743 -- to trigger a recompile of the document:
5744
5745 elseif arg[1] == "htmlindex" then
5746 loadconf ()
5747 os.execute (HTMLindexcmd)
5748 print ("lwarpmk: -----")
5749 updateanddone ()
5750
5751
5752 -- lwarpmk htmlglossary:
5753 -- Compile the glossary then touch the source
5754 -- to trigger a recompile of the document.
5755 -- The <sourcename>.xdy file is created by the glossaries package.
5756
5757 elseif arg[1] == "htmlglossary" then
5758 loadconf ()
5759 print ("lwarpmk: Processing the glossary.")
5760 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5761 updateanddone ()
5762
5763
5764 -- lwarpmk limages:
5765 -- Scan the <sourcename>.txt file to create lateximages.
5766
5767 elseif arg[1] == "limages" then
5768 loadconf ()
5769 print ("lwarpmk: Processing images.")
5770 createlateximages ()
5771 print ("lwarpmk: Done.")
5772
5773
5774 -- lwarpmk again:
5775 -- Touch the source to trigger a recompile.
5776
5777 elseif arg[1] == "again" then
5778 loadconf ()
5779 updateanddone ()
5780
5781
5782 -- lwarpmk clean:
5783 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5784
5785 elseif arg[1] == "clean" then
```

```
5786 loadconf ()
5787 removeaux ()
5788 print ("lwarpmk: Done.")
5789
5790
5791 -- lwarpmk cleanall
5792 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5793 -- and also project.pdf, project.dvi, *.html
5794
5795 elseif arg[1] == "cleanall" then
5796 loadconf ()
5797 removeaux ()
5798 os.execute (rmname .. " " ..
5799 sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
5800 sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
5801 "*.html"
5802)
5803 print ("lwarpmk: Done.")
5804
5805
5806 -- lwarpmk cleanimages
5807 -- Remove images from the imagesdirectory.
5808
5809 elseif arg[1] == "cleanimages" then
5810 loadconf ()
5811 os.execute (rmname .. " " .. imagesdirectory .. dirslash .. "*")
5812 print ("lwarpmk: Done.")
5813
5814 -- lwarpmk epstopdf <list of file names>
5815 -- Convert EPS files to PDF using epstopdf
5816 elseif arg[1] == "epstopdf" then
5817 convertepstopdf ()
5818 print ("lwarpmk: Done.")
5819
5820
5821 -- lwarpmk pdftosvg <list of file names>
5822 -- Convert PDF files to SVG using pdftocairo
5823 elseif arg[1] == "pdftosvg" then
5824 convertpdftosvg ()
5825 print ("lwarpmk: Done.")
5826
5827
5828 -- lwarpmk with no argument :
5829
5830 elseif (arg[1] == nil) then
5831 printhelp ()
5832
5833
5834 -- lwarpmk -v:
5835
5836 elseif (arg[1] == "-v") then
5837 -- The version number has already been printed
5838 -- by the lwarpmk intro.
5839
5840 -- lwarpmk -h or lwarpmk --help :
5841
5842 elseif (arg[1] == "-h") or (arg[1] == "--help") then
5843 printusage ()
5844
5845
```



```

5846 -- Unknown command:
5847
5848 else
5849 printhehelp ()
5850 print ("\nLwarpmk: ***** Unknown command \"\"..arg[1]..\"\". *****\n")
5851 end
5852
5853 end -- not --version
5854 \end{filecontents*}
5855 % \end{Verbatim}% for syntax highlighting

5856 \end{LWRcreateLwarpmk}

```

## 43 Stacks

**for HTML output:** 5857 \begin{warpHTML}



Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new `\section` would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an `\enumerate`, for example. Depths to be recorded in `\LWR@closedepthone`, etc.

### 43.1 Assigning depths

initial depths for empty stack entries:

```
5858 \newcommand*{\LWR@depthnone}{-5}
```

All sectioning depths are deeper than `LWR@depthfinished`:

```

5859 \newcommand*{\LWR@depthfinished}{-4}
5860 \newcommand*{\LWR@depthbook}{-2}
5861 \newcommand*{\LWR@depthpart}{-1}
5862 \newcommand*{\LWR@depthchapter}{0}
5863 \newcommand*{\LWR@depthsection}{1}
5864 \newcommand*{\LWR@depthsubsection}{2}
5865 \newcommand*{\LWR@depthsubsubsection}{3}
5866 \newcommand*{\LWR@depthparagraph}{4}
5867 \newcommand*{\LWR@depthsubparagraph}{5}

```

Used by `\itemize`, `\enumerate`, `\description`:

```
5868 \newcommand*{\LWR@depthlist}{6}
```

Used by `\item`:

```
5869 \newcommand*\LWR@depthlistitem}{7}
5870 \let\LWR@depthdescitem\LWR@depthlistitem
```

## 43.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to `\pushclose` and `\popclose` as well.

```
5871 \newcommand*\LWR@closeone}{% top of the stack
5872 \newcommand*\LWR@closetwo}{
5873 \newcommand*\LWR@closethree}{
5874 \newcommand*\LWR@closefour}{
5875 \newcommand*\LWR@closefive}{
5876 \newcommand*\LWR@closesix}{
5877 \newcommand*\LWR@closeseven}{
5878 \newcommand*\LWR@closeeight}{
5879 \newcommand*\LWR@closenine}{
5880 \newcommand*\LWR@closeten}{
5881 \newcommand*\LWR@closeeleven}{
5882 \newcommand*\LWR@closetwelve}{
5883 \newcommand*\LWR@closethirteen}{
5884 \newcommand*\LWR@closefourteen}{
5885 \newcommand*\LWR@closefifteen}{
5886 \newcommand*\LWR@closesixteen}{
5887 \newcommand*\LWR@closeseventeen}{
5888 \newcommand*\LWR@closeeighteen}{
5889 \newcommand*\LWR@closenineteen}{
```

## 43.3 Closing depths

A stack to record the depth of each level:



Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```
\begin{itemize}
 \item{A}
 \begin{description}
 \item{B}
 \end{description}
\end{itemize}
```

---

```
5890 \newcommand*\LWR@closedepthone{\LWR@depthnone}% top of the stack
5891 \newcommand*\LWR@closedepthtwo{\LWR@depthnone}
5892 \newcommand*\LWR@closedepththree{\LWR@depthnone}
5893 \newcommand*\LWR@closedepthfour{\LWR@depthnone}
5894 \newcommand*\LWR@closedepthfive{\LWR@depthnone}
5895 \newcommand*\LWR@closedepthsix{\LWR@depthnone}
5896 \newcommand*\LWR@closedepthseven{\LWR@depthnone}
5897 \newcommand*\LWR@closedeptheight{\LWR@depthnone}
5898 \newcommand*\LWR@closedepthnine{\LWR@depthnone}
```

```

5899 \newcommand*{\LWR@closedepthten}{\LWR@depthnone}
5900 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
5901 \newcommand*{\LWR@closedepthtwelve}{\LWR@depthnone}
5902 \newcommand*{\LWR@closedepththirteen}{\LWR@depthnone}
5903 \newcommand*{\LWR@closedepthfourteen}{\LWR@depthnone}
5904 \newcommand*{\LWR@closedepthfifteen}{\LWR@depthnone}
5905 \newcommand*{\LWR@closedepthsixteen}{\LWR@depthnone}
5906 \newcommand*{\LWR@closedepthseventeen}{\LWR@depthnone}
5907 \newcommand*{\LWR@closedeptheighteen}{\LWR@depthnone}
5908 \newcommand*{\LWR@closedepthnineteen}{\LWR@depthnone}

```

### 43.4 Pushing and popping the stack

`\LWR@pushclose {<sectiontype>}`

Pushes one return action and its L<sup>A</sup>T<sub>E</sub>X depth onto the stacks.

```

5909 \NewDocumentCommand{\LWR@pushclose}{m}
5910 {%
5911 \global\let\LWR@closeinineteen\LWR@closeeighteen%
5912 \global\let\LWR@closeeighteen\LWR@closeseventeen%
5913 \global\let\LWR@closeseventeen\LWR@closesixteen%
5914 \global\let\LWR@closesixteen\LWR@closefifteen%
5915 \global\let\LWR@closefifteen\LWR@closefourteen%
5916 \global\let\LWR@closefourteen\LWR@closethirteen%
5917 \global\let\LWR@closethirteen\LWR@closetwelve%
5918 \global\let\LWR@closetwelve\LWR@closeeleven%
5919 \global\let\LWR@closeeleven\LWR@closeten%
5920 \global\let\LWR@closeten\LWR@closeininen%
5921 \global\let\LWR@closeininen\LWR@closeeight%
5922 \global\let\LWR@closeeight\LWR@closeseven%
5923 \global\let\LWR@closeseven\LWR@closesix%
5924 \global\let\LWR@closesix\LWR@closefive%
5925 \global\let\LWR@closefive\LWR@closefour%
5926 \global\let\LWR@closefour\LWR@closethree%
5927 \global\let\LWR@closethree\LWR@closetwo%
5928 \global\let\LWR@closetwo\LWR@closeone%
5929 \global\csletcs{\LWR@closeone}{\LWR@printclose#1}%
5930 \global\let\LWR@closedepthnineteen\LWR@closedeptheighteen%
5931 \global\let\LWR@closedeptheighteen\LWR@closedepthseventeen%
5932 \global\let\LWR@closedepthseventeen\LWR@closedepthsixteen%
5933 \global\let\LWR@closedepthsixteen\LWR@closedepthfifteen%
5934 \global\let\LWR@closedepthfifteen\LWR@closedepthfourteen%
5935 \global\let\LWR@closedepthfourteen\LWR@closedepththirteen%
5936 \global\let\LWR@closedepththirteen\LWR@closedepthtwelve%
5937 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5938 \global\let\LWR@closedeptheleven\LWR@closedepthten%
5939 \global\let\LWR@closedepthten\LWR@closedepthnine%
5940 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5941 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5942 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5943 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5944 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5945 \global\let\LWR@closedepthfour\LWR@closedepththree%
5946 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5947 \global\let\LWR@closedepthtwo\LWR@closedepthone%
5948 \global\csletcs{\LWR@closedepthone}{\LWR@depth#1}%

```

Error if the deepest depth is no longer `\LWR@depthnone`, which means that it somehow has been nested too deeply, or things are not being unnested correctly.

```

5949 \ifdefstring{\LWR@closedepthnineteen}{\LWR@depthnone}%
5950 {}%
5951 {%
5952 \PackageError{lwarp}%
5953 {The document is nested too deeply for Lwarp}%
5954 {PLEASE inform the Lwarp maintainer!}%
5955 }%
5956 }

```

`\LWR@popclose` Pops one action and its depth off the stacks.

```

5957 \newcommand*{\LWR@popclose}
5958 {%
5959 \global\let\LWR@closeone\LWR@closetwo%
5960 \global\let\LWR@closetwo\LWR@closethree%
5961 \global\let\LWR@closethree\LWR@closefour%
5962 \global\let\LWR@closefour\LWR@closefive%
5963 \global\let\LWR@closefive\LWR@closesix%
5964 \global\let\LWR@closesix\LWR@closeseven%
5965 \global\let\LWR@closeseven\LWR@closeeight%
5966 \global\let\LWR@closeeight\LWR@closenine%
5967 \global\let\LWR@closenine\LWR@closeten%
5968 \global\let\LWR@closeten\LWR@closeeleven%
5969 \global\let\LWR@closeeleven\LWR@closetwelve%
5970 \global\let\LWR@closetwelve\LWR@closethirteen%
5971 \global\let\LWR@closethirteen\LWR@closefourteen%
5972 \global\let\LWR@closefourteen\LWR@closefifteen%
5973 \global\let\LWR@closefifteen\LWR@closesixteen%
5974 \global\let\LWR@closesixteen\LWR@closeseventeen%
5975 \global\let\LWR@closeseventeen\LWR@closeeighteen%
5976 \global\let\LWR@closeeighteen\LWR@closenineteen%
5977 \global\let\LWR@closedepthone\LWR@closedepthtwo%
5978 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5979 \global\let\LWR@closedepththree\LWR@closedepthfour%
5980 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5981 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5982 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5983 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5984 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5985 \global\let\LWR@closedepthnine\LWR@closedephten%
5986 \global\let\LWR@closedephten\LWR@closedeptheleven%
5987 \global\let\LWR@closedeptheleven\LWR@closedephtwelve%
5988 \global\let\LWR@closedephtwelve\LWR@closedepththirteen%
5989 \global\let\LWR@closedepththirteen\LWR@closedepthfourteen%
5990 \global\let\LWR@closedepthfourteen\LWR@closedepthfifteen%
5991 \global\let\LWR@closedepthfifteen\LWR@closedepthsixteen%
5992 \global\let\LWR@closedepthsixteen\LWR@closedepthseventeen%
5993 \global\let\LWR@closedepthseventeen\LWR@closedeptheighteen%
5994 \global\let\LWR@closedeptheighteen\LWR@closedepthnineteen%
5995 }

5996 \end{warpHTML}

```

## 44 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray's` argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}{}
```

**for HTML output:** 5997 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```
5998 \newbool{LWR@setexparray@doingparhooks}
5999
6000 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
```

Temporarily disable paragraph handling during the assignment. This is not done in a group with global assignments because a table may be nested.

```
6001 \let\ifLWR@setexparray@doingparhooks\ifLWR@doingparhooks%
6002 \setbool{LWR@doingparhooks}{false}%
6003 \let\LWR@setexparray@par\par%
6004 \let\par\relax%
```

The name of the control sequence is the given name with the index appended.

```
6005 \xdef\LWR@thisexparrayname{#1#2}%
```

Locally assign the value to the control sequence:

```
6006 \ifstrempy{#3}%
6007 \csdef{\LWR@thisexparrayname}{}%
6008 \csdef{\LWR@thisexparrayname}{#3}%
```

Restore the paragraph handling:

```
6009 \let\ifLWR@doingparhooks\ifLWR@setexparray@doingparhooks%
6010 \let\par\LWR@setexparray@par%
6011 }
```

```
\LWR@getexparray {<name>} {<index>}
```

```
6012 \newcommand*{\LWR@getexparray}[2]{%
6013 \@nameuse{#1#2}%
6014 }
```

```
6015 \end{warpHTML}
```

## 45 Localizing catcodes

**for HTML & PRINT:** 6016 `\begin{warpall}`

⚠ **Misplaced alignment tab character &** Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error  
Misplaced alignment tab character &.

`\StartDefiningTabulars` Place before defining something with & in it.

```
6017 \newcommand{\StartDefiningTabulars}{%
6018 \LWR@traceinfo{StartDefiningTabulars}%
6019 \warpHTMLonly{\catcode`\&=\active}%
6020 }
```

`\StopDefiningTabulars` Place after defining something with & in it.

```
6021 \newcommand{\StopDefiningTabulars}{%
6022 \LWR@traceinfo{StopDefiningTabulars}%
6023 \warpHTMLonly{\catcode`\&=4}%
6024 }
```

`LWR@mathmacro` (*bool*) True if currently defining math macros. Used to disable SVG math hashing and MATHJAX math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MATHJAX.

```
6025 \newbool{LWR@mathmacro}
6026 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with \$ in it.

```
6027 \newcommand{\StartDefiningMath}{%
6028 \LWR@traceinfo{StartDefiningMath}%
6029 \warpHTMLonly{\catcode`\$=\active}%
6030 }
```

`\StopDefiningMath` Place after defining something with \$ in it.

```
6031 \newcommand{\StopDefiningMath}{%
6032 \LWR@traceinfo{StopDefiningMath}%
6033 \warpHTMLonly{\catcode`\$=3}% math shift
6034 }
```

```
6035 \end{warpall}
```

**for HTML output:** 6036 `\begin{warpHTML}`

A definition for & in case it is referred to after `\StartDefiningTabulars` but outside a tabular.

```
6037 \StartDefiningTabulars
6038 \protected\gdef&{%
6039 \PackageWarning{lwarp}{%
6040 An ampersand is being used inside a tabular\MessageBreak
```

```

6041 }%
6042 }%
6043 \StopDefiningTabulars

6044 \end{warpHTML}

```

## 46 Localizing dynamic math

Inline SVG math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For `MATHJAX`, the inline math expression is usually printed for `MATHJAX` to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline SVG image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

---

```

\xpatchcmd{\macroname}
 {$math expression$}
 {\inlinemathother$math expression$\inlinemathnormal}
 {}
 {\typeout{Error patching macroname.}}

```

---

**for HTML & PRINT:** 6045 `\begin{warpall}`

`LWR@dynamicmath` (*bool*) True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
**Default:** `false`

```

6046 \newbool{LWR@dynamicmath}
6047 \boolfalse{LWR@dynamicmath}

```

`\inlinemathother` Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```

6048 \newcommand{\inlinemathother}{%
6049 \LWR@traceinfo{inlinemathother}%
6050 \booltrue{LWR@dynamicmath}%
6051 }

```

`\inlinemathnormal` Place after using `$ ... $` or `\( ... \)` with dynamic contents.

```

6052 \newcommand{\inlinemathnormal}{%
6053 \LWR@traceinfo{inlinemathnormal}%
6054 \boolfalse{LWR@dynamicmath}%
6055 }

```

```

6056 \end{warpall}

```

## 47 HTML entities

for HTML output: 6057 \begin{warpHTML}

HTML Unicode entities:

```
6058 \let\LWR@origampersand\&
```

```
\LWR@fontfortags {<macro name>} {<argument>}
```

Forces roman TT font for HTML tags.

```
6059 \newrobustcmd*{\LWR@fontfortags}[2]{%
6060 \ifmmode%
6061 \PackageError{lwarp}%
6062 {%
6063 An HTML tag was generated inside math.\MessageBreak
6064 This should never occur.\MessageBreak
6065 Something is broken in Lwarp.\MessageBreak
6066 Enter `h' for details%
6067 }%
6068 {(Using #1{#2}.)}%
6069 \else%
```

Used by ltjtbok, platex, and related.

```
6070 \ifdef{\romanencoding}%
6071 {%
6072 \romanencoding{\encodingdefault}%
6073 }%
6074 {%
```

Used by babel:

```
6075 \ifdef{\latintext}
6076 {\latintext}
6077 {\fontencoding\encodingdefault}%
6078 }%
6079 \LWR@print@normalfont%
6080 \LWR@origttfamily%
6081 \fi%
6082 }
```

```
\HTMLentity {<entitytag>}
```

\protect is in case the tag appears in TOC, LOF, LOT.

```
6083 \newcommand*{\HTMLentity}[1]{%
6084 % \LWR@traceinfo{HTMLentity \detokenize{#1}}%
6085 \begingroup%
6086 \LWR@hook@processingtags%
6087 \LWR@fontfortags{HTMLentity}{\detokenize{#1}}%
6088 \protect\LWR@origampersand\LWR@isolate{#1};%
6089 \endgroup%
6090 % \LWR@traceinfo{HTMLentity done}%
6091 }
```



`\HTMLUnicode`  $\{\langle hex\_unicode \rangle\}$

```
6092 \newcommand*\HTMLUnicode[1]{\HTMLEntity{\LWR@origpound{x#1}}
```

`\&`

```
6093 \renewrobustcmd*\&{\HTMLEntity{amp}}
```

`\textless`

```
6094 \let\LWR@origtextless\textless
6095 \renewrobustcmd*\textless{\HTMLEntity{lt}}
```

`\textgreater`

```
6096 \let\LWR@origtextgreater\textgreater
6097 \renewrobustcmd*\textgreater{\HTMLEntity{gt}}
```

`\%`

```
6098 \let\LWR@origpercent\%
6099 \renewrobustcmd*\%{\HTMLEntity{percnt}}
```

```
6100 \end{warpHTML}
```

## 48 HTML filename generation

The filename of the homepage is set to `\HomeHTMLFilename.html`. The filenames of additional sections start with `\HTMLFilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

**for HTML & PRINT:** 6101 `\begin{warpall}`

`\BaseJobname` The `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

```
6102 \providecommand*\BaseJobname{\jobname}
```

`\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section 7.6.1.

```
6103 \providecommand*\HTMLFilename{}
```

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section 7.6.1.

```
6104 \providecommand*\HomeHTMLFilename{\BaseJobname}
```

`\SetHTMLFileNumber`  $\{\langle number \rangle\}$

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
6105 \newcommand*{\SetHTMLFileNumber}[1]{%
6106 \setcounter{LWR@htmlfilenumber}{#1}%
6107 }
```

`FileSectionNames` (*bool*) Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
6108 \newbool{FileSectionNames}
6109 \booltrue{FileSectionNames}

6110 \end{warpall}
```

**for HTML output:** 6111 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
6112 \newcounter{LWR@HTMLpagenum}
6113 \setcounter{LWR@HTMLpagenum}{0}
```

`LWR@htmlseqfilenumber` (*Ctr*) A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike `\LWR@htmlfilenumber`, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called `\BaseJobname-autofile-*`, and the last page is also labelled `\BaseJobname-autofile-last`.

```
6114 \newcounter{LWR@htmlseqfilenumber}
6115 \setcounter{LWR@htmlseqfilenumber}{0}
```

`LWR@setseqfilelabel` (*bool*) At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
6116 \newbool{LWR@setseqfilelabel}
6117 \setbool{LWR@setseqfilelabel}{false}
```

`LWR@htmlfilenumber` (*Ctr*) Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use `\SetHTMLFileNumber` to create groups of numbered nodes.

```
6118 \newcounter{LWR@htmlfilenumber}
6119 \setcounter{LWR@htmlfilenumber}{0}
```

`\LWR@htmlsectionfilename` {<*htmlfilenumber or name*>}

Prints the filename for a given section: `\HTMLFilename{ }filenumber/name.html`

```
6120 \newcommand*{\LWR@htmlsectionfilename}[1]{%
6121 \LWR@traceinfo{LWR@htmlsectionfilename A !\detokenize{#1}!}%
6122 \begingroup%
```

Disable CJK xpinyin while generating file names.

```
6123 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
6124% \LWR@traceinfo{about to assign temp}%
6125 \LWR@sanitize{#1}%
6126 \LWR@traceinfo{about to compare with ??}%
6127 \ifdefstring{\LWR@sanitized}{??}
6128 {\LWR@traceinfo{found ??}}%
6129 {\LWR@traceinfo{not found ??}}%
6130 \LWR@traceinfo{about to compare with zero or empty}%
6131 \ifboolexpr{
6132 test {\ifdefstring{\LWR@sanitized}{0}} or
6133 test {\ifdefstring{\LWR@sanitized}{}} or
6134 test {\ifdefstring{\LWR@sanitized}{??}}
6135 }
6136 {%
6137 \LWR@traceinfo{LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
6138 \HomeHTMLFilename.html%
6139 }%
```

For a L<sup>A</sup>T<sub>E</sub>X section named “Index” or “index” without a prefix, create a filename with a trailing -0 to avoid colliding with the HTML filename index.html:

```
6140 {%
6141 \LWR@traceinfo{LWR@htmlsectionfilename C \LWR@sanitized}%
6142 \ifboolexpr{
6143 test{\ifdefvoid{\HTMLFilename}} and
6144 (
6145 test{\ifdefstring{\LWR@sanitized}{Index}} or
6146 test{\ifdefstring{\LWR@sanitized}{index}}
6147)
6148 }%
6149 {%
6150 \LWR@traceinfo{Adding a zero to the index filename.}%
6151 \LWR@sanitized-0.html%
6152 }%
```

Otherwise, create a filename with the chosen prefix:

```
6153 {%
6154 \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
6155 }%
6156 }%
6157 \LWR@traceinfo{LWR@htmlsectionfilename Z}%
6158 \endgroup%
6159 }
```

```
\LWR@htmlrefsectionfilename {<label>}
```

Prints the filename for the given label

```
6160 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
6161 \LWR@traceinfo{LWR@htmlrefsectionfilename: !\detokenize{#1}!}%
```

`\LWR@nullfonts` to allow math in a section name.

```

6162 \begingroup%
6163 \LWR@nullfonts%
6164 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
6165 \endgroup%
6166 \LWR@traceinfo{LWR@htmlrefsectionfilename: done}%
6167 }

6168 \end{warpHTML}

```

## 49 Homepage link

**for HTML & PRINT:** 6169 `\begin{warpall}`

`\linkhomename` Holds the default name for the home link.

```

6170 \newcommand{\linkhomename}{Home}

6171 \end{warpall}

```

**for HTML output:** 6172 `\begin{warpHTML}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```

6173 \newcommand*{\LinkHome}{%
6174 \LWR@subhyperrefclass{\HomeHTMLfilename.html}{\linkhomename}{linkhome}%
6175 }

6176 \end{warpHTML}

```

**for PRINT output:** 6177 `\begin{warpprint}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

`\BaseJobname` is included in the link label in case multiple documents are cross-referenced.

```

6178 \AtBeginDocument{
6179 \@ifundefined{hyperref}{
6180 \newcommand*{\LinkHome}{%
6181 \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
6182 }
6183 }{
6184 \newcommand*{\LinkHome}{%
6185 \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
6186 }
6187 }
6188 }
6189
6190 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}

```

```
6191 \end{warpprint}
```

**for HTML output:** 6192 \begin{warpHTML}

`\LWR@topnavigation` Creates a link to the homepage at the top of the page for use when the window is too narrow for the sideroc.

```
6193 \newcommand*\LWR@topnavigation}{%
6194 \LWR@htmlElementclassline{nav}{topnavigation}{\LinkHome}
6195 }
```

`\LWR@botnavigation` Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```
6196 \newcommand*\LWR@botnavigation}{%
6197 \LWR@htmlElementclassline{nav}{botnavigation}{\LinkHome}
6198 }
```

```
6199 \end{warpHTML}
```

## 50 Previous/next navigation links

**for HTML & PRINT:** 6200 \begin{warpall}

`\linkpreviousname` What to call the link to the previous web page.

```
6201 \newcommand*\linkpreviousname}{Previous}
```

`\linknextname` What to call the link to the next web page.

```
6202 \newcommand*\linknextname}{Next}
```

```
6203 \end{warpall}
```

**for PRINT output:** 6204 \begin{warpprint}

`\LinkPrevious` Creates a link to the previous web page if there is one.

```
6205 \newcommand*\LinkPrevious}{}
```

`\LinkNext` Creates a link to the next web page if there is one.

```
6206 \newcommand*\LinkNext}{}
```

```
6207 \end{warpprint}
```

**for HTML output:** 6208 \begin{warpHTML}

`\LinkPrevious` Creates a link to the previous web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels `\Basejobname-autofile-*`

```

6209 \newcommand*{\LinkPrevious}{%
6210 \ifnumless{\value{LWRhtmlseqfilenumber}}{1}}{%
6211 \setcounter{LWR@tempcountone}{\value{LWRhtmlseqfilenumber}-1}%
6212 \LWR@subhyperrefclass{%
6213 \LWRhtmlrefsectionfilename{%
6214 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6215 }%
6216 }{\linkpreviousname}{linkhome}%
6217 }%
6218 }

```

`\LinkNext` Creates a link to the next web page if there is one.

The links refer to the L<sup>A</sup>T<sub>E</sub>X labels `\Basejobname-autofile-*` and the last is the label `\Basejobname-autofile-last`

```

6219 \newcommand*{\LinkNext}{%
6220 \ifcsdef{r@\BaseJobname-autofile-last@lwarp}}{%
6221 \edef\LWR@tempone{%
6222 \LWRhtmlfileref{\BaseJobname-autofile-\arabic{LWRhtmlseqfilenumber}}}%
6223 }%
6224 \edef\LWR@temptwo{%
6225 \LWRhtmlfileref{\BaseJobname-autofile-last}%
6226 }%
6227 \ifdefequal{\LWR@tempone}{\LWR@temptwo}}{%
6228 \setcounter{LWR@tempcountone}{\value{LWRhtmlseqfilenumber}+1}%
6229 \LWR@subhyperrefclass{%
6230 \LWRhtmlrefsectionfilename{%
6231 \BaseJobname-autofile-\arabic{LWR@tempcountone}%
6232 }%
6233 }{\linknextname}{linkhome}%
6234 }%
6235 }{%
6236 }

6237 \end{warpHTML}

```

## 51 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the L<sup>A</sup>T<sub>E</sub>X nesting depth values for the stack levels. `\LWR@startpars` is used before printing the stack, so that `\LWRPrintStack` may be called from anywhere in the normal text flow.

**for HTML output:** 6238 `\begin{warpHTML}`

`\LWRPrintStack` Prints the closedepth stack.

```

6239 \newcommand*{\LWR@subprintstack}{
6240 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
6241 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
6242 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\

```

```

6243 \LWR@closedephten\ \LWR@closedeptheleven\ \LWR@closedephtwelve\
6244 \LWR@closedepththirteen\ \LWR@closedepthfourteen\ \LWR@closedepthfifteen\
6245 \LWR@closedepthsixteen\ \LWR@closedepthseventeen\ \LWR@closedeptheighteen\
6246 \LWR@closedepthnineteen\
6247 }
6248
6249 \newcommand*\LWRPrintStack){
6250 \LWR@startpars
6251 \LWR@subprintstack
6252 }

6253 \end{warpHTML}

```

**for PRINT output:** 6254 \begin{warpprint}

```

6255 \newcommand*\LWRPrintStack){}

6256 \end{warpprint}

```

## 52 Closing stack levels

**for HTML output:** 6257 \begin{warpHTML}

Close one nested level:

```

6258 \newcommand*\LWR@closeoneprevious){%
6259
6260 \LWR@closeone
6261
6262 \LWR@popclose
6263 }

```

\LWR@closeprevious {<*sectintype*>} Close everything up to the given depth:

```

6264 \newcommand*\LWR@closeprevious}[1]{%
6265 \LWR@traceinfo{%
6266 \LWR@closeprevious to depth \csuse{LWR@depth#1}, %
6267 depths are \LWR@subprintstack%
6268 }%

```

Close any pending paragraph:

```
6269 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```

6270 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{LWR@depth#1}}}}%
6271 {%
6272 \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%
6273 \LWR@closeoneprevious%
6274 }%
6275 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{LWR@depth#1}}}}%
6276 {%
6277 \LWR@traceinfo{LWR@closeprevious: closing out depth \LWR@closedepthone}%

```

```

6278 \LWR@closeoneprevious%
6279 }{ }%
6280 \LWR@traceinfo{LWR@closeprevious: done, depths are \LWR@subprintstack}%
6281 }

6282 \end{warpHTML}

```

## 53 PDF pages and styles

**for HTML output:** 6283 \begin{warpHTML}

\LWR@forcenewpage New PDF page a before major environment.

This is used just before major environments, such as verse. Reduces the chance of an environment overflowing the HTML PDF output page.

```

6284 \newcommand{\LWR@forcenewpage}{%
6285 \LWR@traceinfo{LWR@forcenewpage}%
6286 \ifinner\else%
6287 \LWR@traceinfo{LWR@forcenewpage A}%
6288 \LWR@stoppars%
6289 \LWR@traceinfo{LWR@forcenewpage B}%
6290 \LWR@maybe@orignewpage%
6291 \LWR@traceinfo{LWR@forcenewpage C}%
6292 \LWR@startpars%
6293 \fi%
6294 \LWR@traceinfo{LWR@forcenewpage done}%
6295 }

```

\pagestyle, etc. are nullified for HTML output.

\pagestyle {<style>}

```
6296 \renewcommand*{\pagestyle}[1]{}
```

\thispagestyle {<style>}

```
6297 \renewcommand*{\thispagestyle}[1]{}
```

\markboth {<left>} {<right>}

```
6298 \renewcommand*{\markboth}[2]{}
```

\markright {<right>}

```
6299 \renewcommand*{\markright}[1]{}
```

\raggedbottom

```
6300 \renewcommand*{\raggedbottom}{}

```



`\flushbottom`

```
6301 \renewcommand*\flushbottom{}
```

`\sloppy`

```
6302 \renewcommand*\sloppy{}
```

`\fussy`

```
6303 \renewcommand*\fussy{}
```

`\pagenumbering` \*  $\{\langle\textit>commands\rangle\}$

```
6304 \RenewDocumentCommand{\pagenumbering}{s m}{}
6305 \end{warpHTML}
```

## 54 HTML tags, spans, divs, elements

for HTML output: 6306 `\begin{warpHTML}`

### 54.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```
6307 \newcommand*\LWR@tagtitle}{h1}
6308 \newcommand*\LWR@tagtitleend}{/h1}
6309 \newcommand*\LWR@tagbook}{div class=\textquotedbl{}book\textquotedbl}
6310 \newcommand*\LWR@tagbookend}{/div}
6311 \newcommand*\LWR@tagpart}{h2}
6312 \newcommand*\LWR@tagpartend}{/h2}
6313 \newcommand*\LWR@tagchapter}{h3}
6314 \newcommand*\LWR@tagchapterend}{/h3}
6315 \newcommand*\LWR@tagsection}{h4}
6316 \newcommand*\LWR@tagsectionend}{/h4}
6317 \newcommand*\LWR@tagsubsection}{h5}
6318 \newcommand*\LWR@tagsubsectionend}{/h5}
6319 \newcommand*\LWR@tagsubsubsection}{h6}
6320 \newcommand*\LWR@tagsubsubsectionend}{/h6}
6321 \newcommand*\LWR@tagparagraph}{span class=\textquotedbl{}paragraph\textquotedbl}
6322 \newcommand*\LWR@tagparagraphend}{/span}
6323 \newcommand*\LWR@tagsubparagraph}{span class=\textquotedbl{}subparagraph\textquotedbl}
6324 \newcommand*\LWR@tagsubparagraphend}{/span}
6325
6326 \newcommand*\LWR@tagregularparagraph}{p}
```

### 54.2 Hook while processing tags

`\LWR@hook@processingtags` This is used to disable special text processing while processing HTML tags. Special  
(Hook) [] processing includes that done by `babel-french`, `luavina`, `xelvna`.

`\LWR@hook@processingtags` Disable special text processing while generating tags. Replaces `\LWR@FBcancel` in most places.

```
6327 \newcommand*{\LWR@hook@processingtags}{}
```

### 54.3 Babel-French tag modifications

Adjust babel-french for HTML spaces. So far, this only works for *pdf<sub>l</sub>atex* and *xelatex*.

*(Emulates or patches code by DANIEL FLIPO.)*

```
6328 \providecommand*{\LWR@FBcancel}{}
6329
```

```
6330 \AtBeginDocument{%
```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```
6331 \@ifundefined{NoAutoSpacing}%
6332 {}%
6333 {%
6334 \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
6335 \appto{\LWR@hook@processingtags}{\LWR@FBcancel}%
6336 }%
6337
6338 \@ifundefined{frenchbsetup}%
6339 {}%
6340 {%
6341 \frenchbsetup{FrenchFootnotes=false}%
6342 }%
6343 \renewrobustcmd*{\FBcolonspace}{%
6344 \begingroup%
6345 \LWR@hook@processingtags%
6346 \LWR@origampersand{}nbsp;%
6347 \endgroup%
6348 }%
6349 \renewrobustcmd*{\FBthinspace}{%
6350 \begingroup%
6351 \LWR@hook@processingtags%
6352 \LWR@origampersand\LWR@origpound{x202f;% \,
6353 \endgroup%
6354 }%
6355 \renewrobustcmd*{\FBguillesspace}{%
6356 \begingroup%
6357 \LWR@hook@processingtags%
6358 \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}
6359 \endgroup%
6360 }%
6361 \DeclareDocumentCommand{\FBmedkern}{}{}%
6362 \begingroup%
6363 \LWR@hook@processingtags%
6364 \LWR@origampersand\LWR@origpound{x202f;% \,
6365 \endgroup%
6366 }%
6367 \DeclareDocumentCommand{\FBthickkern}{}{}%
```

```

6368 \begingroup%
6369 \LWR@hook@processingtags%
6370 \LWR@origampersand{ }nbsp;% ~
6371 \endgroup%
6372 }%
6373 \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
6374 \iffBunicode%
6375 \else%
6376 \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
6377 \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
6378 \fi%
6379 }%
6380 }

```

## 54.4 HTML output formatting

Helps format the output HTML code for human readability.

`\LWR@indentHTML` Newline and indent the output HTML code.

```

6381 \newcommand*{\LWR@indentHTML}{%
6382 \LWR@orignewline\LWR@origrule{2em}{0pt}%
6383 }

```

`\LWR@indentHTMLtwo` Newline and indent the output HTML code.

```

6384 \newcommand*{\LWR@indentHTMLtwo}{%
6385 \LWR@orignewline\LWR@origrule{4em}{0pt}%
6386 }

```

## 54.5 HTML tags

`\LWR@htmltagc` `{<tag>}` Break ligatures and use upright apostrophes in HTML tags.

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

6387 \newcommand*{\LWR@htmltagc}[1]{%
6388 \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
6389 \begingroup%
6390 \LWR@hook@processingtags%
6391 \LWR@fontfortags{\LWR@htmltagc}{\detokenize{#1}}%
6392 \protect\LWR@origtextless%
6393 \LWR@traceinfo{\LWR@htmltagc B}%
6394 \LWR@isolate{#1}%
6395 \LWR@traceinfo{\LWR@htmltagc C}%
6396 \protect\LWR@origtextgreater%
6397 \endgroup%
6398 \LWR@traceinfo{\LWR@htmltagc done}%
6399 }

```

`\LWR@spanwarnformat` `{<object>}`

Warns if the given object is used inside a span.

```

6400 \newcommand*{\LWR@spanwarnformat}[1]{%
6401 \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
6402 \PackageWarning{lwarp}{%
6403 A #1 is being used inside a span.\MessageBreak
6404 Formatting may be lost,%
6405 }%
6406 }{}%
6407 }

```

`\LWR@spanwarninvalid` {<*object*>}

Warns if the given object is used inside a span.

```

6408 \newcommand*{\LWR@spanwarninvalid}[1]{%
6409 \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
6410 \PackageWarning{lwarp}{%
6411 A #1 is being used inside a span.\MessageBreak
6412 This generates invalid HTML,%
6413 }%
6414 }{}%
6415 }

```

`LWR@nestspan` (*enu*) Disable minipage, \parbox, and HTML <div>s inside a <span>.

- ⚠ `\begin{LWR@nestspan}` must follow the opening <span> tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
- ⚠ `\end{LWR@nestspan}` must follow the </span> or a <p> may appear inside the span.

```

6416 \newcommand*{\LWR@nestspanitem}{%
6417 \if@newlist\else{
6418 \LWR@htmltagc{br /}%
6419 \LWR@orignewline%
6420 }\fi%
6421 \LWR@origitem%
6422 }
6423
6424 \newenvironment*{LWR@nestspan}
6425 {%
6426 \LWR@traceinfo{LWR@nestspan starting}%
6427 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
6428 {%
6429 \LWR@traceinfo{LWR@nestspan: inside a lateximage}%
6430 }%
6431 {% not in a lateximage
6432 \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
6433 \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

6434 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
6435 {\LWR@spanwarnformat{minipage or \protect\parbox}}%
6436 {}%
6437 \RenewDocumentEnvironment{BlockClass}{o D(){ } m}%
6438 {\LWR@spanwarnformat{multi-paragraph object}}%
6439 {}%
6440 \RenewDocumentEnvironment{LWR@BlockClassWP}{m m D(){ } m}%

```

```

6441 {\LWR@spanwarnformat{multi-paragraph object}}%
6442 }%
6443 \renewcommand{\BlockClassSingle}[2]{%
6444 {\LWR@spanwarnformat{multi-paragraph object}}%
6445 ##2%
6446 }%
6447 \renewcommand{\LWR@forcenewpage}{}%
6448 \renewcommand{\LWR@liststart}{\LetLtxMacro\item\LWR@nestspanitem}%
6449 \renewcommand{\LWR@listend}{\leavevmode}%
6450 \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6451 \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6452 }% not in a lateximage
6453 \LWR@traceinfo{LWR@nestspan starting: done}%
6454 }% starting env
6455 {% ending env
6456 \LWR@traceinfo{LWR@nestspan ending}%
6457 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6458 }%
6459 {\addtocounter{LWR@spandepth}{-1}}%
6460 \LWR@traceinfo{LWR@nestspan ending: done}%
6461 }

```

`\LWR@htmlspan {<tag>}{<text>}`



`\LWR@spandepth` is used to ensure that paragraph tags are not generated inside a span. The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

6462 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6463 \LWR@ensuredoingapar%
6464 \LWR@htmltagc{#1}%
6465 \begin{LWR@nestspan}%
6466 #2%
6467 \LWR@htmltagc{/#1}%
6468 \end{LWR@nestspan}%
6469 }

```

`\LWR@htmlspanclass [<style>] (<aria role>) <class> {<text>}`

```

6470 \NewDocumentCommand{\LWR@htmlspanclass}{o D()}{ m +m}{%
6471 \LWR@traceinfo{LWR@htmlspanclass #3}%
6472 \LWR@ensuredoingapar%
6473 \ifblank{#2}%
6474 {\LWR@subhtmllementclass{span}[#1]{#3}}%
6475 {\LWR@subhtmllementclass{span}[#1](#2){#3}}%
6476 \begin{LWR@nestspan}%
6477 #4%
6478 \LWR@htmltagc{/span}%
6479 \end{LWR@nestspan}%
6480 \LWR@traceinfo{LWR@htmlspanclass done}%
6481 }

```

`\LWR@htmltag {<tag>}`

Print an HTML tag: `<tag>`

```

6482 \newcommand*{\LWR@htmltag}[1]{%
6483 \LWR@htmltagc{#1}%

```

6484 }

## 54.6 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

`\LWR@htmlopencomment`  
`\LWR@htmlclosecomment`

```
6485 \newcommand*\LWR@htmlopencomment}{%
6486 % \LWR@traceinfo{\LWR@htmlopencomment}%
6487 \begingroup%
6488 \LWR@hook@processingtags%
6489 \LWR@fontfortags{\LWR@htmlopencomment}{}%
6490 \LWR@print@embox{\LWR@origtextless{!}-\/-}%
6491 \endgroup%
6492 }
6493
6494 \newcommand*\LWR@htmlclosecomment}{%
6495 % \LWR@traceinfo{\LWR@htmlclosecomment}%
6496 \begingroup%
6497 \LWR@hook@processingtags%
6498 \LWR@fontfortags{\LWR@htmlclosecomment}{}%
6499 \LWR@print@embox{-\/-\LWR@origtextgreater}%
6500 \endgroup%
6501 }
```

`\LWR@htmlcomment {<comment>}`

```
6502 \newcommand{\LWR@htmlcomment}[1]{%
6503 \ifmmode%
6504 \else%
6505 \LWR@htmlopencomment{}%
6506 {%
6507 \LWR@print@normalfont%
6508 \LWR@origttfamily% break ligatures
6509 #1%
6510 }%
6511 \LWR@htmlclosecomment{}%
6512 \fi%
6513 }
```

`\LWR@htmlblockcomment {<comment>}`

```
6514 \newcommand{\LWR@htmlblockcomment}[1]
6515 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}
```

`\LWR@htmlblocktag {<tag>}` print a stand-alone HTML tag

```
6516 \newcommand*\LWR@htmlblocktag}[1]{%
6517 \LWR@stoppars%
6518 \LWR@htmltag{#1}%
6519 \LWR@startpars%
6520 }
```

## 54.7 Div class and element class

`\LWR@subhtmlElementclass` {<element>} [<style>] (<aria role>) {<class>}

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of `\textquotedbl` instead of " provides improved compatibility with xeCJK.

```

6521 \NewDocumentCommand{\LWR@subhtmlElementclass}{m O{} D(){} m}{%
6522 \LWR@traceinfo{\LWR@subhtmlElementclass !#1!#4!}%
6523 \ifblank{#2}%
6524 {% empty style
6525 \LWR@htmltag{%
6526 #1%
6527 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl}% spaces
6528 \ifblank{#4}{\class=\textquotedbl#4\textquotedbl}% spaces
6529 }%
6530 }%
6531 {% non-empty style
6532 \LWR@htmltag{%
6533 #1\LWR@indentHTML%
6534 \ifblank{#3}{\role=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6535 \ifblank{#4}{\class=\textquotedbl#4\textquotedbl\LWR@indentHTML}%
6536 style=\textquotedbl#2\textquotedbl\LWR@originewline%
6537 }%
6538 }%
6539 \LWR@traceinfo{\LWR@subhtmlElementclass done}%
6540 }
```

`\LWR@htmlElementclass` {<element>} [<style>] (<aria role>) {<class>}

```

6541 \NewDocumentCommand{\LWR@htmlElementclass}{m o D(){} m}{%
6542 \LWR@stoppars%
6543 \LWR@forceemptyline%
6544 \ifblank{#3}%
6545 {\LWR@subhtmlElementclass{#1}[#2]{#4}}%
6546 {\LWR@subhtmlElementclass{#1}[#2](#3){#4}}%
6547 \LWR@startpars%
6548 }
```

`\LWR@htmlElementclassend` {<element>} {<class>}

```

6549 \newcommand*{\LWR@htmlElementclassend}[2]{%
6550 \LWR@stoppars%
6551 \LWR@htmltag{/#1}%
6552 \ifbool{HTMLDebugComments}{%
6553 \ifblank{#2}%
6554 {\LWR@htmlcomment{End of #1}}%
6555 {\LWR@htmlcomment{End of #1 ``#2'}}%
6556 }{%
6557 \LWR@startpars%
6558 }
```

```
\LWR@htmldivclass [<style>] (<aria role>) {<class>}
```

```
6559 \NewDocumentCommand{\LWR@htmldivclass}{o D(){} m}{%
6560 \ifblank{#2}
6561 {\LWR@html@elementclass{div}[#1]{#3}}%
6562 {\LWR@html@elementclass{div}[#1](#2){#3}}%
6563 }
```

```
\LWR@htmldivclassend {<class>}
```

```
6564 \newcommand*{\LWR@htmldivclassend}[1]{%
6565 \LWR@html@elementclassend{div}{#1}%
6566 }
```

## 54.8 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```
\LWR@html@elementclassline {<element>} [<style>] {<class>} {<text>}
```

```
6567 \NewDocumentCommand{\LWR@html@elementclassline}{m o m +m}{%
6568 \LWR@stoppars
6569 \LWR@forceemptyline%
6570 \LWR@subhtml@elementclass{#1}[#2]{#3}%
6571 #4%
6572 \LWR@html@tag{/#1}
6573 \LWR@startpars
6574 }
```

## 54.9 HTML5 semantic elements

```
\LWR@html@element {<element>}
```

```
6575 \newcommand*{\LWR@html@element}[1]{%
6576 \LWR@html@blocktag{#1}
6577 }
```

```
\LWR@html@elementend {<element>}
```

```
6578 \newcommand*{\LWR@html@elementend}[1]{%
6579 \LWR@stoppars
6580 \LWR@html@tag{/#1}
6581 \LWR@startpars
6582 }
6583
6584 \end{warpHTML}
```

## 54.10 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with CSS.



Nullified versions are provided for print mode.

For other direct-formatting commands, see section 97.

`BlockClass (env.) [<style>] (<aria role>) {<class>}` High-level interface for <div> classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

**for HTML & PRINT:** 6585 `\begin{warpall}`  
6586 `\NewDocumentEnvironment{BlockClass}{o D(){} m}{}{}`  
6587 `\end{warpall}`

**for HTML output:** 6588 `\begin{warpHTML}`  
6589  
6590 `\NewDocumentEnvironment{LWR@HTML@BlockClass}{o D(){} m}%`  
6591 `{\LWR@htmldivclass[#1](#2){#3}}%`  
6592 `{\LWR@htmldivclassend{#3}}`  
6593  
6594 `\LWR@formattedenv{BlockClass}`  
6595 `\end{warpHTML}`

`\BlockClassSingle {<class>} {<text>}` A single-line <div>, without a paragraph tag for the line of text.

**for HTML & PRINT:** 6596 `\begin{warpall}`  
6597 `\newcommand{\BlockClassSingle}[2]{#2}`  
6598 `\end{warpall}`

**for HTML output:** 6599 `\begin{warpHTML}`  
6600 `\newcommand{\LWR@HTML@BlockClassSingle}[2]{%`  
6601 `\LWR@htmlclassline{div}{#1}{#2}%`  
6602 `}`  
6603  
6604 `\LWR@formatted{BlockClassSingle}`  
6605 `\end{warpHTML}`

`\InlineClass (<WP style>) [<style>] {<class>} {<text>}`

High-level interface for inline span classes.

(<WP style>) is css styling to add when formatting for a word processor import.

[<style>] is the css styling to add when not formatting for a word processor.

**for HTML & PRINT:** 6606 `\begin{warpall}`  
6607 `\NewDocumentCommand{\InlineClass}{D{(){} } o m +m}{#4}%`  
6608 `\end{warpall}`

**for HTML output:** 6609 `\begin{warpHTML}`  
6610 `\NewDocumentCommand{\LWR@HTML@InlineClass}{D{(){} } o m +m}{%`  
6611 `\LWR@traceinfo{LWR@HTML@InlineClass #3}%`  
6612 `\ifbool{FormatWP}{%`  
6613 `\LWR@traceinfo{LWR@HTML@InlineClass: FormatWP}%`  
6614 `\LWR@htmlspanclass[#1]{#3}{#4}%`  
6615 `}{%`  
6616 `\LWR@traceinfo{LWR@HTML@InlineClass: not FormatWP}%`  
6617 `\LWR@htmlspanclass[#2]{#3}{#4}%`  
6618 `}%`

```

6619 \LWR@traceinfo{LWR@HTML@InlineClass: done}%
6620 }
6621
6622 \LWR@formatted{InlineClass}
6623 \end{warpHTML}

```

`LWR@BlockClassWP` (*env.*) `{\WPstyle}` `{\HTMLstyle}` (`(\aria role)`) `{\class}` Low-level interface for `<div>` classes with an automatic float ID. These are often used when `\ifbool{FormatWP}`.

The use of `\textquotedbl` instead of `"` provides improved compatibility with `xeCJK`.

**for HTML & PRINT:**

```

6624 \begin{warpall}
6625 \NewDocumentEnvironment{LWR@BlockClassWP}{m m D(){} m}{}{}
6626 \end{warpall}

```

**for HTML output:**

```

6627 \begin{warpHTML}
6628 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m D(){} m}%
6629 {%
6630 \LWR@stoppars%
6631 \ifbool{FormatWP}%
6632 {%
6633 \addtocounter{LWR@thisautoidWP}{1}%
6634
6635 \LWR@htmltag{%
6636 div class=\textquotedbl#4\textquotedbl\ % space
6637 id=\textquotedbl%
6638 \LWR@print@box{autoidWP-\arabic{LWR@thisautoidWP}}%
6639 \textquotedbl%
6640 \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6641 \ifblank{#1}{}{ style=\textquotedbl#1\textquotedbl}%
6642 }%
6643 }% FormatWP
6644 {% not FormatWP
6645 \LWR@htmltag{%
6646 div class=\textquotedbl#4\textquotedbl%
6647 \ifblank{#3}{}{ role=\textquotedbl#3\textquotedbl}%
6648 \ifblank{#2}{}{ style=\textquotedbl#2\textquotedbl}%
6649 }%
6650 }% not FormatWP
6651 \LWR@startpars%
6652 }
6653 {\LWR@htmldivclassend{#4}}
6654 \LWR@formattedenv{LWR@BlockClassWP}
6655 \end{warpHTML}

```

## 54.11 Closing HTML tags

**for HTML output:**

```

6656 \begin{warpHTML}

```

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6657 \newcommand*{\LWR@printclosebook}
6658 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}

```

```

6659 \newcommand*\LWR@printclosepart}
6660 {\ifbool{HTMLDebugComments}\LWR@htmlcomment{Closing part}}{}}
6661 \newcommand*\LWR@printclosechapter}
6662 {\ifbool{HTMLDebugComments}\LWR@htmlcomment{Closing chapter}}{}}
6663 \newcommand*\LWR@printclosesection}
6664 {\ifbool{HTMLDebugComments}\LWR@htmlcomment{Closing section}}{}}
6665 \newcommand*\LWR@printclosesubsection}
6666 {\ifbool{HTMLDebugComments}\LWR@htmlcomment{Closing subsection}}{}}
6667 \newcommand*\LWR@printclosesubsubsection}
6668 {\ifbool{HTMLDebugComments}\LWR@htmlcomment{Closing subsubsection}}{}}
6669 \newcommand*\LWR@printcloseparagraph}
6670 {\ifbool{HTMLDebugComments}\LWR@htmlcomment{Closing paragraph}}{}}
6671 \newcommand*\LWR@printclosesubparagraph}
6672 {\ifbool{HTMLDebugComments}\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6673 \newcommand*\LWR@printcloselistitem}
6674 {\LWR@htmltag{/li}}
6675 \newcommand*\LWR@printclosedescitem}
6676 {\LWR@htmltag{/dd}}
6677 \newcommand*\LWR@printcloseitemize}
6678 {\LWR@htmltag{/ul}}
6679 \newcommand*\LWR@printcloseenumerate}
6680 {\LWR@htmltag{/ol}}
6681 \newcommand*\LWR@printclosedescription}
6682 {\LWR@htmltag{/dl}}

```

```
6683 \end{warpHTML}
```

## 55 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 56 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`LWR@doingstartpars`), tags are not generated until a  $\LaTeX$  paragraph is being used (`LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

The  $\LaTeX$  paragraph hooks are used to manage tag creation.

**for HTML output:** 6684 `\begin{warpHTML}`

`LWR@spandepth` (*Ctrl*) Do not create paragraph tags inside of an HTML span.

```

6685 \newcounter{LWR@spandepth}
6686 \setcounter{LWR@spandepth}{0}

```

`LWR@doingparhooks` (*bool*) Tells whether the `lwarp` paragraph hooks are to be active.

```

6687 \newbool{LWR@doingparhooks}
6688 \boolfalse{LWR@doingparhooks}

```

`LWR@in@multirow@par` (*bool*) Tells whether to generate break instead of paragraph tags inside a `\multirow`.

```
6689 \newbool{LWR@in@multirow@par}
6690 \boolfalse{LWR@in@multirow@par}
```

`LWR@starting@fancybox` (*bool*) Suppresses `<br>` if beginning a `fancybox` environment.

```
6691 \newbool{LWR@starting@fancybox}
6692 \boolfalse{LWR@starting@fancybox}
```

`LWR@doingstartpars` (*bool*) Tells whether paragraphs may be generated.

```
6693 \newbool{LWR@doingstartpars}
6694 \boolfalse{LWR@doingstartpars}
```

`LWR@doingapar` (*bool*) Tells whether have actually generated and are currently processing paragraph text.

```
6695 \newbool{LWR@doingapar}
6696 \global\boolfalse{LWR@doingapar}
```

`LWR@algocf@dopars` (*bool*) Tells whether `algorithm2e` has patched paragraph handling using `\everypar`. If so, the open paragraph tags are generated by `algorithm2e`'s `\algocf@everypar` instead of `\LWR@openparagraph`.

```
6697 \newbool{LWR@algocf@dopars}
6698 \boolfalse{LWR@algocf@dopars}
```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```
6699 \def\P@parnotes@auto{ }%
```

`\LWR@ensuredoingapar` These were different in older versions of `lwarp`, but are now the same thing.

`\LWR@openparagraph`

```
6700 \newcommand*{\LWR@openparagraph}
6701 { }
```

See if paragraph handling is enabled:

```
6702 \ifboolexpr{
6703 bool{LWR@doingparhooks} and
6704 bool{LWR@doingstartpars}
6705 }%
6706 {% handling pars
```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```
6707 \ifboolexpr{
6708 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6709 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6710 }% nested par tags?
```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a `<span>`. Do not nest paragraph tags inside a `<span>`.

```
6711 { }% no nested par tags
```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```
6712 {% yes nest par tags
6713 \ifbool{LWR@doingapar}{}%
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
6714 \PN@parnotes@auto%
```

Set flag before creating the tag, so that the tag itself does not trigger a new paragraph:

```
6715 \global\booltrue{LWR@doingapar}%
```

The opening paragraph tag. Do not create tag if doing algorithm2e handling or inside a `\multirow`.

```
6716 \ifbool{LWR@algocf@dopars}{}%
6717 \ifbool{LWR@in@multirow@par}%
6718 {%
6719 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
6720 }%
6721 }%
6722 }% end of yes nest par tags
6723 }% end of handling pars
6724 {% not handling pars
6725 }
6726
6727 \let\LWR@ensuredoingapar\LWR@openparagraph
```

`\LWR@closeparagraph@br` Add an HTML break if in a span, and not in a `lateximage`, and not in tabular metadata. Factored from `\LWR@closeparagraph`.

```
6728 \newcommand*{\LWR@closeparagraph@br}
6729 {%
6730 \ifboolexpr{
6731 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6732 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6733 not bool {LWR@starting@fancybox} and
6734 not bool {LWR@intabularmetadata} or
6735 bool {LWR@in@multirow@par}
6736 }%
6737 {\unskip\LWR@htmltagc{br /}}%
6738 }%
6739 }
```

`\LWR@closeparagraph`

```
6740 \newcommand*{\LWR@closeparagraph}
6741 {%
6742 % \LWR@traceinfo{LWR@closeparagraph}%
```

See if paragraph handling is enabled:

```
6743 \ifbool{LWR@doingparhooks}{%
6744 \ifbool{LWR@doingapar}%
```

If currently in paragraph mode:

```
6745 {% handling pars
```

See if already started a lateximage or a <span>:

```
6746 \ifboolexpr{
6747 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6748 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} or
6749 bool{LWR@in@multirow@par}
6750 }%
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6751 {% no nested par tags
6752 \LWR@closeparagraph@br%
6753 }% no nested par tags
```

If have not already started a lateximage or a <span>:

```
6754 {% yes nest par tags
```

Print a closing tag.

(The fill seems to be required to force the caption package to create flush left caption text in the HTML.)

```
6755 \@hspace{\fill}% \hspace*{\fill}
6756 \leavevmode\LWR@orignewLine%
6757 \LWR@htmltagc{/\LWR@tagregularparagraph}%
```

No longer doing a paragraph:

```
6758 \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6759 \global\boolfalse{LWR@minipagethispar}%
```

If parnotes is used, paragraph notes are inserted after ending the previous paragraph:

```
6760 \PN@parnotes@auto%

6761 }% end of yes nest par tags
6762 }% LWR@doingapar: end of handling pars
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6763 {% not LWR@doingapar: not handling pars
6764 \LWR@closeparagraph@br%
6765 }% not handling pars
```

In most cases, finish with a L<sup>A</sup>T<sub>E</sub>X \par, but in the case of paragraphs between lines in a tabular fetch the next token instead. Required for \multicolumn.

```
6766 \ifboolexpr{%
```

```

6767 not bool {LWR@doingapar} and
6768 test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6769 test {
6770 \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6771 } and
6772 bool {LWR@intabularmetadata} and
6773 not bool {LWR@tableparcell} and
6774 test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6775 }%
6776 {\LWR@getmynexttoken}%
6777 }%
6778 }% LWR@doingparhooks
6779 {}% not LWR@doingparhooks
6780 % Do not place anything here, due to the above \LWR@getmynexttoken.
6781 }

```

## 55.1 Paragraph Hooks

para/begin (*Hook*) []

```
6782 \AddToHook{para/begin}[lwarp]{\LWR@openparagraph}
```

para/end (*Hook*) []

```
6783 \AddToHook{para/end}[lwarp]{\LWR@closeparagraph}
```

```
6784 \end{warpHTML}
```

## 56 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 55 has the commands which actually generate the tags.

The L<sup>A</sup>T<sub>E</sub>X paragraph hooks are used to generate the opening and closing paragraph tags.

**for HTML output:** 6785 \begin{warpHTML}

\LWR@startpars Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6786 \newcommand*{\LWR@startpars}%
6787 {%
```

Ignore if inside a lateximage or <span>:

```

6788 \ifboolexpr{
6789 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6790 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6791 }%
6792 }% nesting
6793 }% not nesting

```

The L<sup>A</sup>T<sub>E</sub>X paragraph hook controls tag generation for the start and end of paragraphs.

See if currently handling HTML paragraphs:

```
6794 \ifboolexpr {bool{LWR@doingparhooks} and bool{LWR@doingstartpars}}%
```

If already in paragraph mode, do nothing.

```
6795 }%
```

If not currently in paragraph mode:

```
6796 {\par}%
```

Are now handling paragraphs, but have not yet actually started one:

```
6797 \global\booltrue{LWR@doingstartpars}%
```

No <par> tag yet to undo:

```
6798 \global\boolfalse{LWR@doingapar}%
6799 }% not nesting
6800 }
```

`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6801 \newcommand*{\LWR@stoppars}%
6802 {%
```

Ignore if inside a `lateximage` or `<span>`:

```
6803 \ifboolexpr{
6804 test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6805 test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6806 }%
6807 }% nesting
6808 {% not nesting
```

See if currently handling HTML paragraphs:

```
6809 \ifboolexpr{bool{LWR@doingparhooks} and bool{LWR@doingapar}}%
```

if currently in an HTML paragraph:

```
6810 {%
```

Print a closing tag:

```
6811 \leavevmode\LWR@orignewline%
6812 \LWR@htmltagc{/\LWR@tagregularparagraph}%
6813 \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6814 \global\boolfalse{LWR@doingapar}%
```



Disable the special minipage & \hspace interaction until a new minipage is found:

```
6815 \global\boolfalse{LWR@minipagethispar}%
6816 }%
```

If was not in an HTML paragraph:

```
6817 {}%
```

No longer in paragraph mode:

```
6818 \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
6819 \global\boolfalse{LWR@doingapar}%
6820 }% not nesting
6821 }
```

```
6822 \end{warpHTML}
```

## 57 Indentfirst

`indentfirst` (*Pkg*) `indentfirst` redefines `\@afterindentfalse` to be `\@afterindenttrue`. This is reversed `\AtBeginDocument` here.

**for HTML output:** 6823 `\begin{warpHTML}`

```
6824 \AtBeginDocument{
6825 \def\@afterindentfalse{\let\if@afterindent\iffalse}
6826 \@afterindentfalse
6827 }
6828 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6829 \end{warpHTML}
```

## 58 Page headers and footers

**for HTML & PRINT:** 6830 `\begin{warpall}`

In the following, `catcode` is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
6831 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6832 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6833 \newcommand{\LWR@pagetop}{} % for all other pages
6834 \newcommand{\LWR@pagebottom}{}

6835 \newcommand{\LWR@HTMLmeta}{}%
```

\HTMLFirstPageTop {<*text and logos*>}

```
6836 \newcommand{\HTMLFirstPageTop}[1]{%
6837 \renewcommand{\LWR@firstpagetop}{#1}%
6838 }
```

\HTMLFirstPageBottom {<*text and logos*>}

```
6839 \newcommand{\HTMLFirstPageBottom}[1]{%
6840 \renewcommand{\LWR@firstpagebottom}{#1}%
6841 }
```

\HTMLPageTop {<*text and logos*>}

```
6842 \newcommand{\HTMLPageTop}[1]{%
6843 \renewcommand{\LWR@pagetop}{#1}%
6844 }
```

\HTMLPageBottom {<*text and logos*>}

```
6845 \newcommand{\HTMLPageBottom}[1]{%
6846 \renewcommand{\LWR@pagebottom}{#1}%
6847 }
```

\HTMLMeta {<*name*>} {<*content*>}

Sets a custom meta tag for the following pages.

```
6848 \newcommand{\HTMLMeta}[2]{%
6849 \renewcommand{\LWR@HTMLmeta}{%
6850 \LWR@htmltag{%
6851 meta name=\LWR@orig@textquotedbl{ }#1\LWR@orig@textquotedbl\ % space
6852 content=\LWR@orig@textquotedbl{ }#2\LWR@orig@textquotedbl\ /%
6853 }\LWR@orignewline%
6854 }}{ }%
6855 }
```

\HTMLAddMeta {<*name*>} {<*content*>}

Adds to the custom meta tags for the following pages.

```
6856 \newcommand{\HTMLAddMeta}[2]{%
6857 \apptocmd{\LWR@HTMLmeta}{%
6858 \LWR@htmltag{%
6859 meta name=\LWR@orig@textquotedbl{ }#1\LWR@orig@textquotedbl\ % space
6860 content=\LWR@orig@textquotedbl{ }#2\LWR@orig@textquotedbl\ /%
6861 }\LWR@orignewline%
6862 }}{ }%
6863 }
```

```
6864 \end{warpall}
```

## 59 CSS

**for HTML output:** 6865 `\begin{warpHTML}`

`\LWR@currentcss` The CSS filename to use. This may be changed mid-document using `\CSSFilename`, allowing different CSS files to be used for different sections of the document.

```
6866 \newcommand*{\LWR@currentcss}{lwarp.css}
```

`\CSSFilename`  $\langle new-css-filename.css \rangle$  Assigns the CSS file to be used by the following HTML pages.

```
6867 \newcommand*{\CSSFilename}[1]{%
6868 \renewcommand*{\LWR@currentcss}{#1}%
6869 \@onelevel@sanitize\LWR@currentcss%
6870 }
6871
6872 \end{warpHTML}
```

**for PRINT output:** 6873 `\begin{warpprint}`  
6874 `\newcommand*{\CSSFilename}[1]{}`  
6875 `\end{warpprint}`

## 60 MATHJAX script

**for HTML output:** 6876 `\begin{warpHTML}`  
Default: `lwarp_mathjax.txt`

`\LWR@mathjaxfilename` The MATHJAX script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MATHJAX script, such as for a local repository, or different MATHJAX script files to be used for different sections of the document.

```
6877 \newcommand*{\LWR@mathjaxfilename}{lwarp_mathjax.txt}
```

`\MathJaxFilename`  $\langle filename \rangle$  Assigns the MATHJAX script file to be used by the following HTML pages.

```
6878 \newcommand*{\MathJaxFilename}[1]{%
6879 \renewcommand*{\LWR@mathjaxfilename}{#1}%
6880 \@onelevel@sanitize\LWR@mathjaxfilename%
6881 }
6882
6883 \end{warpHTML}
```

**for PRINT output:** 6884 `\begin{warpprint}`  
6885 `\newcommand*{\MathJaxFilename}[1]{}`  
6886 `\end{warpprint}`

## 61 Title, HTML meta author, HTML meta description

**for HTML output:** 6887 \begin{warpHTML}

\title {<*title*>} Modified to remember \thetitle, which is used to set the HTML page titles.

```
6888 \let\LWR@origtitle\title
6889
6890 \renewcommand*\title[1]{%
6891 \LWR@origtitle{#1}%
6892 \begingroup%
6893 \renewcommand{\thanks}[1]{%
6894 \protected@xdef\thetitle{#1}%
6895 \endgroup%
6896 }

6897 \end{warpHTML}
```

**for HTML & PRINT:** 6898 \begin{warpall}


\HTMLTitle {<*Titlename*>} The Title to place into an HTML meta tag. The default is to use the document \title's setting.

```
6899 \providecommand{\thetitle}{\BaseJobname}
6900
6901 \newcommand{\theHTMLTitle}{\thetitle}
6902
6903 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

\HTMLAuthor {<*authorname*>} The author to place into an HTML meta tag. If none given, the default is \theauthor, which is empty unless the titling package is used.

```
6904 \providecommand{\theauthor}{}
6905
6906 \newcommand{\theHTMLAuthor}{\theauthor}
6907
6908 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using \HTMLAuthor, allowing different HTML authors to be used for different sections of the document.

 **HTML author** Do not use double quotes, and do not exceed 150 characters.

\HTMLDescription {<*New html meta description.*>} Assigns the HTML file's description meta tag.

```
6909 \newcommand{\LWR@currentHTMLDescription}{}
6910
6911 \newcommand{\HTMLDescription}[1]{%
6912 \LWR@currentHTMLDescription{#1}
6913 }
```

`\HTMLKeywords` {*<New html meta keywords.>*} Assigns the HTML file's keywords meta tag.

```
6914 \newcommand{\LWR@currentHTMLKeywords}{}
6915
6916 \newcommand{\HTMLKeywords}[1]{%
6917 \renewcommand{\LWR@currentHTMLKeywords}{#1}
6918 }
6919
6920 \end{warpall}
```

## 62 Footnotes

`lwarp` uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

**footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

**MATHJAX** Also for `MATHJAX`, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for `sidenotes`. For `endnotes`:

```
\def\endnotename{something}% \def allows name to start with
"end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

**footmisc** The `footmisc` stable option is emulated by `lwarp`.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short toc entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

**memoir with footmisc** If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

 **memoir**

```

\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
. . .

```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handle differently.

## 62.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the L<sup>A</sup>T<sub>E</sub>X box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 62.4 for the implementation.

## 62.2 Minipage footnotes

See section 62.5 for how minipage footnotes are gathered. See section 96.4 for how minipage footnotes are placed into the document.

## 62.3 Titlepage thanks

See section 71.7 for titlepage footnotes.

## 62.4 Regular page footnote implementation

**for HTML & PRINT:** 6921 `\begin{warpall}`

`FootnoteDepth` (*Ctrl*) Determines how deeply to place footnotes in the HTML files, similar to `tocdepth`.  
**Default:** 3 The default of 3 places footnotes before each `\subsubsection` or higher. See table 12 for a table of L<sup>A</sup>T<sub>E</sub>X section headings.

```

6922 \newcounter{FootnoteDepth}
6923 \setcounter{FootnoteDepth}{3}

```

`footnoteReset` (*Ctrl*) If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by `FootnoteDepth`. For the `manyfoot` and `bigfoot` packages, additional counters such as `footnote<suffix>Reset` will be defined as well. These counters may be set non-zero by the user, and are also set if the `perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the `footnote` or `footnote<suffix>` counters.

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```

6924 \newcounter{footnoteReset}

```

```
6925 \setcounter{footnoteReset}{0}
```

```
6926 \end{warpall}
```

**for HTML output:** 6927 \begin{warpHTML}

Required for footnotes inside description or amsththeorem square braces:

```
6928 \AtBeginDocument{
6929 \robustify{\footnote}
6930 \robustify{\footnotemark}
6931 }
```

`\LWR@footnotebox` Patch L<sup>A</sup>T<sub>E</sub>X footnotes to use a new `\box` instead of an insert for `lwarp` footnotes. This avoids having the original `\footins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6932 \newbox\LWR@footnotebox
```

`LWR@spewingnotes` (*bool*) Used with the `footnote` package to suppress paragraph tags before and after `\spewnotes`.

```
6933 \newbool{LWR@spewingnotes}% For the footnote package.
```

Much of the following has unneeded print-mode formatting removed.

```
\@makefntext {<text>}
```

```
6934 \long\def\@makefntext#1{\@thefnmark\~{#1}}
```

```
\@makefnmark
```

```
6935 \def\@makefnmark{%
6936 \@thefnmark%
6937 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during HTML output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\@thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

```
\LWR@footnotetext {<text>} {<footnote box name>}
```

Factored to allow multiple footnote boxes for `manyfoot`.

```
6938 \long\def\LWR@footnotetext#1#2{%
6939 \LWR@traceinfo{LWR@footnotetext}%
```

Perhaps generate an autopage in the text to link a citation backreference closer to its usage.

```
6940 \LWR@newautopagelabel{page}%
6941 \LWR@ensuredoingapar%
```

Locally disable auto page labels inside the footnote text. Footnotes are accumulated in the current page before finally being placed in a potentially later page, so the autopages would be incorrect.

```
6942 \begingroup%
6943 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
```

Take the existing footnote box and add the new content:

```
6944 \global\setbox\csname #2\endcsname=\vbox{%
6945 \unvbox\csname #2\endcsname%
```

Remember the footnote number for \ref:

```
6946 \def\@currentcounter{footnote}%
6947 \protected@edef\@currentlabel{%
6948 \csname p@footnote\endcsname\@thefnmark%
6949 }% \@currentlabel
```

Open a group:

```
6950 \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
6951 \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a lateximage, because the footnote will be in HTML:

```
6952 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
6953 \ifbool{LWR@spewingnotes}{}{%
6954 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
6955 }%
```

Append the footnote to the list:

```
6956 \@makefntext{#1}%
```

Closing paragraph tag:

```
6957 \ifbool{LWR@spewingnotes}{}{%
6958 \LWR@orignobreakspace\LWR@orignewline%
6959 \LWR@htmltagc{/\LWR@tagregularparagraph}%
6960 \LWR@orignewline%
6961 }%
```

Close the group:



```

6962 \color@endgroup%
6963 }% vbox
6964 \endgroup%
6965 }%

```

```
\LWR@footnotetext {<text>}
```

```
6966 \long\def\LWR@footnotetext#1{\LWR@footnotetext{#1}{LWR@footnotebox}}%
```

```
\@footnotetext {<text>}
```

```
6967 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

## 62.5 Minipage footnote implementation

Patch L<sup>A</sup>T<sub>E</sub>X minipage footnotes to use a new `\box` instead of an insert for `lwarp` minipage footnotes. This avoids having the original `\mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6968 \newbox\LWR@mpfootnotes
```

```
\@mpfootnotetext {<text>}
```

```

6969 \long\def\@mpfootnotetext#1{%
6970 \LWR@traceinfo{@mpfootnotetext}%
6971 \LWR@ensuredoingapar%
6972 \global\setbox\LWR@mpfootnotes\vbox{%
6973 \unvbox\LWR@mpfootnotes%
6974 \reset@font\footnotesize%
6975 \hsize\columnwidth%
6976 \@parboxrestore%

6977 \def\@currentcounter{mpfootnote}%

6978 \protected@edef\@currentlabel%
6979 {\csname p@mpfootnote\endcsname\@thefnmark}%
6980 \color@begingroup%

```

Add paragraph tag:

```
6981 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

```

6982 \@makefnctext{%
6983 \ignorespaces#1%
6984 }%

```

Add the closing paragraph tag:

```

6985 \leavevmode\LWR@orignewline%
6986 \LWR@htmltagc{/\LWR@tagregularparagraph}%

```

```

6987 \color@endgroup%
6988 }% vbox

```

**Paragraph handling:**

```
6989 \LWR@ensuredoinapar%
6990 \LWR@traceinfo{@mpfootnotetext: done}%
6991 }
```

\thempfootnote Redefined to remove the \itshape, which caused an obscure compiling error in some situations.

```
6992 \AtBeginDocument{
6993 \def\thempfootnote{\@alph@c@mpfootnote}
6994 }
```

**62.6 Printing pending footnotes**

\LWR@@printpendingfootnotes {*<footnote counter name>*}

```
6995 \newcommand*{\LWR@@printpendingfootnotes}[1]{%
6996 \expandafter\ifvoid\csname LWR@#1box\endcsname\else
6997 \LWR@forcenewpage
6998 \begin{BlockClass}(note){footnotes}%
```

Create a new autopage in case citation back references occur inside the footnotes:

```
6999 \LWR@newautopagelabel{page}%

7000 \null
7001 \unvbox\csuse{LWR@#1box}
7002 \setbox\csuse{LWR@#1box}=\vbox{}
7003 \end{BlockClass}
7004 \ifltxcounter{#1Reset}{%
7005 \ifnumgreater{\value{#1Reset}}{0}{%
7006 \setcounter{#1}{\value{#1Reset}}%
7007 \addtocounter{#1}{-1}%
7008 }{%
7009 }}%
7010 \fi
7011 }
```

\LWR@printpendingfootnotes Enclose the footnotes in a class, print, then clear. For manynotes, new footnotes may be added via \appto.

```
7012 \newcommand*{\LWR@printpendingfootnotes}{%
7013 \LWR@@printpendingfootnotes{footnote}%
7014 }
```

\LWR@maybeprintpendingfootnotes {*<depth>*} Used to print footnotes before sections only if formatting for an EPUB or word processor:

```
7015 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
7016 \ifboolexpr{
7017 not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
7018 bool{FormatEPUB} or
7019 bool{FormatWP}
```

```

7020 }%
7021 {\LWR@printpendingfootnotes}%
7022 {}%
7023 }

```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```

7024 \newcommand*{\LWR@printpendingmpfootnotes}{%
7025 \ifvoid\LWR@mpfootnotes\else
7026 \LWR@forcenewpage
7027 \begin{BlockClass}(note){footnotes}%
7028 \null
7029 \unvbox\LWR@mpfootnotes
7030 \setbox\LWR@mpfootnotes=\vbox{}
7031 \end{BlockClass}
7032 \fi
7033 }

```

`\LWR@nullifyfootnotes` Cancels footnotes, such as inside an HTML comment or a `\nameref`.

```

7034 \newcommand*{\LWR@nullifyfootnotes}{%
7035 \renewcommand{\footnote}[2][{}]{%
7036 \renewcommand{\footnotemark}[1][{}]{%
7037 }
7038 \end{warpHTML}

```

## 63 Marginpars

`\marginpar` [*left*] [*right*] `\marginpar` may contains paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `<br />` tags.

`\marginparBlock` [*left*] [*right*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a `<span>`. A line break will occur in the text where the `\marginBlock` occurs.

**for HTML output:** 7039 `\begin{warpHTML}`

`\marginpar` [*left*] [*right*]

```

7040 \renewcommand{\marginpar}[2][{}]{%
7041 \ifbool{FormatWP}%
7042 {%
7043 \begin{LWR@BlockClassWP}%
7044 {width:2in; float:right; margin:10pt}{(note){marginblock}%
7045 #2
7046 \end{LWR@BlockClassWP}%
7047 }%
7048 {%
7049 \LWR@htmlspanclass(note){marginpar}{#2}%
7050 }%
7051 }

```

`\marginparBlock` [*<left>*] {*<right>*}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

7052 \newcommand{\marginparBlock}[2][{}]{%
7053 \LWR@stoppars%
7054 \ifbool{FormatWP}%
7055 {%
7056 \begin{LWR@BlockClassWP}%
7057 {width:2in; float:right; margin:10pt}{}%
7058 (note){marginblock}%
7059 #2
7060 \end{LWR@BlockClassWP}
7061 }%
7062 {%
7063 \begin{BlockClass}[width:2in; float:right; margin:10pt]%
7064 (note){marginparblock}%
7065 #2
7066 \end{BlockClass}
7067 }%
7068 \LWR@startpars%
7069 }
```

`\reversemarginpar`

```
7070 \renewcommand*\reversemarginpar{}
```

`\normalmarginpar`

```
7071 \renewcommand*\normalmarginpar{}
```

```
7072 \end{warppHTML}
```

**for PRINT output:** 7073 \begin{warpprint}

`\marginparBlock` [*<left>*] {*<right>*}

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
7074 \LetLtxMacro\marginparBlock\marginpar
```

```
7075 \end{warpprint}
```

## 64 Tracking internal cross references

Cross references are generated using the PDF file's page number during L<sup>A</sup>T<sub>E</sub>X compilation. Internal labels are generated which include these page numbers in the label.

\*\_html.aux (*file*) A new entry in the \*\_html.aux file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{<x>}{<y>}}
```

LWR@currentautosecpage (*Ctr*) Records the page number when the section was created. (If a math expression is included in the section name, and `svg math` is used, the corresponding `lateximage` will cause the page number to change by the time the following `autosec` label is created, thus the initial page number is recorded here.) LWR@currentautosecfloatpage is updated more often than LWR@currentautosecpage.

```
7076 \newcounter{LWR@currentautosecpage}
7077 \setcounter{LWR@currentautosecpage}{1}
```

LWR@currentautosecfloatpage (*Ctr*) The HTML output's PDF page number at the start of a new HTML file, section, or float. Updated more often than LWR@currentautosecpage, such as when a new float occurs. Used only for table of contents, list of figures, list of tables, but not for general cross references such as `\label`, citation backlinks, etc.

`\LWRsetnextfloat` is written with this and the `autoid` by the modified `\addcontentsline` just before each float's entry.

```
7078 \newcounter{LWR@currentautosecfloatpage}
7079 \setcounter{LWR@currentautosecfloatpage}{1}
```

LWR@previousautopagelabel (*Ctr*) Remembers which autopage label was most recently generated. Used to avoid duplicates.

```
7080 \newcounter{LWR@previousautopagelabel}
7081 \setcounter{LWR@previousautopagelabel}{-1}
```

`\LWR@newautopagelabel` {<*pagenumber counter*>}

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
7082 \newcommand*{\LWR@newautopagelabel}[1]{%
```

No action if this autopage label has already been defined:

```
7083 \ifnumequal{\value{LWR@previousautopagelabel}}{\value{page}}%
7084 {}%
```

If the PDF page has changed, create a label using the desired counter.

If the counter is LWR@currentautosecpage, that was the page number when the section generation began, but the current PDF page may be different by now if the section name had an `svg image`, such as `svg math`. To allow the cross-reference to point just after the section heading, the label must be made after the section heading is complete, which may have generated a new PDF page. Thus, the label is made with the given counter, which may be the PDF page number where the section heading began, then if the PDF page number has changed, another label is made for the current page number.

```
7085 {%
7086 \label{\BaseJobname-autopage-\csuse{the#1}}%
```

If there are intervening pages, such as an SVG image, define another label for the new page:

```
7087 \ifnumequal{\value{#1}}{\value{page}}%
7088 {}%
7089 {\Label{\BaseJobname-autopage-\csuse{thepage}}}%
```

Remember the latest autopage label:

```
7090 \setcounter{LWR@previousautopagelabel}{\value{page}}%
7091 }%
7092 }
```

`\LWR@null@newautopagelabel` {<*pagenumber counter*>}

Inside a footnote, the page numbers will be incorrect, so this is nullified.

```
7093 \newcommand*{\LWR@null@newautopagelabel}[1]{}%
```

## 65 Splitting HTML files

- Files are split according to `FileDepth` and `CombineHigherDepths`.
- Filenames are sanitized by `\LWR@filenamoblanks`.
- `\LWR@newhtmlfile` finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

**for HTML & PRINT:** 7094 `\begin{warpall}`

`FileDepth (Ctr)` {<*section depth*>} determines how deeply to break into new HTML files, similar to `tocdepth`. The default of -5 produces one large HTML file.

```
7095 \newcounter{FileDepth}
7096 \setcounter{FileDepth}{-5}
```

`CombineHigherDepths (bool)` Combile higher-level sections together into one file?

```
7097 \newbool{CombineHigherDepths}
7098 \booltrue{CombineHigherDepths}
```

`\FilenameLimit` Maximum length of the generated filenames.

```
7099 \newcommand*{\FilenameLimit}{80}
```

```
7100 \end{warpall}
```

**for HTML output:** 7101 `\begin{warpHTML}`

`\LWR@thisfilename` The currently-active filename or number. At first, this is the homepage.

```
7102 \AtBeginDocument{
7103 \ifbool{FileSectionNames}%
```

```

7104 {\newcommand*\LWR@thisfilename}\HomeHTMLFilename}}
7105 {\newcommand*\LWR@thisfilename}{0}}
7106 }

```

`\LWR@thisnewfilename` The filename being sanitized.

```
7107 \newcommand*\LWR@thisnewfilename{}
```

`\LWR@simplifyname *{<expression>}` Simplify `\LWR@thisnewfilename`.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```

7108 \NewDocumentCommand{\LWR@simplifyname}{s m}{%
7109 \IfBooleanTF{#1}{%
7110 \StrSubstitute{\LWR@thisnewfilename}%
7111 {\detokenize{#2}}%
7112 {\detokenize{-}}[\LWR@thisnewfilename]%
7113 }{%
7114 \StrSubstitute{\LWR@thisnewfilename}%
7115 {#2}%
7116 {\detokenize{-}}[\LWR@thisnewfilename]%
7117 }
7118 }

```

`\LWR@simplifycustom` User-defined filename simplifications. Redefine with `\newcommand`.

```
7119 \newcommand*\LWR@simplifycustom{}
```

`\FilenameSimplify *{<phrase>}` Assign a user-defined filename simplification. Appends to `\LWR@simplifycustom`.

```

7120 \NewDocumentCommand{\FilenameSimplify}{s m}{%
7121 \IfBooleanTF{#1}{%
7122 \appto{\LWR@simplifycustom}{%
7123 \LWR@simplifyname*{#2}%
7124 }%
7125 }{%
7126 \appto{\LWR@simplifycustom}{%
7127 \LWR@simplifyname{#2}%
7128 }%
7129 }%
7130 }

```

`\LWR@avoiddupfilenames` Instructions for how to avoid duplicate filenames. This is used in a warning in `\LWR@filenameno blanks`, and in an error in `\LWR@newhtmlfile`.

```

7131 \newcommand*\LWR@avoiddupfilenames}{%
7132 To avoid duplicate filenames, use the optional\MessageBreak
7133 short Table of Contents entry:\MessageBreak
7134 \space\space\protect\section[Unique name, no math]{Name with math}%
7135 \MessageBreak
7136 or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
7137 \space\space%
7138 \protect\section{\MessageBreak
7139 \space\space\space\space\protect\texorpdfstring\MessageBreak

```

```

7140 \space\space\space\space\space\space%
7141 {Name with math}{Unique name, no math}\MessageBreak
7142 \space\space}
7143 }

```

`\LWR@filenamoblanks`  $\langle filename \rangle$

Convert blanks into dashes, removes short words, store result in `\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```

7144 \newcommand*\LWR@filenamoblanks}[1]{%
7145 \begingroup

```

Locally temporarily disable direct-formatting commands, not used in filenames:

```

7146 \LWR@nullfonts%
7147 \renewcommand*\LWR@htmltagc}[1]{}%

```

```

7148 \edef\LWR@thisnewfilename{#1}%

```

Replaces common macros with hyphens. (`&` is done by `\LWR@nullfonts`.)

```

7149 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%
7150 \LWR@simplifiname{_}
7151 \LWR@simplifiname{\#}
7152 \LWR@simplifiname{\textbackslash}
7153 \LWR@simplifiname{\protect}
7154 \LWR@simplifiname{\ }
7155 \LWR@simplifiname{\textless}
7156 \LWR@simplifiname{\textgreater}

```

```

7157 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%

```

Warn if there is dollar math in the section name:

```

7158 \ifbool{FileSectionNames}{%
7159 \IfSubStr{\LWR@thisnewfilename}{\LWR@dollar}{%
7160 \PackageWarning{lwarp}
7161 {%
7162 This section name:\MessageBreak
7163 \space\space``\detokenize\expandafter{#1}''\MessageBreak
7164 at the line number listed below,\MessageBreak
7165 is using $\$$ -delimited math$,
7166 which generates\MessageBreak
7167 complicated file names. It is better to use\MessageBreak
7168 \space\space%
7169 \protect\section{Name with \protect\(\parenthesis math\protect\)}%
7170 \MessageBreak
7171 The math then will be removed from the file name.\MessageBreak
7172 \MessageBreak
7173 \LWR@avoiddupfilenames%
7174 \MessageBreak
7175 This section is found before or%
7176 }
7177 }{%
7178 }%

```



```
7179 \LWR@traceinfo{LWR@filenamoblanks edef: !\LWR@thisnewfilename!}%
7180 \fullexpandarg%
```

Convert spaces into hyphens:

```
7181 \LWR@simplifiname*{ }
```

Convert punctutation into hyphens:

```
7182 \LWR@simplifiname*{*}
7183 \LWR@simplifiname*{(}
7184 \LWR@simplifiname*{)}
7185 \LWR@simplifiname*{.}
7186 \LWR@simplifiname*{!}
7187 \LWR@simplifiname*{,}
7188 \LWR@simplifiname*{' }
7189 \LWR@simplifiname*{+}
7190 \LWR@simplifiname*{/}
7191 \LWR@simplifiname*{:}
7192 \LWR@simplifiname*{;}
7193 \LWR@simplifiname*{=}
7194 \LWR@simplifiname*{?}
7195 \LWR@simplifiname*{@}
7196 \LWR@simplifiname*{^}
7197 \LWR@simplifiname*{&}
7198 \LWR@simplifiname*{"}
7199 \LWR@simplifiname*{<}
7200 \LWR@simplifiname*{>}
```

```
7201 \LWR@simplifiname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
7202 \StrSubstitute{\LWR@thisnewfilename}%
7203 {\LWRleftbrace}{}\LWR@thisnewfilename}%
7204 \StrSubstitute{\LWR@thisnewfilename}%
7205 {\LWRrightbrace}{}\LWR@thisnewfilename}%
```

```
7206 \LWR@simplifiname{\LWRpercent}
7207 \LWR@simplifiname{\LWRdollar}
```

```
7208 \LWR@simplifiname*{|}
7209 \LWR@simplifiname*{^}
7210 \LWR@simplifiname*{~}
7211 \LWR@simplifiname*{[}
7212 \LWR@simplifiname*{]}
7213 \LWR@simplifiname*{`}
```

Convert short words:

```
7214 \LWR@simplifiname*{-s-}
7215 \LWR@simplifiname*{-S-}
7216 \LWR@simplifiname*{-a-}
7217 \LWR@simplifiname*{-A-}
7218 \LWR@simplifiname*{-an-}
7219 \LWR@simplifiname*{-AN-}
7220 \LWR@simplifiname*{-to-}
```

```

7221 \LWR@simplifiname*{-TO-}
7222 \LWR@simplifiname*{-by-}
7223 \LWR@simplifiname*{-BY-}
7224 \LWR@simplifiname*{-of-}
7225 \LWR@simplifiname*{-OF-}
7226 \LWR@simplifiname*{-and-}
7227 \LWR@simplifiname*{-AND-}
7228 \LWR@simplifiname*{-for-}
7229 \LWR@simplifiname*{-FOR-}
7230 \LWR@simplifiname*{-the-}
7231 \LWR@simplifiname*{-THE-}

```

```

7232 \LWR@simplifiname*{-nolimits-}
7233 \LWR@simplifiname*{-begingroup-}
7234 \LWR@simplifiname*{-endgroup-}

```

#### Convert custom words:

```
7235 \LWR@simplifycustom%
```

If PDF L<sup>A</sup>T<sub>E</sub>X and not utf8 encoding, don't try to convert emdash, endash:

```

7236 \ifPDFTeX% pdflatex or dvi latex
7237 \ifdefstring{\inputencodingname}{utf8}{%
7238 \LWR@simplifiname*{-}
7239 % emdash
7240 \LWR@simplifiname*{-}
7241 % endash
7242 }{}%
7243 \else% not PDFTeX
7244 \LWR@simplifiname*{-}
7245 \LWR@simplifiname*{-}
7246 \fi%

```

#### Convert multiple hyphens:

```

7247 \LWR@simplifiname*{-----}
7248 \LWR@simplifiname*{----}
7249 \LWR@simplifiname*{---}
7250 \LWR@simplifiname*{--}

```

If starts with a dash, remove the leading dash:

```

7251 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7252 \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7253 }{}%

```

If ends with a dash, remove the trailing dash:

```

7254 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
7255 \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
7256 }{}%

```

#### Limits the length of the filename:

```
7257 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%
```

Return the global result:

```
7258 \global\let\LWR@thisfilename\LWR@thisnewfilename%
7259 \endgroup%
7260 \LWR@traceinfo{LWR@filenamoblanks: result is \LWR@thisfilename}%
7261 }
```

## 65.1 Sanitizing expressions for HTML


Math expressions are converted to `lateximages`, and some math environments may contain `&`, `<`, or `>`, which should not be allowed inside an HTML `<alt>` tag, so must convert them to HTML entities.

```
\LWR@replacestrings {<search>} {<replace>}
```

Replaces strings inside `\tmpb`.

Modified from the original, by PETR OLSAK, from the `opmac` package.

```
7262 \bgroup
7263 \catcode`!=3 \catcode`?=3
7264
7265 \long\gdef\LWR@replacestrings@addto#1#2{%
7266 \expandafter\def\expandafter#1\expandafter{#1#2}%
7267 }
7268
7269 \gdef\LWR@replacestrings#1#2{%
7270 \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
7271 \long\def\LWR@replacestringsB##1#1{%
7272 \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{##1}%
7273 \expandafter\LWR@replacestringsB\fi
7274 }%
7275 \expandafter\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajnik
7276 \long\def\LWR@replacestringsA##1?{%
7277 \def\tmpb{##1}%
7278 }\expandafter\LWR@replacestringsA\tmpb%
7279 }
7280 \egroup
```

`LWR@HTMLsanitize@tmpb@enable` Allow to disable sanitization while inside a `lateximage`, or while using `minted`.  
 (*bool*) HTML sanitization was occurring too early, and `minted` would then colorize the  
 sanitized results, breaking the HTML entities in `lwarp`'s HTML output.

```
7281 \newbool{LWR@HTMLsanitize@tmpb@enable}
7282 \booltrue{LWR@HTMLsanitize@tmpb@enable}
```

`LWR@HTMLsanitize@tmpb@removebackslash`  
 (*bool*)

Allow to enable/disable sanitization of the macros `\%`, `\#`, `\.`. This is usually enabled to allow the user to enter these macros in URLs, for example, but is disabled for ALT tags and `MATHJAX` output where the literal `LATEX` source must be preserved.

```
7283 \newbool{LWR@HTMLsanitize@tmpb@removebackslash}
7284 \booltrue{LWR@HTMLsanitize@tmpb@removebackslash}
```

`LWR@MathJax@silentquotes` If true, double quotes (`\`" and `"`) are removed (used for `mathspec`). This unfortunately includes double quotes used inside `\text` with `MATHJAX`. If false, double quotes are escaped.

```
7285 \newbool{LWR@MathJax@silentquotes}
7286 \boolfalse{LWR@MathJax@silentquotes}
```

`\LWR@eolspace` The end of line character generated by detokenizing `\<space>` when at the end of a line.

```
7287 \expandafter\def\expandafter\LWR@eolspace\expandafter{\detokenize{\
7288 }}% there is a trailing space in the previous line
```

`\LWR@HTMLsanitize@tmpb` Sanitizes `HTML` for `\tmpb`. These characters may be interpreted by the browser, causing false `HTML` code.

To allow sanitization, expand anything `\detokenized` before assigning to `\tmpb`.

```
7289 \catcode`\&=12
7290 \newcommand*\LWR@HTMLsanitize@tmpb{%
7291 \ifbool{LWR@HTMLsanitize@tmpb@enable}%
7292 {%
```

HTML entities:

At the end of a line, `\<space>` is turned in to an end of line character, which is now converted to a regular `\<space>`.

```
7293 \expandafter\LWR@replacestrings\expandafter{\LWR@eolspace}{\ }%
```

`&amp;` must be first because `&` is used for `lt`, `gt`, etc.

```
7294 \LWR@replacestrings{&}{&}% Must be before the following:
7295 \LWR@replacestrings{<}{<}%
7296 \LWR@replacestrings{>}{>}%
7297 \LWR@replacestrings{'}{'}%
7298 \LWR@replacestrings`}{`}%
7299 \LWR@replacestrings_{_}{\detokenize_{_}}%
```

Neutralize `\%`, `\#`, `\&` in case used by the author.

`\@tempa` is built to be

---

```
\LWR@replacestrings{\#}{#}
```

---

and similar for `%` and `&`.

```
7300 \ifbool{LWR@HTMLsanitize@tmpb@removebackslash}%
7301 {%
7302 \def\@tempa{\LWR@replacestrings}%
7303 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter\detokenize{\#}}%
7304 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter\LWR@hash}%
7305 \@tempa%
7306 \def\@tempa{\LWR@replacestrings}%
7307 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter\detokenize{\%}}%
```

```

7308 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\LWRpercent}}%
7309 \@tempa%
7310 \def\@tempa{\LWR@replacestrings}%
7311 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\detokenize{\&}}}%
7312 \expandafter\appto\expandafter\@tempa\expandafter{\expandafter{\LWRamp}}%
7313 \@tempa%
7314 }%
7315 {}%

```

The quotes occasionally causes problems. For MathJax, also allow neutralization of \" and the " character.

```

7316 \ifbool{LWR@MathJax@silentquotes}
7317 {%
7318 \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{}%
7319 \LWR@replacestrings{"}{}%
7320 }%
7321 {%
7322 \LWR@replacestrings{"}{"}%
7323 }%
7324 }% sanitizing enabled
7325 {}% sanitizing not enabled
7326 }
7327 \catcode`\&=4

```

`\LWR@HTMLsanitize@use@tmpb {<text>}`

Sanitizes via `\LWR@HTMLsanitize@tmpb` and then immediately uses the result.

```

7328 \newcommand{\LWR@HTMLsanitize@use@tmpb}[1]{%
7329 \ifbool{LWR@HTMLsanitize@tmpb@enable}%
7330 {%
7331 \def\tmpb{#1}%
7332 \LWR@HTMLsanitize@tmpb%
7333 \tmpb%
7334 }%
7335 {#1}%
7336 }

```

`\LWR@subHTMLsanitize` `\LWR@strresult` must first be set by `\LWR@HTMLsanitizedetokenized`, `\LWR@HTMLsanitizeexpanded`, or `\CustomizeMathJax`.

```

7337 \catcode`\#=12
7338 \newcommand{\LWR@subHTMLsanitize}{%
7339 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
7340 \LWR@HTMLsanitize@tmpb%

```

MATHJAX allows expressions to be defined with `\newcommand`. These expressions would appear with `##` for each argument, and each must be changed to a single `#`. This must be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```

7341 \LWR@replacestrings{##}{#}%
7342 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
7343 }
7344 \catcode`\#=6

```

`\LWR@HTMLsanitizedetokenized`  $\{\langle \textit{detokenized text} \rangle\}$

Prints the sanitized text, already detokenized.

```
7345 \newrobustcmd{\LWR@HTMLsanitizedetokenized}[1]{%
7346 \LWR@traceinfo{\LWR@HTMLsanitizedetokenized !#1!}%
```

Cancel French `babel` character handling, and fully expand the strings:

```
7347 \begingroup%
7348 \LWR@hook@processingtags%
7349 \edef\LWR@strresult{#1}%
7350 \LWR@subHTMLsanitize%
7351 \LWR@strresult%
7352 \endgroup%
7353 \LWR@traceinfo{\LWR@HTMLsanitize done}%
7354 }
```

`\LWR@HTMLsanitizeexpanded`  $\{\langle \textit{text} \rangle\}$

This version must be given the detokenized and expanded text. This is only used for adding math to `MATHJAX` expressions or `lateximage alt` tags.

```
7355 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
7356 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
7357 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
7358 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
7359
7360 \edef\LWR@endspacerightbrace{end \LWRrightbrace}
7361 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
7362 \edef\LWR@endrightbrace{end\LWRrightbrace}
7363 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
7364
7365 \newrobustcmd{\LWR@HTMLsanitizeexpanded}[1]{%
```

Cancel French `babel` character handling, and fully expand the strings:

```
7366 \begingroup%
7367 \LWR@hook@processingtags%

7368 \edef\LWR@strresult{#1}%
```

The math expression may includes spaces between tokens, but `MATHJAX` does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```
7369 \protect\StrSubstitute{\LWR@strresult}%
7370 {\LWR@beginspaceleftbrace}\LWR@beginleftbrace}\LWR@strresult}%
7371 \protect\StrSubstitute{\LWR@strresult}%
7372 {\LWR@endspacerightbrace}\LWR@endrightbrace}\LWR@strresult}%

7373 \LWR@subHTMLsanitize%
7374 \LWR@strresult%
7375 \endgroup%
7376 }
```

## 65.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```
7377 \newcommand*{\LWR@customizedMathJax}{}
```

`LWR@warnedcustomizemathjax` Used to issue only one warning about using a `\CustomizeMathJax` per macro.  
(*bool*)

```
7378 \newbool{LWR@warnedcustomizemathjax}
7379 \boolfalse{LWR@warnedcustomizemathjax}
```

`\LWR@subcustomizedmathjax` {*macro definition*}

```
7380 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
7381 \begingroup%
7382 \LWR@hook@processingtags%
7383 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
7384 \edef\LWR@strresult{\detokenize{#1}}%
7385 \LWR@subHTMLsanitize%
7386 \xdef\LWR@customizedMathJax{%
7387 \LWR@customizedMathJax%
7388 \LWR@strresult%
7389 }%
7390 \endgroup%
7391 }
7392 \@onlypreamble\LWR@subcustomizedmathjax
```

`\CustomizeMathJax` {*macro definition*}

A warning is issued if a very long argument is given.

```
7393 \newcommand*{\CustomizeMathJax}[1]{%
7394 \ifbool{LWR@warnedcustomizemathjax}{}{%
7395 \StrLen{\detokenize{#1}}[\LWR@tempone]%
7396 \ifnumgreater{\LWR@tempone}{350}{%
7397 \AtEndDocument{%
7398 \PackageNoteNoLine{lwarp}{%
7399 To ensure faster MathJax compilation, place each\MessageBreak
7400 custom macro in its own \protect\CustomizeMathJax.\MessageBreak
7401 See the Lwarp documentation regarding customizing\MessageBreak
7402 MathJax%
7403 }%
7404 }%
7405 \booltrue{LWR@warnedcustomizemathjax}%
7406 }{}%
7407 }%
7408 \appto\LWR@customizedMathJax{\LWRbackslash}%
7409 \LWR@subcustomizedmathjax{#1}%
7410 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
7411 }
7412 \@onlypreamble\CustomizeMathJax
```

`\LWR@infoprocessingmathjax` {*package name*}

```
7413 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
7414 \typeout{---}
```

```

7415 \typeout{Package lwarp: Processing MathJax customizations for #1.}
7416 \typeout{\space\space This may take a moment.}
7417 \typeout{---}
7418 }

```

**defaults** Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L<sup>A</sup>T<sub>E</sub>X math is generated inside the HTML comment. For other math environments, the `\footnotemark/\footnotetext` method must be used. See section 8.5.4 regarding `\footnotemark`.

 `\footnotemark`

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from L<sup>A</sup>T<sub>E</sub>X in `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from L<sup>A</sup>T<sub>E</sub>X.

```

7419 \providecommand{\footnotename}{footnote}
7420
7421 % due to warpMathJax:
7422 \end{warpHTML}
7423
7424 \begin{warpMathJax}
7425 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
7426 \LWRbackslash(%
7427 \LWRbackslash{ }newcommand%
7428 \{\LWRbackslash{ }footnotename\}%
7429 \{\footnotename\}%
7430 \LWRbackslash)\par%
7431 }
7432 \end{warpMathJax}

```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```

7433 \begin{warpMathJax}
7434 \CustomizeMathJax{\def\LWRfootnote{1}}
7435 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{\mathrm{#1}}}
7436 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{\mathrm{#1}}}

```

`\hspace` is modified to accept and ignore a star:

```

7437 \CustomizeMathJax{\let\LWRorighspace\hspace}
7438 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRorighspace\LWRorighspace}}

```

Various other customizations:

```

7439 \CustomizeMathJax{\newcommand{\TextOrMath}[2]{#2}}
7440 \CustomizeMathJax{\newcommand{\mathnormal}[1]{#1}}
7441 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
7442 \CustomizeMathJax{% absorb two optional arguments
7443 \newcommand{\LWRframebox}[2][\fbox{#2}}
7444 \newcommand{\framebox}[1][\LWRframebox}
7445 }
7446 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
7447 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
7448 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
7449 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}

```



```

7450 \CustomizeMathJax{\newcommand{\arabic}[1]{} }
7451 \CustomizeMathJax{\newcommand{\number}[1]{} }
7452 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \ \}}
7453 \CustomizeMathJax{\newcommand{\cline}[1]{} }
7454 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
7455 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```

7456 \CustomizeMathJax{\newcommand{\protect}{} }
7457 \CustomizeMathJax{\def\LWRabsorbnumber#1 {} }
7458 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {} }
7459 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1][{}]}
7460 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][{\LWRabsorboption]} }
7461 \CustomizeMathJax{\def\mathchar{\ifnextchar"\LWRabsorbquotenumber\LWRabsorbnumber}}
7462 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
7463 \CustomizeMathJax{\let\delcode\mathcode}
7464 \CustomizeMathJax{\let\delimiter\mathchar}

```

Some text symbols missing from MATHJAX:

```

7465 \CustomizeMathJax{\def\oe{\unicode{x0153}}}
7466 \CustomizeMathJax{\def\OE{\unicode{x0152}}}
7467 \CustomizeMathJax{\def\ae{\unicode{x00E6}}}
7468 \CustomizeMathJax{\def\AE{\unicode{x00C6}}}
7469 \CustomizeMathJax{\def\aa{\unicode{x00E5}}}
7470 \CustomizeMathJax{\def\AA{\unicode{x00C5}}}
7471 \CustomizeMathJax{\def\o{\unicode{x00F8}}}
7472 \CustomizeMathJax{\def\O{\unicode{x00D8}}}
7473 \CustomizeMathJax{\def\l{\unicode{x0142}}}
7474 \CustomizeMathJax{\def\L{\unicode{x0141}}}
7475 \CustomizeMathJax{\def\ss{\unicode{x00DF}}}
7476 \CustomizeMathJax{\def\SS{\unicode{x1E9E}}}
7477 \CustomizeMathJax{\def\dag{\unicode{x2020}}}
7478 \CustomizeMathJax{\def\ddag{\unicode{x2021}}}
7479 \CustomizeMathJax{\def\P{\unicode{x00B6}}}
7480 \CustomizeMathJax{\def\copyright{\unicode{x00A9}}}
7481 \CustomizeMathJax{\def\pounds{\unicode{x00A3}}}
7482 \end{warpMathJax}
7483
7484
7485 \begin{warpHTML}% due to warpMathJax

```

`\LWR@customizeMathJax` Prints MATHJAX commands to the HTML output.

```

7486 \newcommand{\LWR@customizeMathJax}{%
7487 \ifbool{mathjax}{

7488 \LWR@stoppars
7489 \LWR@htmlcomment{MathJax customizations:}

7490 \LWR@htmlclass{div data-nosnippet}[display:none]}
7491 \LWR@stoppars

```

Avoid ligatures while printing MATHJAX customizations:

```

7492 {
7493 \LWR@print@ttfamily
7494 \LWR@customizedMathJax
7495 }
7496 \LWR@html@element@class@end{div}{}
7497 }{}
7498 }

```

```
7499 \end{warppHTML}
```

**for PRINT output:** 7500 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
7501 \newcommand*\CustomizeMathJax[1]{}

```

\FilenameSimplify \* {<expression>}

```
7502 \NewDocumentCommand{\FilenameSimplify}{s m}{}

```

```
7503 \end{warpprint}
```

**for HTML output:** 7504 \begin{warppHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```

7505 \newcommand*\LWR@createfooter{%
7506 \ifnumless{\value{LWR@html@seq@filenumber}}{1}{%
7507 \ifdefempty{\LWR@firstpagebottom}{}{%
7508 \LWR@html@element{footer}
7509
7510 \LWR@firstpagebottom
7511
7512 \LWR@html@element@end{footer}
7513 }%
7514 }{%
7515 \ifdefempty{\LWR@pagebottom}{}{%
7516 \LWR@html@element{footer}
7517
7518 \LWR@pagebottom
7519
7520 \LWR@html@element@end{footer}
7521 }%
7522 }%
7523 }

```

\LWR@newhtmlfile {<section name>}

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and CSS are, then adds navigation, side TOC, header, and starts the text body.

```

7524 \newcommand*\LWR@newhtmlfile[1]{
7525 \LWR@traceinfo{LWR@newhtmlfile}

```

At the bottom of the ending file:

```
7526 \LWR@htmlElementclassend{section}{tbody}
7527 \LWR@htmlElementclassend{main}{bodycontainer}
7528 \LWR@htmlElementclassend{div}{bodyandsidetoc}
7529
7530 \LWR@printpendingfootnotes
7531
```

No footer between files if EPUB:

```
7532 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
7533 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7534 {}
7535 {\ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
7536 \LWR@stoppars
7537 \LWR@htmltag{/body}\LWR@orignewline
7538 \LWR@htmltag{/html}\LWR@orignewline
7539 \LWR@traceinfo{LWR@newhtmlfile: about to LWR@orignewpage}
7540 \LWR@maybe@orignewpage
```

```
7541 \addtocounter{LWR@htmlfilenumber}{1}%
7542 \addtocounter{LWR@htmlseqfilenumber}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```
7543 \ifbool{FileSectionNames}%
7544 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in \LWR@thisfilename.

```
7545 \LWR@filenamoblanks{#1}%
```

Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
7546 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique. If the filename is unique, create an empty macro using the hashed name, to be used to test for additional duplicates in the future. The first time a duplicate is found, a warning is issued and this macro then contains a 1. For further duplicates of the same name, no additional warning is issued.

```
7547 \ifcsundef{LWR@filename\LWR@hashedname}{%
```

```
7548 \csdef{LWR@filename\LWR@hashedname}{}%
7549 }{%
```

If the filename is not unique, create a warning if the first duplicate, and modify the filename by appending a unique file number.

```
7550 \ifcempty{LWR@filename\LWR@hashedname}%
7551 {% first instance
7552 \PackageWarning{lwarp}
7553 {%
7554 The section name:\MessageBreak
7555 ``#1'',\MessageBreak
7556 at the line number listed below,\MessageBreak
7557 generates the filename\MessageBreak
7558 ``\LWR@thisfilename'',\MessageBreak
7559 which appears to be a duplicate. There is a\MessageBreak
7560 previous section with an identical or similar name.\MessageBreak
7561 A unique file number has been appended to the file name\MessageBreak
7562 of this and any further similar files.\MessageBreak
7563 This number may change as sections are added/removed,\MessageBreak
7564 and obsolete HTML files may result.\MessageBreak
7565 To remove these files, use lwarpmk cleanall.\MessageBreak
7566 (While generating file names, Lwarp sanitizes math,\MessageBreak
7567 most symbols, and a few common short words,\MessageBreak
7568 and this may cause a conflict.)\MessageBreak
7569 \LWR@avoiddupfilenames%
7570 }%
7571 \csdef{LWR@filename\LWR@hashedname}{1}%
7572 }% first instance
7573 }% repeated instances
7574 \edef\LWR@thisfilename{\LWR@thisfilename-\arabic{LWR@htmlseqfilenumber}}%
7575 }%
7576 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
7577 {\renewcommand*{\LWR@thisfilename}{\arabic{LWR@htmlfilenumber}}}
```

Include an HTML comment to instruct lwarpmk where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7578 \LWR@traceinfo{LWR@newhtmlfile: about to print start file}%
```

\LWR@nullfonts to allow math in a section name.

```
7579 \begingroup%
7580 \LWR@nullfonts%
7581 \LWR@htmlblockcomment{%
7582 |Start file|%
7583 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
7584 }
7585 \endgroup%
```

At the top of the starting file:

```
7586 \LWR@stoppars
7587
```

Start a new file with the given section name:

```
7588 \LWR@filestart[#1]
7589
```

Track the PDF page numbers of the HTML output. This is updated more frequently than LWR@currentautosecpage.

```
7590 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7591 \LWR@newautopagelabel{LWR@currentautosecfloatpage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
7592 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7593 {}
7594 {\LWR@topnavigation}
7595
```

No header if between files if formatting for an EPUB or word processor:

```
7596 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7597 {}
7598 {
7599
7600 \ifdefempty{\LWR@pagetop}{\{
7601 \LWR@htmlElement{header}
7602 \LWR@pagetop
7603 \LWR@htmlElementend{header}
7604 }
7605 }
7606 }
7607
```

The container for the sidetoc and text body:

```
7608 \LWR@htmlElementclass{div}{bodyandsidetoc}
```

No sideroc if formatting for an EPUB or word processor:

```
7609 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7610 {}
7611 {\LWR@sidetoc}
7612
```

Start of the <textbody>:

```
7613 \LWR@htmlElementclass{main}{bodycontainer}
7614 \LWR@htmlElementclass{section}{textbody}
```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```
7615 \boolfalse{LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```

7616 \ifthenelse{\boolean{FormatEpub}\OR\boolean{FormatWP}}%
7617 {}%
7618 {%
7619 \ifcvoid{thetitle}{}{%
7620 \LWR@printthetitle%
7621 }%
7622 }%

```

Keep paragraph tags disabled for now:

```

7623 \LWR@stoppars
7624

```

If using MATHJAX, print the customizations here.

```

7625 \LWR@customizeMathJax

7626 \LWR@traceinfo{LWR@newhtmlfile: done}
7627 }

7628 \end{warpHTML}

```

## 66 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L<sup>A</sup>T<sub>E</sub>X code and packages. Formatting is handled by CSS, so the emulated code has much less work to do than the print versions.

**Unicode accents in filenames** Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdf<sub>l</sub>atex* to generate characters and *pdf<sub>t</sub>otext* to read them. If extra symbols appear in the text, it may be that *pdf<sub>l</sub>atex* is actually producing a symbol over or under a character, resulting in *pdf<sub>t</sub>otext* picking up the accent symbol separately.

X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X directly support accented section and file names, but it may be necessary to use L<sup>A</sup>T<sub>E</sub>X accents instead of native Unicode accents. L<sup>A</sup>T<sub>E</sub>X accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

**for HTML output:** 7629 \begin{warpHTML}

### 66.1 User-level starred section commands

`\ForceHTMLPage` For HTML output, forces the next section to be on its own HTML page, if `FileDepth` allows, even if starred. For use with `\printindex` and others which generate a starred section which should be on its own HTML page. Also see `\ForceHTMLTOC`.

For print output, no effect.

```

7630 \newbool{LWR@forcinghtmlpage}
7631 \boolfalse{LWR@forcinghtmlpage}
7632

```

```

7633 \newcommand*{\ForceHTMLPage}{%
7634 \global\booltrue{LWR@forcinghtmlpage}%
7635 }

```

`\ForceHTMLTOC` For HTML output, forces the next section to have a TOC entry, even if starred. For use with `\printindex` and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with `tocbibind`. Also see `\ForceHTMLPage`.

For print output, no effect.

```

7636 \newbool{LWR@forcinghtmltoc}
7637 \boolfalse{LWR@forcinghtmltoc}
7638
7639 \newcommand*{\ForceHTMLTOC}{%
7640 \global\booltrue{LWR@forcinghtmltoc}%
7641 }

```

```
7642 \end{warpHTML}
```

**for PRINT output:**

```

7643 \begin{warpprint}
7644 \newcommand*{\ForceHTMLPage}{}
7645 \newcommand*{\ForceHTMLTOC}{}
7646 \end{warpprint}

```

**for HTML output:**

```
7647 \begin{warpHTML}
```

## 66.2 Book class commands

`\mainmatter` Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.



```

7648 \newbool{LWR@mainmatter}
7649 \DeclareDocumentCommand{\mainmatter}{}{%
7650 \booltrue{LWR@mainmatter}%
7651 }

```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

7652 \DeclareDocumentCommand{\frontmatter}{}{%
7653 \boolfalse{LWR@mainmatter}%
7654 }

```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```

7655 \DeclareDocumentCommand{\backmatter}{}{%
7656 \boolfalse{LWR@mainmatter}
7657 }

```

## 66.3 Sectioning support macros

`\LWR@sectionnumber` {<section type>}

Typeset a section number and its trailing space with CSS formatting:

```
7658 \newcommand*{\LWR@sectionnumber}[1]{%
7659 \InlineClass{sectionnumber}{#1}%
7660 }
```

`autosec` A tag used by the TOC and index.


`\LWR@createautosec`  $\langle section\ type \rangle$

Create an autosection tag.

The use of `\textquotedbl` instead of " provides improved compatibility with XeCJK.

```
7661 \newcommand*{\LWR@createautosec}[1]{%
7662 \LWR@htmltag{%
7663 #1 % space
7664 id=\textquotedbl\LWR@print@box{autosec-\arabic{page}}\textquotedbl%
7665 }%
7666 }
```


`\LWR@pushoneclose`  $\langle section\ type \rangle$  Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.

 `\LWR@stoppars` must be executed first.

```
7667 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7668 \LWR@traceinfo{\LWR@pushoneclose #1}%
7669 \LWR@pushclose{#1}%
7670 }
```

`\LWR@startnewdepth`  $\langle section\ type \rangle$

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.

 `\LWR@stoppars` must be executed first.

```
7671 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7672 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7673 \LWR@pushoneclose{#1}%
7674 }
```

`LWR@prevFileDepth` (*Ctrl*) Remembers the previous `LWR@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
7675 \newcounter{LWR@prevFileDepth}
7676 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```



`\@secntformat`  $\{\langle sectiontype \rangle\}$

```
7677 \def\@secntformat#1{\csname the#1\endcsname\quad}
```

`\simplechapterdelim` Used by `tocbibind` and `anonchap`.

```
7678 \newcommand*\simplechapterdelim{}
```

`\@chapcntformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secntformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```
7679 \let\@chapcntformat\@secntformat
```

`\@partcntformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secntformat` by default, but may be redefined by `ctex`.

```
7680 \let\@partcntformat\@secntformat
```

`\@partnameformat` Prints “Part” for part sections.

Nullified by `ctex`.

```
7681 \newcommand*\@partnameformat{\LWR@isolate{\partname}~}%
```

`\LWR@printchaptername` Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt`\* classes.

```
7682 \newcommand*\LWR@printchaptername{%
7683 \ifdefvoid{\chaptername}{\chaptername~}%
7684 }
```

`\LWR@section` \*  $[\langle TOC name \rangle] \{\langle name \rangle\} \{\langle sectiontype \rangle\}$

The common actions for the high-level sectioning commands.

```
7685 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7686 \IfValueTF{#2}%
7687 {\LWR@traceinfo{\LWR@section: starting #4 #2}}%
7688 {\LWR@traceinfo{\LWR@section: starting #4 #3}}%
```

Warn if starting a section inside a `<span>`:

```
7689 \LWR@spanwarninvalid{section}%
```

```
7690 \LWR@maybeprintpendingfootnotes{\csuse{\LWR@depth#4}}%
7691 \LWR@stoppars%
7692 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
7693 \global\boolfalse{\LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for appendix.

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```

7694 \LWR@traceinfo{LWR@section: testing whether to start a new HTML file}%
7695 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
7696 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{}%
7697 \ifthenelse{%
7698 \(%
7699 \(\NOT\equal{#1}{\BooleanTrue}\)\OR%
7700 \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)\OR%
7701 \(\boolean{LWR@forcinghtmlpage}\)%
7702 \)%
7703 \AND%
7704 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
7705 \AND%
7706 \(%
7707 \NOT\boolean{CombineHigherDepths}\OR%
7708 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7709 \)%
7710 \AND%

7711 \(% phantomsection
7712 \NOT\isempty{#3}%
7713 \OR%
7714 \(\NOT\equal{#1}{\BooleanTrue}\)%
7715 \)%
7716 }%

```

If so: start a new HTML file:

```

7717 {% new file
7718 \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional toc name entry:

```

7719 \IfNoValueTF{#2}%

```

If no optional entry

```

7720 {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7721 {\LWR@newhtmlfile{#2}}%
7722 }% new file

```

Else: No new HTML file:

```

7723 {% not new file

```

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```

7724 \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%

```

```

7725 \LWR@stoppars%
7726 \LWR@maybe@orignewpage%
7727 }% not new file

7728 %
7729 % Remember this section's name for \cs{nameref}:
7730 % \begin{macrocode}
7731 \IfValueT{#3}{%
7732 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7733 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7734 }%

```

Print an opening comment with the level and the name; ex: “section” “Introduction”  
Footnotes may be used in section names, which would also appear in the HTML  
section opening comments, so the short toc entry is used if possible, and a limited  
opening comment is made if the sectional unit is starred.

Avoid extra <par> tag:

```
7735 \LWR@stoppars%
```

Form a sectioning comment:

```

7736 \begingroup%
7737 \LWR@nullfonts%
7738 \LWR@nullifyfootnotes%
7739 \LWR@htmlcomment{%
7740 \LWR@orignewline%
7741 \IfValueTF{#2}{%
7742 {..... #4 #2}%
7743 {..... #4 #3}%
7744 \LWR@orignewline%
7745 }%
7746 \LWR@orignewline%
7747 \ifbool{HTMLDebugComments}%
7748 {%
7749 \IfBooleanTF{#1}% starred
7750 {%
7751 \IfNoValueTF{#2}% short TOC
7752 {\LWR@htmlcomment{Opening #4* ``#3'}}%
7753 {\LWR@htmlcomment{Opening #4* ``#2'}}%
7754 }%
7755 {%
7756 \IfNoValueTF{#2}% short TOC
7757 {\LWR@htmlcomment{Opening #4 ``#3'}}%
7758 {\LWR@htmlcomment{Opening #4 ``#2'}}%
7759 }%
7760 \LWR@orignewline%
7761 }%
7762 }%
7763 \endgroup%

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

7764 \ifthenelse{%
7765 \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7766 }%
7767 {\LWR@startpars}%
7768 }%

```

Create the opening tag with an autosec:

```
7769 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7770 \LWR@createautosec{\@nameuse{LWR>tag#4}}%
```

```
7771 \setcounter{LWR@currentautosecpage}{\value{page}}%
```

Check if starred:

```
7772 \IfBooleanTF{#1}%
7773 {%
7774 \LWR@traceinfo{LWR@section: starred}%
```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```
7775 \ifbool{LWR@forcinghtmltoc}%
7776 {%
7777 \addcontentsline{toc}{#4}{%
7778 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7779 }%
7780 }%
7781 {}%
7782 }% starred
```

Not starred, so step counter and add to TOC:

```
7783 {% not starred
```

Only add a numbered TOC entry if section number is not too deep:

```
7784 \ifthenelse{%
7785 \cinttest{\@nameuse{LWR@depth#4}}{<=} {\value{secnumdepth}}%
7786 }%
7787 {% if secnumdepth
```

If in the main matter, step the counter and add the TOC entry. For article class, **lwarp** assumes that all is mainmatter.

```
7788 \LWR@traceinfo{LWR@section: about to test main matter}%
7789 \ifbool{LWR@mainmatter}%
7790 {%
7791 \LWR@traceinfo{LWR@section: yes mainmatter}%
7792 \refstepcounter{#4}%
```

Add main matter numbered TOC entry with the TOC name or the regular name:

```
7793 \LWR@traceinfo{LWR@section: about to addcontentsline}%
7794 \addcontentsline{toc}{#4}%
7795 {%
7796 \protect\numberline{%
7797 \@nameuse{pre#4name}%
7798 \@nameuse{the#4}%
7799 \@nameuse{post#4name}%
7800 }%
7801 {%
7802 \ignorespaces%
7803 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
```

```

7804 }%
7805 }%
7806 \LWR@traceinfo{LWR@section: finished addcontentsline}%
7807 }% end of if main matter

```

If not main matter, add unnumbered toc name or regular name:

```

7808 {% not main matter
7809 \LWR@traceinfo{LWR@section: no main matter}%
7810 \addcontentsline{toc}{#4}{%
7811 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7812 }%
7813 }% end of not main matter
7814 }% end of secnumdepth

```

Deeper than secnumdepth, so add an unnumbered toc entry:

```

7815 {%
7816 \addcontentsline{toc}{#4}{%
7817 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7818 }%
7819 }%

```

For part, print "Part":

```

7820 \ifbool{LWR@mainmatter}%
7821 {%
7822 \ifthenelse{%
7823 \(\cntttest{\@nameuse{LWR@depth#4}}{<=}%
7824 {\value{secnumdepth}}\)\ AND%
7825 \(\cntttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
7826 }%
7827 {\@partnameformat}%
7828 }%

```

Print the section number:

```

7829 \LWR@traceinfo{LWR@section: about to print section number}%
7830 \ifthenelse{%
7831 \cntttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7832 }%
7833 {%
7834 \ifstrequal{#4}{part}%
7835 {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
7836 {%
7837 \ifstrequal{#4}{chapter}%
7838 {%
7839 \LWR@printchaptername%
7840 \protect\LWR@sectionnumber{\@chapcntformat{#4}}%
7841 }%
7842 {\protect\LWR@sectionnumber{\@seccntformat{#4}}}%
7843 }%
7844 }%
7845 }%
7846 \LWR@traceinfo{LWR@section: finished print section number}%
7847 }%
7848 }% not starred

```

Print the section name:

```
7849 \LWR@traceinfo{LWR@section: about to print the section name}%
7850 \LWR@isolate{#3}%
```

Close the heading tag, such as /H2:

```
7851 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7852 \LWR@htmltag{\@nameuse{LWR>tag#4end}}%
7853 \LWR@orignewline%
```

Generate a L<sup>A</sup>T<sub>E</sub>X label.

Track the PDF page numbers of the HTML output. A new autopage label may be generated for LWR@currentautosecpage for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in LWR@currentautosecfloatpage.

```
7854 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7855 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
7856 \LWR@newautopagelabel{LWR@currentautosecpage}\LWR@orignewline%
```

If this is the first section found in this file, create a label for previous/next links:

```
7857 \ifbool{LWR@setseqfilelabel}{}%
7858 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7859 \booltrue{LWR@setseqfilelabel}%
7860 }%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
7861 \ifthenelse{%
7862 \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
7863 }%
7864 {\LWR@startpars}%
7865 }%
```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a \part\* to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a \listoftables was tested in the middle of the document. The \chapter\* for the list was not allowing a new HTML page for the section following it while CombineHigherDepths was true.

```
7866 \ifthenelse{%
7867 \NOT\equal{#1}{\BooleanTrue}\OR%
7868 \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7869 }%
7870 {% not starred
7871 \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7872 }% not starred
7873 }%
```

Reset to defaults if not a phantomsection:

```

7874 \ifstrempy{#3}%
7875 {}%
7876 {%
7877 \global\boolfalse{LWR@forcinghtmlpage}%
7878 \global\boolfalse{LWR@forcinghtmltoc}%
7879 }%
7880 %
7881 \LWR@traceinfo{LWR@section: done}%
7882 }
```

## 66.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postbookname`

```

7883 \providecommand*\prebookname{}
7884 \providecommand*\postbookname{}

```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postpartname`

```

7885 \providecommand*\prepartname{}
7886 \providecommand*\postpartname{}

```

`\prechaptername` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postchaptername`

```

7887 \providecommand*\prechaptername{}
7888 \providecommand*\postchaptername{}

```

`\presectionname` Always null, but provided here for algorithmic simplicity in `\LWR@section`.

`\postsectionname`

```

7889 \providecommand*\presectionname{}
7890 \let\postsectionname\presectionname
7891
7892 \let\presubsectionname\presectionname
7893 \let\postsubsubsectionname\postsectionname
7894
7895 \let\presubsubsectionname\presectionname
7896 \let\postsubsubsectionname\postsectionname
7897
7898 \let\preparagraphname\presectionname
7899 \let\postparagraphname\postsectionname
7900
7901 \let\presubparagraphname\presectionname
7902 \let\postsubparagraphname\postsectionname

```

## 66.5 `\section` and friends

For `memoir`, a second optional argument is allowed.

For `hypbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

`\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7903 \newcommand{\part@preamble}{}% for koma-script
7904
7905 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7906 \LWR@section{#1}{#3}{#6}{part}%
7907
7908 \part@preamble% for koma-script
7909 \renewcommand{\part@preamble}{}%
7910 }
```

`\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7911 \let\@printcites\relax% for quotchap package
7912
7913 \newcommand{\chapter@preamble}{}% for koma-script
7914
7915 \@ifundefined{chapter}
7916 {}
7917 {%
7918 \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7919 \LWR@section{#1}{#3}{#6}{chapter}%
7920
7921 \@printcites% for quotchap package
7922
7923 \chapter@preamble% for koma-script
7924 \renewcommand{\chapter@preamble}{}%
7925 }
7926 }
```

`\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7927 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7928 \LWR@section{#1}{#3}{#6}{section}%
7929 }
```

`\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7930 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7931 \LWR@section{#1}{#3}{#6}{subsection}%
7932 }
```

`\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7933 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7934 \LWR@section{#1}{#3}{#6}{subsubsection}%
7935 }
```

`\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```
7936 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7937 \LWR@section{#1}{#3}{#6}{paragraph}%
7938 }
```



`\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}`

```
7939 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7940 \LWR@section{#1}{#3}{#6}{subparagraph}%
7941 }

7942 \end{warpHTML}
```

## 67 Starting a new file

**for HTML & PRINT:** 7943 `\begin{warpall}`

`\HTMLLanguage` Default language for the HTML lang tag.

```
7944 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
7945
7946 \newcommand*{\HTMLLanguage}[1]{%
7947 \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
7948 }
```

`\theHTMLTitleSeparator` May be used inside `\theHTMLTitleSection` to separate the website's overall HTML title and the particular page's section name.

```
7949 \ifPDFTeX% pdflatex or dvi latex
7950 \ifdefstring{\inputencodingname}{utf8}{%
7951 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMDash
7952 }{%
7953 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7954 }%
7955 \else%
7956 \ifpTeX
7957 \newcommand*{\theHTMLTitleSeparator}{ -\ }% hyphen
7958 \else
7959 \newcommand*{\theHTMLTitleSeparator}{ -\ }% EMDash
7960 \fi%
7961 \fi%
```

`\HTMLTitleBeforeSection` Sets the HTML page's meta title tag to show the website title before the section name.

```
7962 \newcommand*{\HTMLTitleBeforeSection}{%
7963 \def\theHTMLTitleSection{%
7964 \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7965 }%
7966 }
```

`\HTMLTitleAfterSection` Sets the HTML page's meta title tag to show the section name before the website title.

```
7967 \newcommand*{\HTMLTitleAfterSection}{%
7968 \def\theHTMLTitleSection{%
7969 \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7970 }%
7971 }
```

`\theHTMLTitleSection` Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7972 \HTMLTitleBeforeSection
```

`\theHTMLSection` The section name is passed to `\LWR@filestart`, which then sets `\theHTMLSection` for use inside `\theHTMLTitleSection` to create an HTML meta title tag.

```
7973 \newcommand*{\theHTMLSection}{}
```

```
7974 \end{warpall}
```

**for HTML output:** `7975 \begin{warpHTML}`

`\LWR@filestart` [*section name*] Creates the opening HTML tags.

```
7976 \newcommand*{\LWR@filestart}[1][{}]{%
```

```
7977 \LWR@traceinfo{\LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
7978 \begingroup%
```

```
7979 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7980 \edef\theHTMLSection{#1}%
```

Remove extra material:

```
7981 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]%
```

```
7982 \StrSubstitute{\theHTMLSection}%
```

```
7983 {\detokenize{-----}}{\detokenize{-}}[\theHTMLSection]%
```

```
7984 \StrSubstitute{\theHTMLSection}%
```

```
7985 {\detokenize{----}}{\detokenize{-}}[\theHTMLSection]%
```

```
7986 \StrSubstitute{\theHTMLSection}%
```

```
7987 {\detokenize{---}}{\detokenize{-}}[\theHTMLSection]%
```

```
7988 \StrSubstitute{\theHTMLSection}%
```

```
7989 {\detokenize{--}}{\detokenize{-}}[\theHTMLSection]%
```

If starts with a dash, remove the leading dash:

```
7990 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
```

```
7991 \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
```

```
7992 }{%}
```

Create the page's HTML header:

```
7993 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

NOTE: `\LWR@orig@textquotedbl` is used here because `\textquotedbl` is nullified by `\LWR@nullfonts` while starting the new file.

```
7994 \LWR@htmltag{%
7995 html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
7996 }\LWR@orignewline
```

Start of the meta data:

```
7997 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7998 \LWR@htmltag{%
7999 meta charset=\LWR@orig@textquotedbl{}UTF-8\LWR@orig@textquotedbl\ /%
8000 }\LWR@orignewline
```

Author:

```
8001 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
8002 {}}%
8003 {%
8004 \LWR@htmltag{%
8005 meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
8006 content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl\ /%
8007 }\LWR@orignewline%
8008 }%
```

lwarp is the generator:

```
8009 \LWR@htmltag{%
8010 meta % space
8011 name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
8012 content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
8013 }\LWR@orignewline%
```

If there is a description, add it now:

```
8014 \ifdefempty{\LWR@currentHTMLDescription}{ }{%
8015 \LWR@htmltag{%
8016 meta name=%
8017 \LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
8018 content=%
8019 \LWR@orig@textquotedbl\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
8020 }\LWR@orignewline
8021 }%
```

If there are keywords, add it now:

```
8022 \ifdefempty{\LWR@currentHTMLKeywords}{ }{%
8023 \LWR@htmltag{%
8024 meta name=%
8025 \LWR@orig@textquotedbl{}keywords\LWR@orig@textquotedbl\ % space
8026 content=%
8027 \LWR@orig@textquotedbl\LWR@currentHTMLKeywords\LWR@orig@textquotedbl\ /%
8028 }\LWR@orignewline
8029 }%
```

Mobile-friendly viewport:

```
8030 \LWR@htmltag{%
```

```

8031 meta % space
8032 name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
8033 content=%
8034 \LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
8035 }\LWR@orignewline

```

Custom HTML meta tags:

```
8036 \LWR@HTMLmeta
```

The page's title, if there is one. A section name is also added if given.

```

8037 \ifthenelse{\equal{\theHTMLTitle}{}}%
8038 {}%
8039 {%
8040 \LWR@htmltag{title}%
8041 \ifdefempty{\theHTMLSection}%
8042 {\theHTMLTitle}%
8043 {\theHTMLTitleSection}%
8044 \LWR@htmltag{/title}\LWR@orignewline%
8045 }%

```

The page's stylesheet:

```

8046 \LWR@htmltag{%
8047 link % space
8048 rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
8049 type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
8050 href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
8051 }%
8052 \LWR@orignewline

```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

8053 \ifbool{mathjax}%
8054 {%
8055 \begingroup%
8056 \LWR@restoreoriglists%
8057 \boolfalse{LWR@verbtags}%
8058 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%

8059 \IfFileExists{\LWR@mathjaxfilename}%
8060 {\verbatiminput{\LWR@mathjaxfilename}}%
8061 {%
8062 \PackageError{lwarp}%
8063 {%
8064 \protect\MathJaxFilename\space specified the file\MessageBreak
8065 \space\space\LWR@mathjaxfilename\MessageBreak
8066 which does not exist%
8067 }%
8068 {Specify an existing file, or remove \protect\MathJaxFilename.}%
8069 }%

8070 \endgroup%
8071 \LWR@stoppars%
8072 }% end of mathjax
8073 }%

```

End of the header:

```
8074 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```
8075 \LWR@htmltag{body}\LWR@orignewline
```

```
8076 \endgroup%
8077 \LWR@traceinfo{LWR@filestart: done}%
8078 }
```

```
8079 \end{warpHTML}
```

## 68 Starting HTML output

**for HTML output:** 8080 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
8081 \catcode`\$=\active
8082 \newcommand*\LWR@LwarpStart}
8083 {%
8084 \LWR@traceinfo{LWR@LwarpStart}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
8085 \ifbool{FormatWP}{%
8086 \setcounter{FileDepth}{-5}%
8087 \boolfalse{HTMLDebugComments}%
8088 }{}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
8089 \edef\LWR@strresult{\HomeHTMLFilename}
8090 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
8091 \edef\LWR@strresult{\HTMLFilename}
8092 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
8093 \LWR@origonecolumn%
8094 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
8095 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
8096 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
8097 \LWR@print@raggedright%
8098 \LetLtxMacro{\}\{\LWR@endofline}%
```

Spread the lines for *pdftotext* to read them well:

```
8099 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
8100 \setlength{\parindent}{0pt}
8101 \setlength{\parskip}{2ex}
```

For the lateximage record file:

```
8102 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
8103 \setlength{\belowcaptionskip}{0ex}
8104 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
8105 \renewcommand{\ps@plain}{}
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
8106 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
8107 \global\booltrue{LWR@doingparhooks}
8108 \global\boolfalse{LWR@doingapar}
8109 \global\boolfalse{LWR@doingstartpars}
```

`\color@endgroup's \endgraf` was conflicting with `lwarp's` paragraph handling.

```
8110 \let\color@endgroup\endgroup
```

Document and page settings:

```
8111 \mainmatter
8112 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
8113 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
8114 \LWR@filestart%
```

Tell *lwarpmk* that the `lwarp` package is in use. This allows *lwarpmk* to warn if `usepackage{lwarp}` was somehow disabled.

```

8115 \begingroup%
8116 \LWR@nullfonts%
8117 \LWR@htmlblockcomment{%
8118 |Using lwarp|%
8119 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
8120 }
8121 \endgroup%

8122 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
8123 \ifdefempty{\LWR@firstpagetop}{}%
8124 \LWR@htmltag{header}\LWR@orignewline
8125 \LWR@startpars
8126 \LWR@firstpagetop
8127 \LWR@stoppars
8128 \LWR@htmltag{/header}\LWR@orignewline
8129 }%

```

```

8130 \LWR@htmlclass{div}{bodywithoutstoc}
8131 \LWR@htmlclass{main}{bodycontainer}
8132 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
8133 \LWR@htmlclass{section}{textbody}

```

Create a label for previous/next links, and remember it has been done:

```

8134 \booltrue{LWR@setseqfilelabel}%
8135 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}

```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native  $\LaTeX$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
8136 \LWR@patchlists
```

Ensure that math mode is active to call lwarp's patches:

```
8137 \catcode`\$=\active
```

Required for `\nameref` to work with SVG math:

```

8138 \immediate\write\@mainaux{\catcode`\string$\active}%
8139 \LetLtxMacro\LWR@syntaxhighlightone% balance for editor syntax highlighting

```

Allow HTML paragraphs to begin:

```
8140 \LWR@startpars
```

If using `MATHJAX`, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```

8141 \ifbool{mathjax}{
8142 \typeout{---}
8143 \typeout{Package lwarp:}
8144 \typeout{Processing MathJax customizations for the first HTML page.}
8145 \typeout{Later HTML pages will take the same amount of time.}
8146 \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
8147 }{}
8148

```

```

8149 \LWR@customizeMathJax
8150
8151 \ifbool{mathjax}{
8152 \typeout{Done.}
8153 \typeout{---}
8154 }{}

```

First autopage label in case a figure occurs early before the first section: A new autopage label may be generated for `LWR@currentautosecpage` for the start of the section, and also for the current page if it is different due to an SVG image in the section name. Also, the final page after the section has been created is updated in `LWR@currentautosecfloatpage`.

```

8155 \setcounter{LWR@currentautosecfloatpage}{\value{page}}%
8156 \LWR@newautopagelabel{LWR@currentautosecpage}%

8157 \LWR@traceinfo{LWR@lwarpStart: done}
8158 }
8159 \catcode`\$=3% math shift until lwarp starts

8160 \end{warpHTML}

```

## 69 Ending HTML output

**for HTML output:** 8161 `\begin{warpHTML}`

`\LWR@requesttoc {<boolean>} {<suffix>}` Requests that a TOC, LOF, or LOT be generated.

```

8162 \newcommand*{\LWR@requesttoc}[2]{%
8163 \ifbool{#1}
8164 {
8165 \expandafter\newwrite\@nameuse{tf@#2}
8166 \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
8167 }{}
8168 }

```

`\LWR@LwarpEnd` Final stop of all HTML output:

```

8169 \newcommand*{\LWR@LwarpEnd}
8170 {
8171 \LWR@stoppars
8172 \LWR@closeprevious{finished}

```

At the bottom of the ending file:

Print any pending footnotes:

```
8173 \LWR@printpendingfootnotes
```

Close the textbody.

(The `\LWR@orignobreakspace` is in case no autopage is required for the label, which would not print anything, and something must be printed before the new-line.)



```
8174 \label{\BaseJobname-autofile-last}\LWR@originobreakspace\LWR@originewline
```

```
8175 \LWR@htmlclassend{section}{tbody}
8176 \LWR@htmlclassend{main}{bodycontainer}
8177 \LWR@htmlclassend{div}{bodyandsidetoc}
```

Create the footer if not EPUB

```
8178 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```
8179 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
8180 {}
8181 {
8182 \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}
8183 }
```

```
8184 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
8185 \LWR@htmltag{/body}\LWR@originewline
8186 \LWR@htmltag{/html}\LWR@originewline
```

Seems to be required sometimes:

```
8187 \LWR@maybe@originewpage
8188 }
```

`enddocument/info (Hook) []` Used to close the `*-images.txt` file.

`\enddocument` If labels have not changed, mark successful completion of the `lateximages.txt` file. Executed as everything is being shut down.

For the newer kernel hooks, see `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```
8189 \ifdef{\AddToHook}{% newer kernel
8190 \AddToHook{enddocument/info}{%
8191 \if@filesw
8192 \ifx \@multiplelabels \relax
8193 \if@tempwa
```

This is where warnings of duplicate labels would appear.

```
8194 \else
```

No duplicate labels, so safe to create images.

```
8195 \immediate\write\LWR@lateximagesfile{%
8196 |end|end|end|}%
8197 }%
```

```

8198 \fi
8199 \fi\fi
8200 }
8201 }% newer kernel
8202 {% older kernel
8203 \xpatchcmd{\enddocument}
8204 {%
8205 \if@tempswa
8206 \@latex@warning@no@line{Label(s) may have changed.
8207 Rerun to get cross-references right}%
8208 \fi
8209 }
8210 {%
8211 \if@tempswa
8212 \@latex@warning@no@line{Label(s) may have changed.
8213 Rerun to get cross-references right}%
8214 \else

```

No duplicate labels, so safe to create images.

```

8215 \immediate\write\LWR@lateximagesfile{%
8216 |end|end|end|}%
8217 }%
8218 \fi
8219 }
8220 {}
8221 {
8222 \AtEndDocument{
8223 \PackageWarningNoLine{lwarp}
8224 {%
8225 Could not patch \protect\enddocument.\MessageBreak
8226 If labels have changed, be sure to recompile before\MessageBreak
8227 creating lateximages with\MessageBreak
8228 \space\space lwarpmk images,\MessageBreak
8229 or the images may be corrupt%
8230 }
8231 }
8232 }
8233 }% older kernel

```

## 70 Nullifying foreground/background hooks

See `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

`shipout/background (Hook)` [] Nullified.

`shipout/foreground (Hook)` [] Nullified.

```

8234 \ifdef{\RemoveFromHook}{
8235 \AfterEndPreamble{
8236 \IfHookEmptyTF{shipout/background}{}{
8237 \PackageInfo{lwarp}{Removing background hook}
8238 \RemoveFromHook{shipout/background}[*]
8239 }
8240 \IfHookEmptyTF{shipout/foreground}{}{
8241 \PackageInfo{lwarp}{Removing foreground hook}
8242 \RemoveFromHook{shipout/foreground}[*]

```

```

8243 }
8244 }
8245 }{}

8246 \end{warpHTML}

```

## 71 Title page

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

 **load order**

**\published and \subtitle** If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 71.8.

**affiliation** lwarp provides for the `\author` macro an additional `\affiliation` macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using `titlingpage`'s `\theauthor` in the main text.

**reusing titlepage information** The `titling` package maintains the definitions of `\thetitle`, `\theauthor`, etc., after the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the `\thanks` and `\affiliation` removed, and for `\author` the `\and` is replaced to generate a simple inline list of authors separated by commas. Note: `\theauthor` does not work well with `authblk` unless the traditional L<sup>A</sup>T<sub>E</sub>X syntax is used.



**\theauthor, authblk**

**custom titlepages** `\printtitle`, `\printauthor`, etc., are provided for use inside a custom titlepage or `titlingpage` environment, and these retain the `\thanks` and `\affiliation`.

`\printthanks` `\printthanks` has been added to force the printing of thanks inside a `titlingpage` environment when `\maketitle` is not used.



**\thanks** Inside a `\titlepage` or `\titlingpage` environment, use `\thanks` instead of `\footnote` for acknowledgements, etc.

### 71.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

`\author` `{\author}` While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

`\and`

```
\author{Name \ Affiliation \and Second Name \ Second Affiliation}
```

For HTML, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title` `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a titlepage or `titlingpage`, and are used by `\maketitle`. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For

`\@author`

`\@date`

HTML, these tabulars become side-by-side `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle` `\printtitle`, etc. are user-level macros intended to be used in custom `titlepage` or `titlingpage` environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\printdate`

`\thetitle` `\thetitle`, `\theauthor`, and `\thedata` are available if `titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline without `\affiliation` or `\thanks`, with `\and` placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
 \begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

⚠ `\theauthor`, `authblk` `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard L<sup>A</sup>T<sub>E</sub>X syntax for `\author`, optionally with `lwarp`'s `\affiliation` macro as well.

⚠ `affiliations` After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.

`\affiliation` A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

## 71.2 `\if@titlepage`

**for HTML & PRINT:** 8247 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
8248 \ifcvoid{@titlepagefalse}{
8249 \newif\if@titlepage
8250 \@titlepagefalse
8251 }{}

8252 \end{warpall}
```

## 71.3 Changes for `\affiliation`

`\affiliation` `{\text}`

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

```

for HTML & PRINT: 8253 \begin{warpall}
 8254 \providerobustcmd{\affiliation}[1]{}
 8255 \end{warpall}

for PRINT output: 8256 \begin{warpprint}

 8257 \AtBeginEnvironment{titlepage}{
 8258 \renewrobustcmd{\affiliation}[1]{\ \ \ \textsc{\small#1}}
 8259 }
 8260
 8261 \AtBeginDocument{
 8262 \IfPackageLoadedTF{titling}{
 8263 \AtBeginEnvironment{titlingpage}{
 8264 \renewrobustcmd{\affiliation}[1]{\ \ \ \textsc{\small#1}}
 8265 }
 8266 }{}% titling loaded
 8267 }% AtBeginDocument

 8268 \end{warpprint}

for HTML output: 8269 \begin{warpHTML}

```

`titlepage (env)` Sets up a `<div>` of class `titlepage`. Provided even for memoir class, since it is used by `\maketitle`.

```

8270 \DeclareDocumentEnvironment{titlepage}{}
8271 {%
8272 \renewrobustcmd{\affiliation}[1]{\ \ \ \InlineClass{affiliation}{##1}}%
8273 \LWR@printpendingfootnotes
8274 \LWR@forcenewpage
8275 \BlockClass{titlepage}
8276 }
8277 {
8278 \endBlockClass
8279 \LWR@printpendingfootnotes
8280 }

8281 \end{warpHTML}

```

## 71.4 Printing the thanks

`\printthanks` Forces the `\thanks` to be printed. This is necessary in a `titlingpage` environment when `\maketitle` was not used.

```

for PRINT output: 8282 \begin{warpprint}
 8283 \newcommand*{\printthanks}{\@thanks}
 8284 \end{warpprint}

for HTML output: 8285 \begin{warpHTML}
 8286 \newcommand*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}
 8287 \end{warpHTML}

```

## 71.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a titlepage or a titlingpage in HTML:

**for HTML output:** 8288 `\begin{warpHTML}`

`\printtitle`

```
8289 \newcommand*{\printtitle}
8290 {%
8291 \LWR@stoppars%
8292 \LWR@htmltag{\LWR@tagtitle}%
8293 \@title%
8294 \LWR@htmltag{\LWR@tagtitleend}%
8295 \LWR@startpars%
8296 }
```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```
8297 \newcommand*{\LWR@printthetitle}
8298 {%
8299 \LWR@stoppars%
8300 \LWR@htmltag{\LWR@tagtitle}%
8301 \thetitle%
8302 \LWR@htmltag{\LWR@tagtitleend}%
8303 \LWR@startpars%
8304 }
```

`\printauthor` HTML version.

```
8305 \newcommand*{\printauthor}{
```

The entire author block is contained in a `<div>` named `author`:

```
8306 \begin{BlockClass}{author}
```

`\and` finishes one author and starts the next:

```
8307 \renewcommand{\and}{%
8308 \end{BlockClass}
8309 \begin{BlockClass}{oneauthor}
8310 }
```

Individual authors are contained in a `<div>` named `oneauthor`:

```
8311 \begin{BlockClass}{oneauthor}
8312 \@author
8313 \end{BlockClass}
8314 \end{BlockClass}
8315 }
```

`\printdate`

```

8316 \newcommand*\printdate}{%
8317 \begin{BlockClass}{titledate}
8318 \@date
8319 \end{BlockClass}
8320 }

8321 \end{warpHTML}

```

## 71.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

**for PRINT output:** 8322 \begin{warpprint}

\printtitle

```
8323 \newcommand*\printtitle>{{\Huge\@title}}
```

\printauthor Print mode.

```
8324 \newcommand*\printauthor
8325 {{{\large\begin{tabular}[t]{c}\@author\end{tabular}}}}
```

\printdate

```
8326 \newcommand*\printdate>{{\small\textit{\@date}}}
```

```
8327 \end{warpprint}
```

## 71.7 \maketitle for HTML output

An HTML <div> of class titlepage is used.

\thanks are a form of footnotes used in the title page. See section 62 for other kinds of footnotes.

See \thanksmarkseries{series}, below, to set the style of the footnote marks.

**for HTML output:** 8328 \begin{warpHTML}

```

8329 \IfClassLoadedTF{memoir}
8330 {
8331 \newcommand{\LWR@setfootnoteseries}{%
8332 \renewcommand\thefootnote{\@arabic\c@footnote}%
8333 }
8334 }{% not memoir
8335 \if@titlepage
8336 \newcommand{\LWR@setfootnoteseries}{%
8337 \renewcommand\thefootnote{\@arabic\c@footnote}%
8338 }
8339 \else
8340 \newcommand{\LWR@setfootnoteseries}{%

```

```

8341 \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
8342 }
8343 \fi
8344 }% not memoir

```

\LWR@maketitlesetup Patches \thanks macros.

```
8345 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```

8346 \LWR@setfootnoteseries%
8347 \def\@makefnmark{%
8348 \thefootnote%
8349 }

```

```

\thefootnote ⇒ \nameuse{arabic}{footnote}, or
\thefootnote ⇒ \nameuse{fnsymbol}{footnote}

```

Redefine the footnote text:

```
8350 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
8351 \@thefnmark~%
```

```

\makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
\@thefnmark ⇒ \itshape a (or similar)

```

Print the text:

```

8352 {##1}%
8353 }%
8354 }

```

\@fnsymbol {<counter>}

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used \| which was not being seen by *pdftotext*.

```

8355 \def\LWR@HTML@fnsymbol#1{%
8356 \ifcase#1\or *\or
8357 \HTMLentity{dagger}\or
8358 \HTMLentity{Dagger}\or
8359 \HTMLentity{sect}\or
8360 \HTMLentity{para}\or
8361 \HTMLunicode{2016}\or
8362 **\or
8363 \HTMLentity{dagger}\HTMLentity{dagger} \or
8364 \HTMLentity{Dagger}\HTMLentity{Dagger} \else
8365 \@ctrerr\fi%
8366 }
8367 \LWR@formatted{fnsymbol}

```



`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

The name `\LWR@maketitle` is used to preserve its definition in case a later package overwrites `\maketitle`.

```
8368 \newcommand*\LWR@maketitle{%
```

An HTML titlepage `<div>` is used for all classes.

```
8369 \begin{titlepage}
```

Set up special patches:

```
8370 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8371 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
8372 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```
8373 \end{titlepage}
8374 \setcounter{footnote}{0}%
8375 \global\let\thanks\relax
8376 \global\let\maketitle\relax
8377 \global\let\@maketitle\relax
8378 \global\let\@thanks\@empty
8379 \global\let\@author\@empty
8380 \global\let\@date\@empty
8381 \global\let\@title\@empty
8382 \global\let\title\relax
8383 \global\let\author\relax
8384 \global\let\date\relax
8385 \global\let\and\relax
8386 }
8387
8388 \LetLtxMacro\maketitle\LWR@maketitle
```

`\@maketitle` HTML mode. Typesets the title, etc.:

```
8389 \providecommand*\@maketitle{}
8390 \renewrobustcmd*\@maketitle{%
8391 \LWR@stoppars%
8392 \LWR@htmltag{\LWR@tagtitle}%
8393 \@title%
8394 \LWR@htmltag{\LWR@tagtitleend}%
8395 \LWR@startpars%
8396 \begin{BlockClass}{author}%
```

For IEEEtran class:

```

8397 \renewcommand*\cr}{}%
8398 \renewcommand*\crrc}{}%
8399 \renewcommand*\noalign}{}%

8400 \renewcommand{\and}{%
8401 \end{BlockClass}%
8402 \begin{BlockClass}{oneauthor}%
8403 }%
8404 \begin{BlockClass}{oneauthor}%
8405 \@author%
8406 \end{BlockClass}%
8407 \end{BlockClass}%
8408 \begin{BlockClass}{titledate}%
8409 \@date%
8410 \end{BlockClass}%
8411 }

```

`\LWR@titlingmaketitle` \maketitle for use inside an HTML titlingpage environment.

```
8412 \newcommand*\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
8413 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
8414 \LWR@maketitlesetup
```

Typeset the title, etc:

```
8415 \@maketitle
```

Immediately generate any \thanks footnotes:

```
8416 \LWR@stoppars\@thanks\LWR@startpars
```

```
8417 }
```


```
8418 \end{warpHTML}
```

## 71.8 \published and \subtitle

`\subtitle` and `\published` To add `\subtitle` and `\published` to the titlepage, load the titling package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

 **titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in HTML. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpall`.

**for HTML & PRINT:** 8419 `\begin{warpall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```

8420 \newcommand*\AddSubtitlePublished{%
8421 \IfPackageLoadedTF{titling}{% yes titling package
8422 \newcommand{\@published}{}%
8423 \newcommand{\published}[1]{\gdef\@published{##1}}%
8424 \renewcommand*\maketitlehooka{\printpublished}%
8425 \newcommand*\printpublished{%
8426 \warpprintonly{\begin{center}\unskip}%
8427 \begin{BlockClass}{published}%
8428 \warpprintonly{\large\itshape}%
8429 \@published%
8430 \end{BlockClass}%
8431 \warpprintonly{\end{center}}%
8432 }%
8433 \newcommand{\@subtitle}{}%
8434 \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
8435 \renewcommand*\maketitlehookb{\printsubtitle}%
8436 \newcommand*\printsubtitle{%
8437 \warpprintonly{\begin{center}\unskip}%
8438 \begin{BlockClass}{subtitle}%
8439 \warpprintonly{\Large\itshape}%
8440 \@subtitle%
8441 \end{BlockClass}%
8442 \warpprintonly{\end{center}}%
8443 }%
8444 }% yes titling package
8445 {% no titling package

8446 \def\@published{}%
8447 \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
8448 \DeclareDocumentCommand{\printpublished}{}{}%
8449 \def\@subtitle{}%
8450 \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
8451 \DeclareDocumentCommand{\printsubtitle}{}{}%
8452 }% no titling package
8453 }% \AddSubtitlePublished

8454 \end{warppall}

```

## 72 Abstract

The following code replaces the L<sup>A</sup>T<sub>E</sub>X default, and will itself be replaced later if the abstract package is loaded.

**for HTML output:** 8455 `\begin{warppHTML}`

`\abstractname` User-redefinable title for the abstract.

Also over-written by the `babel` package.

```
8456 \providecommand*\abstractname}{Abstract}
```

Some classes allow an optional name, so it is allowed here.

abstract (*env.*)

```

8457 \DeclareDocumentEnvironment{abstract}{O{\abstractname}}
8458 {
8459 \LWR@forcenewpage
8460 \BlockClass{abstract}
8461 \BlockClassSingle{abstracttitle}{#1}
8462 }
8463 {
8464 \endBlockClass
8465 }

8466 \end{warpHTML}

```

## 73 Quote and verse

### 73.1 Attributions

`\attribution {<name>}`

For use with quote, quotation, verse:

Ex: "A quotation." `\attribution{\textsc{Author Name}}\textsl{Book Title}`

**for HTML & PRINT:**

```

8467 \begin{warpall}
8468 \newcommand{\attribution}[1]{
8469 \begin{flushright}
8470 \unskip
8471 #1
8472 \end{flushright}%
8473 }
8474 \end{warpall}

```

**for HTML output:**

```

8475 \begin{warpHTML}
8476 \newcommand{\LWR@HTML@attribution}[1]{%
8477 \LWR@stoppars%
8478 \begin{BlockClass}{attribution}
8479 #1
8480 \end{BlockClass}
8481 \LWR@startpars%
8482 }
8483 \LWR@formatted{attribution}
8484 \end{warpHTML}

```

### 73.2 Quotes, quotations

**for HTML output:** `8485 \begin{warpHTML}`

quote (*env.*)

```

8486 \newenvironment*{\LWR@HTML@quote}
8487 {
8488 \LWR@forcenewpage

```

```

8489 \LWR@htmlblocktag{blockquote}
8490 }
8491 {\LWR@htmlblocktag{/blockquote}}
8492
8493 \LWR@formattedenv{quote}

```

quotation (*env.*)

```

8494 \newenvironment*{LWR@HTML@quotation}
8495 {
8496 \LWR@forcenewpage
8497 \LWR@htmlblocktag{blockquote}
8498 }
8499 {\LWR@htmlblocktag{/blockquote}}
8500
8501 \LWR@formattedenv{quotation}

8502 \end{warpHTML}

```

### 73.3 Verse

When using `verse` or `memoir`, always place a `\\` after each line.


`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:


```

\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}

```

`\leftskip` (*Len*) These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

 **spacing** Horizontal spacing relies on *pdftotext*’s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which

 **verse margin** case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

#### 73.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

**for HTML output:** `8503 \begin{warpHTML}`

verse (*env.*)

```

8504 \newenvironment{LWR@HTML@verse}
8505 {\let\\newline% lwarp
8506 \list{}{\itemsep \z@
8507 \itemindent -1.5em%
8508 \listparindent\itemindent
8509 \rightmargin \leftmargin
8510 \advance\leftmargin 1.5em}%
8511 \item\relax}
8512 {\endlist}
8513
8514 \LWR@formattedenv{verse}

8515 \end{warpHTML}

```

**for HTML & PRINT:** 8516 \begin{warpall}

### 73.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\leftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

`\HTMLvleftskip` (*Len*) Sets `\vleftskip` inside a verse environment in HTML.

```

8517 \newlength{\HTMLvleftskip}
8518 \setlength{\HTMLvleftskip}{1em}

```

`\HTMLleftmargini` (*Len*) Sets `\leftmargini` inside a verse environment in HTML.

```

8519 \newlength{\HTMLleftmargini}
8520 \setlength{\HTMLleftmargini}{4.5em}

8521 \end{warpall}

```

## 74 Verbatim and tabbing

**for HTML & PRINT:** 8522 \begin{warpall}

`\VerbatimHTMLwidth` (*Len*) Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```

8523 \newlength{\VerbatimHTMLwidth}
8524 \setlength{\VerbatimHTMLwidth}{4in}
8525 \end{warpall}

```

**for HTML output:** 8526 \begin{warpHTML}

`\@setupverbvisiblespace` For X<sub>Y</sub>TEX or LuaTEX, the default visible space was drawn in PDF, but not a text character which could be copied to HTML.

```
8527 \ifxetexorluatex
8528
8529 \newcommand*{\LWR@HTML@setupverbvisiblespace}{\let\xobeysp\textvisiblespace}
8530
8531 \LWR@formatted{@setupverbvisiblespace}
8532
8533 \fi
```

`LWR@verbtags` (*bool*) Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head, during `\LWR@filestart`, or during MATHJAX. Verbatim tags are also disabled separately inside an HTML span.

```
8534 \newbool{LWR@verbtags}
8535 \booltrue{LWR@verbtags}
```

`\verb` Patched to encapsulate the verbatim text inside span with a class of `verb`.

```
8536 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
8537
8538 \def\LWR@verb@egroup@endspan{%
8539 \LWR@orig@verb@egroup%
8540 \ifbool{LWR@verbtags}%
8541 {\LWR@htmltag{/span}}%
8542 {}%
8543 \endgroup%
8544 }

8545 \xpretocmd{\verb}
8546 {%
8547 \begingroup%
8548 \ifbool{LWR@verbtags}%
8549 {\LWR@htmltag{span class=\textquotedbl{}verb\textquotedbl}}%
8550 {}%
8551 \let\verb@egroup\LWR@verb@egroup@endspan%
8552 }
8553 {}
8554 {\LWR@patcherror{LaTeX}{verb}}
```

`\LWR@atbeginverbatim` [*1: style*] [*2: class*]

Encloses a verbatim environment with the given CSS class.

The use of `\textquotedbl` instead of `"` improves compatibility with XeCJK.

```
8555 \newcommand*{\LWR@atbeginverbatim}[2][{}]
8556 {%
```

Stop generating HTML paragraph tags:

```
8557 \LWR@stoppars%
```

Avoid excessive space between lines:

```
8558 \setlength{\parskip}{0ex}%
8559 \setlength{\topsep}{0pt}%
8560 \setlength{\partopsep}{0pt}%
```

Inside the verbatim, temporarily prevent underfull \hbox warnings.

```
8561 \hbadness=10000\relax%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script, or inside a <span>.

```
8562 \ifbool{LWR@verbtags}%
8563 {%
8564 \ifnumcomp{\value{LWR@spandepth}}{=}{0}{%
8565 \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
8566 \ifthenelse{\equal{#1}{}}{\ style=\textquotedbl#1\textquotedbl}%
8567 }%
8568 \par%
8569 }%
8570 {% in a span
8571 \LWR@spanwarnformat{verbatim}%
8572 }%
8573 }{%}
```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the verse class.

```
8574 \begingroup%
```

```
8575 \LWR@print@normalfont%
8576 \LWR@origttfamily%
```

If not inside a lateximage, use a small font to avoid line overflow.

```
8577 \ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}%
8578 {\LWR@print@scriptsize}%
8579 }%
```

Since inside a <pre>, restore the original list processing:

```
8580 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
8581 \LWR@hook@processingtags%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L<sup>A</sup>T<sub>E</sub>X \hspace functionality:

```
8582 \let\hspace\LWR@print@hspace%
```

Do not produce HTML tags for \nbsp.

```
8583 \boolfalse{LWR@HTMLsanitize@nobreakspace}%
8584 }
```



`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```
8585 \newcommand*\LWR@afterendverbatim}{%
8586 \endgroup%
8587 \par%
```

At the end of the environment, close the pre:

```
8588 \ifboolexpr{
8589 bool{\LWR@verbtags} and
8590 test {\ifnumcomp{\value{\LWR@spandepth}}{=}{}{0}}
8591 }%
8592 {%
8593 \noindent\LWR@htmltag{/pre}\par% pre
8594 }{ }%
```

Resume regular paragraph handling:

```
8595 \LWR@startpars%
8596 }
```

`\verbatiminput {<filename>}`

Patch `\verbatiminput` to add HTML tags:

```
8597 \newcommand{\LWR@HTML@verbatim@input}[2]{%
8598 \ifbool{\LWR@verbtags}{\LWR@forcenewpage}}{%
8599 \LWR@atbeginverbatim{Verbatim}%
8600 \LWR@print@verbatim@input{#1}{#2}%
8601 \LWR@afterendverbatim%
8602 }
8603
8604 \LWR@formatted{verbatim@input}
```

`verbatim (enu)`


```
8605 \AfterEndPreamble{
8606 \LWR@traceinfo{Patching verbatim.}
8607 \AtBeginEnvironment{verbatim}{%
8608 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8609 }%
8610 {%
8611 \LWR@forcenewpage%
8612 \LWR@atbeginverbatim{verbatim}%
8613 }%
8614 }
8615 \AfterEndEnvironment{verbatim}{%
8616 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8617 }%
8618 {%
8619 \LWR@afterendverbatim%
8620 }%
8621 }
8622 %
8623 \AtBeginEnvironment{verbatim*}{%
8624 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8625 }%
8626 {%
```

```

8627 \LWR@forcenewpage%
8628 \LWR@atbeginverbatim{verbatim}%
8629 }%
8630 }
8631 \AfterEndEnvironment{verbatim*}{%
8632 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8633 }%
8634 {%
8635 \LWR@afterendverbatim%
8636 }%
8637 }
8638 }

```

`tabbing (env)` The `tabbing` environment works, except that `svg math` and `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside `tabbing`, place `tabbing` inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

```

8639 \newenvironment*{LWR@HTML@tabbing}
8640 {%
8641 \LWR@forcenewpage%
8642 \LWR@atbeginverbatim{tabbing}%
8643 \let\enskip\LWR@print@enskip%
8644 \let\quad\LWR@print@quad%
8645 \let\qquad\LWR@print@qquad%
8646 \LetLtxMacro~\LWR@origtilde%
8647 \LetLtxMacro\nobreakspace\LWR@originobreakspace%
8648 \let\,\LWR@origcomma%
8649 \let\thinspace\LWR@print@thinspace%
8650 \let\negthinspace\LWR@print@negthinspace%
8651 \LWR@print@tabbing%
8652 }
8653 {%
8654 \endLWR@print@tabbing%
8655 \LWR@afterendverbatim%
8656 }
8657
8658 \LWR@formattedenv{tabbing}

8659 \end{warpHTML}

```

## 75 Theorems

`\newtheorem`  $\{\langle text \rangle\} [\langle counter \rangle]$  — or —  $[\langle oldname \rangle] \{\langle text \rangle\}$

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a `<div>` of class `theoremcontents`.
- The label for each theorem is placed inside a `<span>` of class `theoremLabel`.
- The contents are placed inside a `<div>` of class `theoremcontents`.

**for HTML output:** `8660 \begin{warpHTML}`

`\@thm {<counter name>} {<text>}`

Recent L<sup>A</sup>T<sub>E</sub>X kernels use `\@kernel@refstepcounter` which does not include `cleveref` changes. Revert to `\stepcounter` instead. (Print-mode `hyperref` changes do not matter for HTML.)

```
8661 \TestVerifyCommands
8662
8663 \IfVerifyCommand[lwarp][latex]{\@thm}
8664 {C35B697D8E37A052BF513D51C8660A87}% LaTeX kernel definition
8665 {}{}
8666
8667 \IfVerifyCommand[lwarp][latex]{\@thm}
8668 {2624BDB5B96C45756978B3D393430088}% amsthm definition
8669 {}{}
8670
8671 \IfVerifyCommandPassed
8672 {}
8673 {\VERCMDWarning{lwarp}{latex}{\@thm}}
8674
8675 \def\@thm#1#2{%
8676 % \@kernel@refstepcounter{#1}%
8677 \refstepcounter{#1}% lwarp
8678 \@ifnextchar[{\@ythm{#1}{#2}}{\@xthm{#1}{#2}}%
8679 }
```

`\@begintheorem {<name>} {<number>}`

```
8680 \renewcommand{\@begintheorem}[2]{%
8681 \LWR@forcenewpage

8682 \LWR@printpendingfootnotes% lwarp

8683 \BlockClass{theoremcontents}
8684 \trivlist
8685 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape%
8686 }
```

`\@opargbegintheorem {<name>} {<number>} {<oparg>}`

L<sup>A</sup>T<sub>E</sub>X defines this, but `amsthm` `\relaxes` it, so it will not be defined if `amsthm` is loaded before `lwarp`.

```
8687 \ifundef{\@opargbegintheorem}{}{
8688 \renewcommand{\@opargbegintheorem}[3]{%
8689 \LWR@forcenewpage
8690 \BlockClass{theoremcontents}
8691 \trivlist
8692 \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape%
8693 }
8694 }
```

`\@endtheorem`

```
8695 \renewcommand*\@endtheorem}{%
8696 \endtrivlist
```

```

8697 \LWR@printpendingfootnotes% lwarp

8698 \endBlockClass% theoremcontents
8699 }

8700 \end{warpHTML}

```

## 76 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard  $\LaTeX$  environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The  $\LaTeX$  source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.

**empty item** To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

---

```

begin{itemize}
item \mbox{}
 \begin{itemize}
...
 \end{itemize}
item \
 \begin{itemize}
...
 \end{itemize}

```

---

### 76.1 List environment

**for HTML output:** 8701 `\begin{warpHTML}`

`\LWR@printcloseList` May be locally redefined by `enumerate` or `description`.

```
8702 \newcommand*{\LWR@printcloseList}{\LWR@printcloseitemize}
```

`\LWR@printopenList` May be locally redefined by `itemize`, `enumerate`, `description`, or `hangingList` from package `hang`.

```

8703 \newcommand*{\LWR@printopenList}{%
8704 ul % space
8705 class=\textquotedbl{}list\textquotedbl{} % space
8706 style=\textquotedbl\LWR@print@mbox{list-style-type:none}\textquotedbl{}%
8707 }

```

`\makeLabel` While inside a list environment, `lwarp` nullifies a number of  $\TeX$  horizontal skip and fill commands, allowing the user to define `\makeLabel` for print mode while HTML mode ignores those commands.

⚠ **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

`\@mklab` Removes PDF spacing.

```
8708 \AtBeginDocument{
8709 \def\@mklab#1{%
8710 % \hfil %
8711 #1}
8712 \let\makelabel\@mklab
8713 }
```

`\@donoparitem` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```
8714 \def\@donoparitem{%
8715 \@noperitemfalse
8716 % \global\setbox\@labels\hbox{\hskip -\leftmargin
8717 % \unhbox\@labels
8718 % \hskip \leftmargin}%
8719 % \if@minipage\else
8720 % \@tempskipa\lastskip
8721 % \vskip -\lastskip
8722 % \advance\@tempskipa\outerparskip
8723 % \advance\@tempskipa -\parskip
8724 % \vskip\@tempskipa
8725 % \fi
8726 }
```

`\LWR@makeLabeltag` Used to add `<dt>` for descriptions. Empty for other list types.

```
8727 \newcommand*\LWR@makeLabeltag{}
```

`\@item` Modified for HTML output by replacing T<sub>E</sub>X boxes with plain text. Also removes PDF spacing.

```
8728 \def\LWR@HTML@item[#1]{%
8729 \LWR@traceinfo{\@item}%
8730 \if@noperitem
8731 \@donoparitem
8732 \else
8733 % \if@inlabel
8734 % \indent
8735 % \fi
8736 \ifhmode
8737 % \unskip\unskip
8738 \fi
8739 \if@newlist
8740 \if@nobreak
8741 \@nbitem
8742 \else
8743 % \addpenalty\@beginparpenalty
8744 % \addvspace\@topsep
8745 % \addvspace{-\parskip}%
8746 \fi
8747 \else
8748 % \addpenalty\@itempenalty
```

```

8749 % \addvspace\itemsep
8750 \fi
8751 \global\@inlabeltrue
8752 \fi
8753 % \everypar{%
8754 \@minipagefalse
8755 \global\@newlistfalse

8756 % \if@inlabel
8757 % \global\@inlabelfalse

8758 % {\setbox\z@\lastbox
8759 % \ifvoid\z@
8760 % \kern-\itemindent
8761 % \fi}%

8762 % \box\@labels
8763 % \penalty\z@
8764 % \fi

8765 % \if@nobreak
8766 % \@nobreakfalse
8767 % \clubpenalty \@M
8768 % \else
8769 % \clubpenalty \@clubpenalty
8770 % \everypar{}%
8771 % \fi}%

8772 \if@noitemarg
8773 \@noitemargfalse
8774 \if@nmbrrlist

8775 \refstepcounter\@listctr
8776 \fi
8777 \fi

```

If not empty, print the label with the class listmarker:

```

8778 \ifboolexpr{
8779 test {\ifblank{#1}} or
8780 (
8781 test {\ifstrequal{#1}{\@itemlabel}} and
8782 test {\ifdefempty{\@itemlabel}}
8783)
8784 }%
8785 {}%
8786 {%
8787 \ifdefempty{\LWR@makelabeltag}{\LWR@htmltag{\LWR@makelabeltag}}%
8788 \InlineClass{listmarker}{\makeLabel{#1}}%
8789 \ifdefempty{\LWR@makelabeltag}{\LWR@htmltag{/LWR@makelabeltag}} % extra space
8790 }%
8791 % \sbox\@tempboxa{\makeLabel{#1}}%
8792 % \global\setbox\@labels\hbox{%
8793 % \unhbox\@labels
8794 % \hskip \itemindent
8795 % \hskip -\labelwidth
8796 % \hskip -\labelsep
8797 % \ifdim \wd\@tempboxa >\labelwidth
8798 % \box\@tempboxa

```

```

8799 % \else
8800 % \hbox to\labelwidth {\unhbox\@tempboxa}%
8801 % \fi
8802 % \hskip \labelsep}%
8803 \ignorespaces%
8804 }

```

`\@nbitem`

```

8805 \def\@nbitem{%
8806 % \@tempskipa\@outerparskip
8807 % \advance\@tempskipa -\parskip
8808 % \addvspace\@tempskipa
8809 }

```

`\LWR@listitem` [*label*]

Handles `\item` inside a list, `itemize`, or `enumerate`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8810 \newcommand*\LWR@listitem{%
8811 \LWR@stoppars%
8812 \LWR@startnewdepth{listitem}%
8813 \LWR@htmltag{li}%
8814 \LWR@orignewline%
8815 \LWR@startpars%
8816 \LWR@ensuredoingapar%
8817 \LWR@origitem%
8818 }

```

`\LWR@nulllistfills` Nullifies various TeX fill commands, in case they are used inside `\makeLabel`. Problems are caused when these are nullified all the time.

```

8819 \newcommand*\LWR@nulllistfills{%
8820 \renewcommand*\hss{%}%
8821 \renewcommand*\llap[1]{##1}%
8822 \renewcommand*\rlap[1]{##1}%
8823 \renewcommand*\hfil{%}%
8824 \renewcommand*\hfilneg{%}%
8825 \renewcommand*\hfill{%}%
8826 }

```

`list (enu)` {*label*} {*commands*}

```

8827 \newcommand*\LWR@liststart{%
8828 \LWR@traceinfo{LWR@liststart}%
8829 \LWR@stoppars%
8830 \LWR@pushoneclose{list}%
8831 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8832 \LWR@startpars%
8833 \setlength{\topsep}{0pt}%
8834 \setlength{\partopsep}{0pt}%
8835 \setlength{\itemsep}{0pt}%
8836 \setlength{\parsep}{0pt}%
8837 \setlength{\leftmargin}{0pt}%

```

```

8838 \setlength{\rightmargin}{0pt}%
8839 \setlength{\listparindent}{0pt}%
8840 \setlength{\itemindent}{0pt}%
8841 \setlength{\labelsep}{1em}%
8842 \LWR@nulllistfills%
8843 }

8844 \newcommand*\LWR@listend{%
8845 \LWR@traceinfo{LWR@listend}%
8846 \LWR@stoppars%
8847 \LWR@closeprevious{list}%
8848 \LWR@startpars%
8849 }

```

## 76.2 Itemize

`\LWR@itemizeitem` [*<label>*]

Handles `\item` inside an itemize or enumerate.

The optional argument is passed to `\LWR@origitem`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8850 \newcommand*\LWR@itemizeitem{%
8851 \LWR@stoppars%
8852 \LWR@startnewdepth{listitem}%
8853 \LWR@htmltag{li}%
8854 \LWR@orignewline%
8855 \LWR@startpars%
8856 \LWR@ensuredoingapar%
8857 \LWR@origitem%
8858 }

```

`itemize (enu)` [*<options>*]

```

8859 \newcommand*\LWR@itemizestart{%
8860 \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
8861 \renewcommand*\LWR@printopenlist{%
8862 ul % space
8863 class=\textquotedbl{}itemize\textquotedbl{} % space
8864 style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl{}%
8865 }%
8866 \LetLtxMacro\item\LWR@itemizeitem%
8867 \LWR@nulllistfills%
8868 }

```

## 76.3 Enumerate

An HTML unordered list is used with customized L<sup>A</sup>T<sub>E</sub>X-generated labels.

`enumerate (enu)` [*<options>*]



```

8869 \newcommand*\LWR@enumeratestart}{%
8870 \renewcommand*\LWR@printcloseitemize}{\LWR@printcloseitemize}%
8871 \renewcommand*\LWR@printopenlist}{%
8872 ul % space
8873 class=\textquotedbl{}enumerate\textquotedbl{} % space
8874 style=\textquotedbl\LWR@print@mbbox{list-style-type:none}\textquotedbl{}%
8875 }%
8876 \LetLtxMacro\item\LWR@itemizeitem%
8877 \LWR@nulllistfills%
8878 }

```

## 76.4 Description

`\LWR@descitem` [*label*] Handles an `\item` inside a description.

```

8879 \newcommand*\LWR@descitem}[1][{}]{%
8880 \LWR@stoppars%
8881 \LWR@setlatestname{#1}%
8882 \LWR@startnewdepth{descitem}%

```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.

```

8883 \begingroup%
8884 \renewcommand*\LWR@makelabeltag}{dt}%
8885 \RenewDocumentCommand{\hspace}{s m}{}%
8886 \LWR@origitem[#1]%
8887 \endgroup%

```

Allow `\item` without an argument:

```

8888 \leavevmode%

8889 \LWR@orignewline%
8890 \LWR@htmltag{dd}%
8891 \LWR@startpars%
8892 }

```

`description` (*env*) [*options*]

Footnotes are modified to correctly parse optional arguments.

```

8893 \newcommand*\LWR@descriptionstart}{%
8894 \renewcommand*\LWR@printcloselist}{\LWR@printclosedescription}
8895 \renewcommand*\LWR@printopenlist}{%
8896 dl % space
8897 class=\textquotedbl{}description\textquotedbl{} % space
8898 }
8899 \LetLtxMacro\item\LWR@descitem%
8900 \LWR@nulllistfills%
8901 }

```

## 76.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L<sup>A</sup>T<sub>E</sub>X environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```

8902 \newcommand*\LWR@patchlists}{%
8903 \LetLtxMacro\item\LWR@listitem%
8904 \LetLtxMacro\@item\LWR@HTML@item%
8905 \renewcommand*\@trivlist}{%
8906 \LWR@traceinfo{@trivlist start}%
8907 \LWR@liststart%
8908 \LWR@orig@trivlist%
8909 \LWR@traceinfo{@trivlist done}%
8910 }%
8911 \renewcommand*\@trivlist}{%
8912 \LWR@traceinfo{trivlist}%
8913 \LWR@origtrivlist%
8914 }%
8915 \renewcommand*\endtrivlist}{%
8916 \LWR@traceinfo{endtrivlist start}%
8917 \LWR@origendtrivlist\LWR@listend%
8918 \LWR@traceinfo{endtrivlist done}%
8919 }%
8920 \renewcommand*\itemize}{%
8921 \LWR@itemizestart\LWR@origitemize%
8922 }%
8923 \renewcommand*\enumerate}{%
8924 \LWR@enumeratestart\LWR@origenumerate%
8925 }%
8926 \renewcommand*\description}{%
8927 \LWR@descriptionstart\LWR@origdescription%
8928 }%
8929 }

```

`\LWR@restoreoriglists` Restores the original `trivlist` environment.

```

8930 \newcommand*\LWR@restoreoriglists}{%
8931 \LWR@traceinfo{LWR@restoreoriglists}%
8932 \LetLtxMacro\item\LWR@origitem%
8933 \LetLtxMacro\@item\LWR@orig@item%
8934 \let\@trivlist\LWR@orig@trivlist%
8935 \let\trivlist\LWR@origtrivlist%
8936 \let\endtrivlist\LWR@origendtrivlist%
8937 \LetLtxMacro\itemize\LWR@origitemize%
8938 \LetLtxMacro\enditemize\LWR@endorigitemize%
8939 \LetLtxMacro\enumerate\LWR@origenumerate%
8940 \LetLtxMacro\endenumerate\LWR@endorigenumerate%
8941 \LetLtxMacro\description\LWR@origdescription%
8942 \LetLtxMacro\enddescription\LWR@endorigdescription%
8943 \let\@mklab\LWR@orig@mklab%
8944 \let\makelabel\LWR@origmakelabel%
8945 \let\@donoparitem\LWR@orig@donoparitem%
8946 \let\@nbitem\LWR@orig@nbitem%
8947 }

8948 \end{warpHTML}

```

## 77 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L<sup>A</sup>T<sub>E</sub>X core and the various tabular-related packages.

### 77.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, siunitx S columns, or the packages multirow, longtable, supertabular, or xtab.

#### Defining macros and environments:

⚠ Misplaced alignment  
tab character &

- When defining environments or macros which include tabular and instances of the & character, it may be necessary to make & active before the environment or macro is defined, then restore & to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
<define macros or environments using tabular and &
here>
\StopDefiningTabulars
```

⚠ floatrow

This includes before and after defining any macro which used \ttabbox from floatrow.

⚠ tabular inside another  
environment

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use \ResumeTabular as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a
definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars
```

For developers:

- To automate the use of \StartDefiningTabulars and \EndDefiningTabulars, these macros may be embedded inside an HTML environment definition to automatically change the catcode of & before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
 . . .
 \otherenvironmentname [<args>] {<args>} % for
 example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
 \StartDefiningTabulars
 \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
 . . .
 \endotherenvironmentname % for example
 \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}

```

**Cell contents:****⚠ macro in a table**

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \
```

**Column specifiers:****⚠ math**

- Due to the way math is gathered for processing, column specifiers such as `>{$}c<{$}` do not work with `lwarp`. Instead, each cell must specify math mode individually.

**@ and !**

- Only one each of @ and ! is used at each column, and they are used in that order.

**\multirow**

- In `\multirow` cells, the print version may have extra instances of <, >, @, and ! cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

**⚠ \newcolumntype**

- If `\newcolumntype` does not work for HTML, add a simplified column type using `\HTMLnewcolumntype`.

**font and alignment**

- `lwarp` detects each of the following, and sets HTML CSS appropriately:
  - `>{\centering\arraybackslash}`
  - `>{\raggedright\arraybackslash}`
  - `>{\raggedleft\arraybackslash}`
  - `>{\itshape}`
  - `>{\bfseries}`
  - `>{\bfseries\itshape}`

These may be used with `\newcolumntype`, such as:

```
\newcolumntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

**Rules:****vertical rules**

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.

**width and trim**

- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.

**combined rules**

- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:
 

```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

**△ \warpprintonly****△ Misplaced \noalign**

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change
 

```
This & That \endhead
```

 to
 

```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

**Other:**

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

**longtable headings**

- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.

**△ S columns**

- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{}` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s `tabular` handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:

```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```

- In  $\LaTeX$ , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a `<span>`. If this situation is detected, a warning is printed instructing the user to isolate the `<span>` using `\warpprintonly` or the `warpprint` environment.

for HTML output: `8949 \begin{warppHTML}`

## 77.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

### 77.2.1 `arydshln`

Emulated by the original  $\LaTeX$  non-dashed versions.

**△ tabular inside a <span>**

```

8950 \LetLtxMacro\hdashline\hline
8951 \LetLtxMacro\cdashline\cline
8952 \LetLtxMacro\firsthdashline\hline
8953 \LetLtxMacro\lasthdashline\hline

```

### 77.3 Token lookahead

Used by `\LWR@futurenonpacelet` to look at the next token.

`\LWR@mynexttoken`

```
8954 \newcommand\LWR@mynexttoken\relax
```

`\LWR@futurenonpacelet` `\futurelet` copies the next token then executes a function to analyze it.

`\LWR@futurenonpacelet` does the same, but ignores intervening spaces and paragraphs.

Based on the `booktabs` style:

```

8955 \def\LWR@futurenonpacelet#1{\def\LWR@cs{#1}%
8956 \afterassignment\LWR@fnslone\let\nexttoken= }
8957
8958 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
8959
8960 \def\LWR@fnsltwo{%
8961 \expandafter\ifx\LWR@cs\sptoken%
8962 \let\next=LWR@fnslthree%
8963 \else%
8964 \expandafter\ifx\LWR@cs\par%
8965 \let\next=LWR@fnslthree%
8966 \else%
8967 \let\next=\nexttoken%
8968 \fi%
8969 \fi\next}
8970
8971 \def\LWR@fnslthree{\afterassignment\LWR@fnslone\let\next= }

```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```

8972 \newcommand*\LWR@getmynexttoken{%
8973 \LWR@traceinfo{\LWR@getmynexttoken}%

```



Nothing must follow this next line:

```

8974 \LWR@futurenonpacelet\LWR@mynexttoken\LWR@tabledatacolumnntag
8975 }

```

### 77.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, `etoolbox`'s `\defcounter` and `lwarp`'s new `\defaddtocounter` are used.

`LWR@startedrow` (*bool*) True if should print a row tag before this column.

```
8976 \newbool{LWR@startedrow}
8977 \boolfalse{LWR@startedrow}
```

LWR@tabularcelladded (*bool*) True if have added a data cell for this position.

```
8978 \newbool{LWR@tabularcelladded}
8979 \boolfalse{LWR@tabularcelladded}
```

LWR@hlines (*Ptr*) Number of \hlines or \midrules above the next row.

```
8980 \newcounter{LWR@hlines}
```

LWR@hdashedlines (*Ptr*) Number of \arydshln dashed lines above the next row.

```
8981 \newcounter{LWR@hdashedlines}
```

LWR@doingtbrule (*bool*) True if the next row will have a top/bottom rule above it.

```
8982 \newbool{LWR@doingtbrule}
8983 \boolfalse{LWR@doingtbrule}
```

LWR@doingcmidrule (*bool*) True if the next row will have a cmidrule above it.

This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.

```
8984 \newbool{LWR@doingcmidrule}
8985 \boolfalse{LWR@doingcmidrule}
```

LWR@tableparcell (*bool*) True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.

```
8986 \newbool{LWR@tableparcell}
```

LWR@skippingmrowcell (*bool*) True if are doing an empty \multirow cell, and thus there is no data tag to close.

```
8987 \newbool{LWR@skippingmrowcell}
```

LWR@skippingmcolrowcell (*bool*) True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.

```
8988 \newbool{LWR@skippingmcolrowcell}
```

LWR@usedmultirow (*bool*) Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
8989 \newbool{LWR@usedmultirow}
```

LWR@foundmrowcell (*bool*) Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.

```
8990 \newbool{LWR@foundmrowcell}
```

LWR@skipatbang (*bool*) True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.

```
8991 \newbool{LWR@skipatbang}
```

`LWR@emptyatbang` (*bool*) True if finishing a row and should print empty @ or ! column table data cells.

8992 `\newbool{LWR@emptyatbang}`

`LWR@intabularmetadata` (*bool*) True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.

8993 `\newbool{LWR@intabularmetadata}`

8994 `\boolfalse{LWR@intabularmetadata}`

`LWR@exitingtabular` (*bool*) When `\end` is found, turns off the next opening data tag.

8995 `\newbool{LWR@exitingtabular}`

`LWR@tabularmutemods` (*bool*) Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate `\bottomrules`.

8996 `\newbool{LWR@tabularmutemods}`

`LWR@tabularfinalrow` (*bool*) Used to set `aria-hidden` if adding a final row for the purpose of adding the bottom border.

8997 `\newbool{LWR@tabularfinalrow}`

`LWR@validtablecol` (*bool*) True if found a valid table column type.

8998 `\newbool{LWR@validtablecol}`

`LWR@opttablecol` (*bool*) True if found a table column optional argument.

8999 `\newbool{LWR@opttablecol}`

Used to add a style to a table data cell:

9000 `\newbool{LWR@tdhavecellstyle}`

`LWR@tabularDepth` (*Ctr*) Tracks whether & is being used inside a tabular.

9001 `\newcounter{LWR@tabulardepth}`

9002 `\setcounter{LWR@tabulardepth}{0}`

`LWR@tabularpardepth` (*Ctr*) Tracks whether should look ahead at the next token when encountering a `\par` while processing tabular contents.

When `LWR@tabularpardepth` is deeper than `LWR@tabulardepth` then `lwarp` has started looking at the contents of the tabular, and thus any `\pars` encountered must be followed by another token `lookahead`.

9003 `\newcounter{LWR@tabularpardepth}`

9004 `\setcounter{LWR@tabularpardepth}{0}`

9005 `\newcommand*{\LWR@colsresult}{}` %temp storage for column format results

9006 `\newcommand*{\LWR@pposition}{}`

9007 `\newcommand*{\LWR@pleft}{}`

9008 `\newcommand*{\LWR@pright}{}`



`LWR@tablecolspec` Holds the parsed column specification, of total width `LWR@tabletotalLaTeXcols`, not counting `@` and `!` columns.

Will contain a string such as `llrrccpc`, exactly one letter per `LATEX` table column, without `@`, `!`, `>`, `<`, or the vertical bar.

`\LWR@strresult` Holds the result of `Str` functions.

```
9009 \providecommand*\LWR@strresult{}
9010 \providecommand*\LWR@strresulttwo{}
```

`\LWR@origcolspec` Holds the original column specs given to `tabular`.

```
9011 \newcommand*\LWR@origcolspec{}
```

`LWR@tablecolspecwidth` (*Ctr*) Holds the number of tokens in the table columns specification.

This includes one for each `@`, `!`, `<`, `>` column, and also one for each of the parameters of `p`, `@`, `!`, `<`, `>` columns, and three for each `D` column.

(This is not the total # of `LATEX` columns in the table.)

```
9012 \newcounter{LWR@tablecolspecwidth}
```

`LWR@tablecolspecindex` (*Ctr*) While parsing the `LATEX` table column specification, starts at 1 and is incremented per token of the specification.

```
9013 \newcounter{LWR@tablecolspecindex}
```

`LWR@tableLaTeXcolindex` (*Ctr*) While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

```
9014 \newcounter{LWR@tableLaTeXcolindex}
```

`LWR@tabletotalLaTeXcols` (*Ctr*) While parsing a table column specification, begins at 0 and increments by 1 per `LATEX` table column. Eventually holds the final number of `LATEX` table columns in each row, not counting `@` and `!` columns. (In `HTML`, `@` and `!` cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```
9015 \newcounter{LWR@tabletotalLaTeXcols}
```

`LWR@tabletotalLaTeXcolsnext` (*Ctr*) Holds the next `LATEX` table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
9016 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

`LWR@colatspec` A data array of specifications for `@` columns. The leftmost's index is `leftedge`, the others are counter values. See section 44.

`LWR@colbangspec` A data array of specifications for `!` columns. The leftmost's index is `leftedge`, the others are counter values. See section 44.

`LWR@colbeforespec` A data array of specifications for `>` columns.

`LWR@colafterspec` A data array of specifications for `<` columns.

LWR@colbarspec A data array of specifications for vertical rules.

LWR@coladdclass A data array of extra css class, as set by >.

LWR@cellcolordepth (*Ctr*) Counts how many cell color <div>s were added to the current tabular data cell.

```
9017 \newcounter{LWR@cellcolordepth}
```

#### 77.4.1 Multicolumn variables

```
9018 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
9019 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
9020 \newcounter{LWR@mcolvertbarsl}
```

```
9021 \newcounter{LWR@mcolvertbarsr}
```

```
9022 \newcounter{LWR@mcolvertbarsldash}
```

```
9023 \newcounter{LWR@mcolvertbarsrdash}
```

```
9024 \newbool{LWR@mcolvertbaronleft}
```

#### 77.4.2 Longtable variables

LWR@starredlongtable (*bool*) Per the caption package, step the counter if longtable\*.

```
9025 \newbool{LWR@starredlongtable}
```

```
9026 \boolfalse{LWR@starredlongtable}
```

#### 77.4.3 Midrule variables

LWR@midrulecounter (*Ctr*) Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
9027 \newcounter{LWR@midrulecounter}
```

### 77.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/>

[where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860](http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860)

\LWR@instertatbangcols

```
9028 \newcommand*{\LWR@insertatbangcols}{%
```

```
9029 \ifbool{LWR@skipatbang}%
```

```
9030 }{%
```

```
9031 }%
```

```
9032 \LWR@printatbang{at}{\arabic{LWR@tableLaTeXcolindex}}%
```

```
9033 \LWR@printatbang{bang}{\arabic{LWR@tableLaTeXcolindex}}%
```

```
9034 }%
```

```
9035 }
```

`\LWR@closetabledatacell` If `LWR@skippingmrowcell` or `LWR@skippingmcolrowcell` then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

9036 \newcommand*{\LWR@closetabledatacell}{%
9037 \booltrue{LWR@intabularmetadata}%
9038 \ifbool{LWR@exitingtabular}%
9039 {%

9040 \LWR@stoppars%
9041 }%
9042 {% not exiting tabular
9043 \ifbool{bool{LWR@skippingmrowcell} or bool{LWR@skippingmcolrowcell}}%
9044 {%

9045 \LWR@stoppars%

```

If not skipping a `\multicolumnrow` cell, insert the @ and ! columns after this non-existent column.

```

9046 \ifbool{LWR@skippingmcolrowcell}%
9047 {}%
9048 {\LWR@insertatbangcols}%
9049 }%
9050 {% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

9051 \unskip%
9052 \ifbool{bool{LWR@tabularmutemods} or
9053 bool{LWR@skipatbang} or
9054 bool{LWR@emptyatbang}}%
9055 {}%
9056 }%
9057 {}%
9058 {%
9059 \LWR@getexparray{LWR@colafterspec}%
9060 {\arabic{LWR@tableLaTeXcolindex}}%
9061 }%

```

Close paragraphs:

```

9062 \LWR@stoppars%
9063 \boolfalse{LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

9064 \whilebool{test {\ifnumcomp{\value{LWR@cellcolordepth}}{>}{0}}}{%
9065 \LWR@htmltag{/div}\LWR@orignewline%
9066 \defaddtocounter{LWR@cellcolordepth}{-1}%
9067 }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

9068 \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%

```

```

9069 \global\booltrue{LWR@tabularcelladded}%
9070 \LWR@insertatbangcols%
9071 }% not skipping mrowcell
9072 }% not exiting tabular
9073 \boolfalse{LWR@skippingmrowcell}%
9074 \boolfalse{LWR@skippingmcolrowcell}%
9075 \boolfalse{LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```

9076 \def\LWR@cellHTMLcolor{}%
9077 \def\LWR@columnHTMLcolor{}%
9078 \defcounter{LWR@cellcolordepth}{0}%
9079 }

```

When not used inside a tabular, & performs its original function as recorded here ( with catcode 4 ).

```

9080 \let\LWR@origampmacro&
9081 \end{warpHTML}

```

### 77.5.1 Handling &

**for HTML output:** 9082 \begin{warpHTML}

& Will behave depending on whether it is being used inside tabular.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```

9083 \newcommand*\LWR@tabularampersand{}%
9084 \LWR@traceinfo{LWR@tabularampersand}%
9085 \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
9086 {%

```

If not skipping a multirow cell, close the current data cell.

```

9087 \unskip%
9088 \LWR@closetabledatacell%

```

Move to the next column.

```

9089 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```

9090 \global\boolfalse{LWR@tabularcelladded}%

```

Look at the next token to decide multi or single column data tag.

```

9091 \LWR@getmynexttoken%
9092 }%

```

If not inside a tabular, performs the original action:

```
9093 {%
9094 \LWR@origampmacro%
9095 }%
9096 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.

## 77.6 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
9097 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
9098 \ifboolexpr{%
9099 not bool {LWR@exitingtabular} or%
9100 bool{LWR@doingtbrule} or%
9101 bool{LWR@doingcmidrule} or%
9102 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9103 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9104 bool{LWR@startedrow}%
9105 }%
```

Temporarily turn off `LWR@exitingtabular` so that table data tags will still be generated.

If generating a final row for the `\bottomrule` borders, turn off the @, !, <, and > column output:

```
9106 \ifbool{LWR@exitingtabular}{%
9107 \booltrue{LWR@tabularmutemods}%
9108 }{%
9109 \boolfalse{LWR@tabularmutemods}%
9110 }%
```

Locally reenable the table data tags until finished with the final row:

```
9111 \boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
9112 \whileboolexpr{%
```

```

9113 test {
9114 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9115 {\value{LWR@tabletotalLaTeXcols}}
9116 } or %
9117 (%
9118 bool{LWR@intabularmetadata} and%
9119 not bool{LWR@tabularcelladded} and%
9120 test {
9121 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
9122 {\value{LWR@tabletotalLaTeXcols}}
9123 }%
9124)%
9125 }%
9126 {%
9127 \LWR@tabulatedatasinglecolumnntag%

```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```

9128 \LWR@closetabledatacell%
9129 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
9130 \global\boolfalse{LWR@tabularcelladded}%
9131 \booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

9132 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9133 {\value{LWR@tabletotalLaTeXcols}}%
9134 {\LWR@getmynexttoken}%
9135 }%
9136 }%

```

Reenable the original `LWR@exitingtabular` to close the entire table:

```

9137 \ifbool{LWR@tabularmutemods}{%
9138 \booltrue{LWR@exitingtabular}%
9139 }{%
9140 \boolfalse{LWR@exitingtabular}%
9141 }%
9142 \boolfalse{LWR@tabularmutemods}%

9143 \boolfalse{LWR@emptyatbang}%
9144 }{% ifboolexpr
9145 }

```

## 77.7 Handling `\`

Inside `tabular`, `\` is redefined to `\LWR@tabularendofline`

Throws away options `\\[dim]` or `\\*`

```
\LWR@tabularendofline
```

```
9146 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```

9147 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
9148 {\value{LWR@tabletotalLaTeXcols}}%
9149 {\LWR@tabularfinishrow}%
9150 {\LWR@closetabledatacell}%
9151 \LWR@htmltag{/tr}\LWR@orignewline%

```

**xcolor row color support:**

```
9152 \@rowcolor%
```

**No longer inside a data cell:**

```
9153 \booltrue{LWR@intabularmetadata}%
```

**Not yet started a table row:**

```
9154 \boolfalse{LWR@startedrow}%
```

**Additional setup:**

```

9155 \defcounter{LWR@hlines}{0}%
9156 \defcounter{LWR@hdashedlines}{0}%
9157 \boolfalse{LWR@doingtbrule}%
9158 \boolfalse{LWR@doingcmidrule}%
9159 \LWR@clearmidrules%

```

```
9160 \def\LWR@rowHTMLcolor{}
```

**Start at first column:**

```
9161 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

**Have not yet added data in this column:**

```
9162 \global\boolfalse{LWR@tabularcelladded}%
```

Allow TeX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```

9163 \LWR@stoppars%
9164 \LWR@forceemptyline%

```

Look at the next token to decide between single column data tag or a special case:

```

9165 \LWR@getmynexttoken%
9166 }

```

## 77.8 Looking ahead in the column specifications

```
\LWR@columnspeclookahead {<offset>}
```

Looks offset tokens ahead in the column specification, setting `\LWR@strresulttwo`.

The `w` column alignment will be seen as a single unit such as `{c}`.

```

9167 \newcommand*{\LWR@columnspeclookahead}[1]{%
9168 \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspecindex}}%
9169 \addtocounter{\LWR@tempcountone}{#1}%
9170 \fullexpandarg%
9171 \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%

```

Get the contents of the first group in \LWR@strresulttwo:

```

9172 \exploregroups%
9173 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
9174 \noexploregroups%
9175 }

```

## 77.9 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```

9176 \newcommand*{\LWR@colparameter}{}

```

\LWR@parseatcolumn {<*this column type*>}

Handles @{text} columns.

The argument is ignored, but provided for compatibility with \LWR@parsenormalcolumn.

```

9177 \newcommand*{\LWR@parseatcolumn}[1]{%

```

Move to the next token after the '@':

```

9178 \LWR@traceinfo{at column}%
9179 \defaddtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token into \LWR@colparameter, expanding once:

```

9180 \LWR@traceinfo{about to read the next token:}%
9181 \expandarg%
9182 \StrChar{\LWR@origcolspec}%
9183 {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
9184 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

9185 \LWR@traceinfo{have now read the next token}%
9186 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
9187 {% left edge of the table:
9188 \LWR@traceinfo{at the left edge}%
9189 \LWR@setexparray{\LWR@colatspec}%
9190 {leftedge}%
9191 {\expandafter\@firstofone\LWR@colparameter}%
9192 \LWR@traceinfo{at the left edge: %
9193 \LWR@getexparray{\LWR@colatspec}{leftedge}}%
9194 }%
9195 {% not at the left edge:
9196 \LWR@traceinfo{not at the left edge}%
9197 \LWR@setexparray{\LWR@colatspec}%
9198 {\arabic{\LWR@tabletotalLaTeXcols}}%

```



```

9199 {\expandafter\@firstofone\LWR@colparameter}%
9200 \LWR@traceinfo{at \arabic{LWR@tabletotalLaTeXcols}%
9201 : % space
9202 \LWR@getexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcols}}}%
9203 }%
9204 \let\LWR@colparameter\relax%
9205 \booltrue{LWR@validtablecol}%
9206 }

```

`\LWR@parsebangcolumn` *{(this column type)}* Handles *!{text}* columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9207 \newcommand*{\LWR@parsebangcolumn}[1]{%
```

Move to the next token after the '!':

```

9208 \LWR@traceinfo{bang column}%
9209 \defaddtocounter{LWR@tablecolspecindex}{1}%

```

Read the next token into `\LWR@colparameter`, expanding once:

```

9210 \LWR@traceinfo{about to read the next token:}%
9211 \expandarg%
9212 \StrChar{\LWR@origcolspec}%
9213 {\arabic{LWR@tablecolspecindex}}{\LWR@colparameter}%
9214 \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9215 \LWR@traceinfo{have now read the next token}%
9216 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9217 {% left edge of the table:
9218 \LWR@traceinfo{at the left edge}%
9219 \LWR@setexparray{LWR@colbangspec}%
9220 {leftedge}%
9221 {\expandafter\@firstofone\LWR@colparameter}%
9222 }%
9223 {% not at the left edge:
9224 \LWR@traceinfo{not at the left edge}%
9225 \LWR@setexparray{LWR@colbangspec}%
9226 {\arabic{LWR@tabletotalLaTeXcols}}%
9227 {\expandafter\@firstofone\LWR@colparameter}%
9228 \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
9229 }%
9230 \let\LWR@colparameter\relax%
9231 \booltrue{LWR@validtablecol}%
9232 }

```

`\LWR@checkbeforeaddclass` *{(compared csname)}* *{(css class to add)}*

```

9233 \newcommand*{\LWR@checkbeforeaddclass}[2]{%
9234 \ifcsstrequal{LWR@tempone}{#1}%
9235 {%
9236 \LWR@setexparray{LWR@coladdclass}%
9237 {\arabic{LWR@tabletotalLaTeXcolsnext}}%
9238 { #2}% space is intentional
9239 }%

```

9240 }

`\LWR@checkmathcolpar` Error if using math in column parameters.

```

9241 \newcommand*\LWR@checkmathcolpar){%
9242 \IfSubStr{\detokenize\expandafter{\LWR@colparameter}}{\LWRdollar}%
9243 {%
9244 \PackageError{lwrap}%
9245 {%
9246 Lwrap does not support `\$' in column specifiers.\MessageBreak
9247 Specify `\$' math for each cell in the column.\MessageBreak
9248 Enter 'h' for more info%
9249 }%
9250 }%
9251 For example, replace `>{\$}c<{\$}' with `c', and then\MessageBreak
9252 use `\$cell contents\$' for each cell in the column.%
9253 }%
9254 }{}%
9255 }
```

`\LWR@parsebeforecolumn` *{<this column type>}*

Handles `>{text}` columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9256 \newcommand*\LWR@parsebeforecolumn}[1]{%
```

Move to the next token after the '>':

```
9257 \defaddtocounter{\LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

9258 \expandarg%
9259 \StrChar{\LWR@origcolspec}%
9260 {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
9261 \fullexpandarg%
```

Error if using `>{\$}`, which is not supported by `lwrap`.

```
9262 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9263 \LWR@setexparray{\LWR@colbeforespec}%
9264 {\arabic{\LWR@tabletotalLaTeXcolsnxt}}%
9265 {\expandafter\@firstofone\LWR@colparameter}%
9266 %
9267 \edef\LWR@tempone{\expandafter\@firstofone\LWR@colparameter}%
```

If detect `>{\centering\arraybackslash}` or related, add a css class.

```

9268 \LWR@checkbeforeaddclass{\LWR@detect@centeringarraybackslash}{tdcenter}
9269 \LWR@checkbeforeaddclass{\LWR@detect@raggedrightarraybackslash}{tdleft}
9270 \LWR@checkbeforeaddclass{\LWR@detect@raggedleftarraybackslash}{tdright}
9271 \LWR@checkbeforeaddclass{\LWR@detect@itshape}{tditshape}
```

```

9272 \LWR@checkbeforeaddclass{LWR@detect@bfseries}{tdbfseries}
9273 \LWR@checkbeforeaddclass{LWR@detect@bfit}{tdbfit}

9274 \let\LWR@colparameter\relax%
9275 \booltrue{LWR@validtablecol}%
9276 }

```

`\LWR@parseaftercolumn` {<*this column type*>}

Handles <{text}> columns.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9277 \newcommand*{\LWR@parseaftercolumn}[1]{%
```

Move to the next token after the '<':

```
9278 \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

9279 \expandarg%
9280 \StrChar{\LWR@origcolspec}%
9281 \arabic{LWR@tablecolspecindex}[\LWR@colparameter]%
9282 \fullexpandarg%

```

Error if using >{ $\$$ }, which is not supported by `lwarp`.

```
9283 \LWR@checkmathcolpar%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

9284 \LWR@setexparray{LWR@colafterspec}%
9285 \arabic{LWR@tabletotalLaTeXcols}%
9286 \expandafter\@firstofone\LWR@colparameter}%
9287 \let\LWR@colparameter\relax%
9288 \booltrue{LWR@validtablecol}%
9289 }

```

`\LWR@parsebarcolumn` {<*this column type*>}

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9290 \newcommand*{\LWR@parsebarcolumn}[1]{%
9291 \LWR@traceinfo{LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

9292 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9293 {% left edge of the table:
9294 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
9295 \ifdefstring{\LWR@tempone}{tvertbarl}%
9296 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
9297 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
9298 }%

```

```

9299 {% not at the left edge:
9300 \edef\LWR@tempone{%
9301 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9302 }%
9303 \ifdefstring{\LWR@tempone}{tvertbarr}%
9304 {%
9305 \LWR@setexparray{LWR@colbarspec}%
9306 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}%
9307 }%
9308 {%
9309 \LWR@setexparray{LWR@colbarspec}%
9310 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}%
9311 }%
9312 }%
9313 \booltrue{LWR@validtablecol}%
9314 }

```

`\LWR@parsecoloncolumn` *{(this column type)}*

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```

9315 \newcommand*{\LWR@parsecoloncolumn}[1]{%
9316 \LWR@traceinfo{LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

9317 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
9318 {% left edge of the table:
9319 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
9320 \ifdefstring{\LWR@tempone}{tvertbarldash}%
9321 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
9322 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
9323 }%
9324 {% not at the left edge:
9325 \edef\LWR@tempone{%
9326 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
9327 }%
9328 \ifdefstring{\LWR@tempone}{tvertbarrdash}%
9329 {\LWR@setexparray{LWR@colbarspec}%
9330 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
9331 {\LWR@setexparray{LWR@colbarspec}%
9332 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
9333 }%
9334 \booltrue{LWR@validtablecol}%
9335 }

```

`\LWR@parsesemicoloncolumn` *{(this column type)}*

Handles vertical rules.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

The arguments to the column type are absorbed by `\LWR@columntype@<char>`, defined by `\LWR@modifycolumntype`.

```

9336 \newcommand*{\LWR@parsesemicoloncolumn}[1]{%

```

Treat ; as a : column:

```
9337 \LWR@parsecoloncolumn{%
9338 }
```

## 77.10 Parsing common column types

`\LWR@parsenormalcolumn` {*<this column type>*}

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

`\newcolumn` type definitions use `\LWR@parsenormalcolumn`, so an HTML and print version are given so that they may work inside a lateximage.

The arguments to the column type are absorbed by `\LWR@column` type `<char>`, defined by `\LWR@modifycolumn` type.

```
9339 \newcommand*{\LWR@HTML@LWR@parsenormalcolumn}[1]{%
9340 \defaddtocounter{LWR@tabletotalLaTeXcols}{1}%
9341 \defaddtocounter{LWR@tabletotalLaTeXcolsnext}{1}%

9342 \LWR@setexparray{LWR@tablecolspec}{\arabic{LWR@tabletotalLaTeXcols}}{#1}%

9343 \LWR@traceinfo{normal column \arabic{LWR@tabletotalLaTeXcols}: #1}%
9344 \LWR@setexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9345 \LWR@setexparray{LWR@colbangspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9346 \LWR@setexparray{LWR@colbeforespec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9347 \LWR@setexparray{LWR@colafterspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9348 \LWR@setexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9349 \LWR@setexparray{LWR@coladdclass}{\arabic{LWR@tabletotalLaTeXcolsnext}}{}%
9350 \booltrue{LWR@validtablecol}%
9351 }
9352
9353 \newcommand*{\LWR@print@LWR@parsenormalcolumn}[1]{%
9354
9355 \LWR@formatted{LWR@parsenormalcolumn}
```

## 77.11 Parsing ‘w’ columns

W and w columns are handled via array with `\HTMLnewcolumn` type.

## 77.12 Parsing ‘\*’ columns

`\LWR@parsestarcolumn` {*<this column type>*} Star columns should already have been expanded, so this should never be used.

The arguments to the column type are absorbed by `\LWR@column` type `<char>`, defined by `\LWR@modifycolumn` type.

The argument is ignored, but provided for compatibility with `\LWR@parsenormalcolumn`.

```
9356 \newcommand*{\LWR@parsestarcolumn}[1]{%}
```

Table 13: Tabular baseline

|   |     |     |     |   |
|---|-----|-----|-----|---|
| l | p   | m   | b   | r |
|   |     |     | bot |   |
|   |     | mid | bot |   |
| l | par | mid | bot | r |
|   | par | mid |     |   |
|   | par |     |     |   |

### 77.13 Expanding the star column specifications

`\LWR@expandpreamble` {*<tabular preamble>*}

From array `\@mkpream`.

The resulting expanded preamble is stored in `\the\@temptokena`. Assign as:

```
\edef\destination{\the\@temptokena}
```

```
9357 \newcommand*\LWR@expandpreamble}[1]{%
9358 \edef\@tempa{\@temptokena={#1}}%
9359 \@tempa%
9360 \@tempswattrue%
9361 \@whilesw\if@tempswa\fi{%
9362 \@tempswafalse\the\NC@list%
9363 }%
9364 }
```

### 77.14 Parsing the column specifications

#### △ tabular baselines

HTML CSS cannot exactly match the L<sup>A</sup>T<sub>E</sub>X concept of a baseline for a table row. Table 13 shows the L<sup>A</sup>T<sub>E</sub>X results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 14 for details.

Table 14 describes how each kind of column is converted to HTML.

Table 15 shows the various internal macros generated for each column type.

`\LWR@modifycolumnntype` {*<1: column type letter>*} {*<2: number args to ignore>*} {*<3: csname of the cell action>*} {*<4: csname of the multicolumn print type action>*} {*<5: csname of the multicolumn print data action>*}

Add HTML functionality to an existing print version column type.

```
9365 \newcommand*\LWR@modifycolumnntype}[5]{%
9366 \LWR@traceinfo{\LWR@modifycolumnntype !#1!#2!#3!#4!#5!}%
9367 \LWR@traceinfo{\LWR@modifycolumnntype #1}%
9368 \edef\@tempa{%
9369 \noexpand\csdef{\LWR@columnntype@#1}{%
9370 \noexpand\@nameuse{#3}{#1}%
9371 \noexpand\defaddtocounter{\LWR@tablecolspecindex}{#2}%
```

Table 14: Tabular HTML column conversions

Each cell is given a css class of `td<column type>`.

---

- l, r, c:** Converted to table cells without paragraph tags.  
Uses css `vertical-align: middle` so that top or bottom-aligned cells may go above or below this cell.
  - p:** Converted to table cells with paragraph tags. Ref: Table 13,  $\LaTeX$  places the top line of a parbox aligned with the rest of the text line, so css `vertical-align: bottom` is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing `td.tdp`, `td.tdP`, `td.tdprule`, and `td.tdPrule` to `vertical-align: middle`. Another possibility is to change L,R,C, and P to `vertical-align: top` and not worry about the alignment of B and M cells or trying to approximate  $\LaTeX$  baselines.
  - m:** With paragraph tags, css `vertical-align: middle`.
  - b:** With paragraph tags, css `vertical-align: top` so that the bottom of the text is closest to the middle of the text line.
  - w and W:** Converted to `l`, `c`, or `r`. No paragraph tags.
  - P, M, B:** Horizontally-centered versions.
  - S:** Treated as `'c'`. Ignores optional argument. From the `siunitx` package.
  - D:** Treated as `'c'`. From the `dcolumn` package.
  - @, !, >, <:** One each, in that order.
  - |:** Vertical rule.
  - Unknown:** Converted to `'l'`.
  - \newcolumn type:** Expands to its replacement text.
  - \HTMLnewcolumn type:** Provides simplified replacement text for HTML.
-

Table 15: HTML column type internal macros

**<coltype>**: The single-letter column type, such as c or X.

**Created by \LWR@modifycolumn****type**: Used by lwarp to add HTML functionality to each built-in column type.

**\LWR@column****type@<coltype>**: Handles tabular columns depending on the type. Calls \LWR@parsenormalcolumn or related, then advances \LWR@tablecolspecindex.

**\LWR@column****type@mctype@<coltype>**: Generates the \multicolumn HTML cell css class. Calls \LWR@printmccoltype@normal or related.

**\LWR@column****type@mcdata@<coltype>**: Generates the \multicolumn HTML cell data. Calls \LWR@printmccoldata@normal or related.

**Created by \newcolumn****type**: From array.

**\NC@find@<coltype>**: Internally used to parse the column specifier.

**\NC@rewrite@<coltype>**: Stores the print-mode replacement text.

**Created by \HTMLnewcolumn****type**: From lwarp.

**\LWR@print@NC@rewrite@<coltype>**: Copied from \NC@rewrite@<type>.

**\LWR@HTML@NC@rewrite@<coltype>**: Stores the HTML-mode replacement text.

**\NC@rewrite@<coltype>**: Redefined to use the print or HTML version.

---

```

9372 }%
9373 \noexpand\csdef{\LWR@column
```

type@mctype@#1}{%  
9374 \noexpand\@nameuse{#4}{#1}%  
9375 }%  
9376 \noexpand\csdef{\LWR@column

type@mcdata@#1}{%  
9377 \noexpand\@nameuse{#5}{#2}%  
9378 }%  
9379 }%  
9380 \@tempa%  
9381 \LWR@traceinfo{\LWR@modifycolumn

type done}%  
9382 }

```

9383 \LWR@modifycolumn
```

{L}{0}{\LWR@parsenormalcolumn}  
9384 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}  
9385  
9386 \LWR@modifycolumn

{c}{0}{\LWR@parsenormalcolumn}  
9387 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}  
9388  
9389 \LWR@modifycolumn

{r}{0}{\LWR@parsenormalcolumn}  
9390 {\LWR@printmccoltype@normal}{\LWR@printmccoldata@normal}  
9391  
9392 \LWR@modifycolumn

{@}{0}{\LWR@parseatcolumn}  
9392 {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}  
9393  
9394 \LWR@modifycolumn

{!}{0}{\LWR@parsebangcolumn}  
9395 {\LWR@printmccoltype@ignore}{\LWR@printmccoldata@other}  
9396  
9397 \LWR@modifycolumn

{>}{0}{\LWR@parsebeforecolumn}



```

9398 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9399
9400 \LWR@modifycolumnntype{<}{0}{LWR@parseaftercolumn}
9401 {LWR@printmccoltype@ignore}{LWR@printmccoldata@other}
9402
9403 \LWR@modifycolumnntype{|}{0}{LWR@parsebarcolumn}
9404 {LWR@printmccoltype@vertbar}{LWR@printmccoldata@skip}
9405
9406 \LWR@modifycolumnntype{:}{0}{LWR@parsecoloncolumn}
9407 {LWR@printmccoltype@colon}{LWR@printmccoldata@skip}
9408
9409 \LWR@modifycolumnntype{;}{1}{LWR@parsesemicoloncolumn}
9410 {LWR@printmccoltype@semicolon}{LWR@printmccoldata@skip}

9411 \LWR@modifycolumnntype{p}{1}{LWR@parsenormalcolumn}
9412 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9413
9414 \LWR@modifycolumnntype{m}{1}{LWR@parsenormalcolumn}
9415 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}
9416
9417 \LWR@modifycolumnntype{b}{1}{LWR@parsenormalcolumn}
9418 {LWR@printmccoltype@normal}{LWR@printmccoldata@paragraph}

```

A star column:

```

9419 \LWR@modifycolumnntype{*}{2}{LWR@parsestarcolumn}
9420 {LWR@printmccoltype@ignore}{LWR@printmccoldata@skip}

```

`\HTMLnewcolumnntype {<col type>} [<num args>] [<optional arg>] {<replacement text>}`

A user-level macro to creates an HTML version of the replacement text for the column type.

This is the equivalent to:

```

\newcommand*{\LWR@HTML@NC@rewrite@<columnntype>}[<num args>]
 {\NC@find <replacement text>}
\LWR@formatted{NC@rewrite@<columnntype>}

```

```

9421 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{%
9422 \IfValueTF{#3}
9423 {
9424 \expandafter\newcommand\expandafter*%
9425 \csname LWR@HTML@NC@rewrite@#1\endcsname[#2][#3]{\NC@find #4}%
9426 \LWR@formatted{NC@rewrite@#1}%
9427 }
9428 {
9429 \expandafter\newcommand\expandafter*%
9430 \csname LWR@HTML@NC@rewrite@#1\endcsname[#2]{\NC@find #4}%
9431 \LWR@formatted{NC@rewrite@#1}%
9432 }
9433 }

9434 \end{warpHTML}

```

for PRINT output: 9435 \begin{warpprint}

```
9436 \NewDocumentCommand{\HTMLnewcolumnntype}{m O{0} o m}{}

```

```
9437 \end{warpprint}

```

**for HTML output:** 9438 \begin{warpHTML}

```
\LWR@parsetablecols {<colspecs>}

```

Scans the column specification left to right.

Builds \LWR@tablecolspec with the final specification, one L<sup>A</sup>T<sub>E</sub>X column per entry. The final number of L<sup>A</sup>T<sub>E</sub>X columns in each row is stored in LWR@tabletotalLaTeXcols, which is the number of & and \\ in each line, but which does not include @, !, <, > specifications in the count.

```
9439 \newcommand*{\LWR@parsetablecols}[1]{%
9440 \LWR@traceinfo{\LWR@parsetablecols}%

```

Remember the original supplied column spec:

```
9441 \renewcommand*{\LWR@origcolspec}{#1}%

```

Remove spaces:

```
9442 \expandarg%
9443 \StrSubstitute{\LWR@origcolspec}{ }{ }[\LWR@origcolspec]%

```

Expand any star columns:

```
9444 \LWR@expandpreamble{\LWR@origcolspec}%
9445 \edef\LWR@origcolspec{\the\@temptokena}%

```

The parsed column spec data array, LWR@tablecolspec, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```
9446 \defcounter{\LWR@tabletotalLaTeXcols}{0}%
9447 \defcounter{\LWR@tabletotalLaTeXcolsnext}{1}%
9448 \LWR@setexparray{\LWR@colatspec}{leftedge}{}%
9449 \LWR@setexparray{\LWR@colatspec}{1}{}%
9450 \LWR@setexparray{\LWR@colatspec}{2}{}%
9451 \LWR@setexparray{\LWR@colatspec}{3}{}%
9452 \LWR@setexparray{\LWR@colbangspec}{leftedge}{}%
9453 \LWR@setexparray{\LWR@colbangspec}{1}{}%
9454 \LWR@setexparray{\LWR@colbangspec}{2}{}%
9455 \LWR@setexparray{\LWR@colbangspec}{3}{}%
9456 \LWR@setexparray{\LWR@colbeforespec}{1}{}%
9457 \LWR@setexparray{\LWR@colbeforespec}{2}{}%
9458 \LWR@setexparray{\LWR@colbeforespec}{3}{}%
9459 \LWR@setexparray{\LWR@colafterspec}{1}{}%
9460 \LWR@setexparray{\LWR@colafterspec}{2}{}%
9461 \LWR@setexparray{\LWR@colafterspec}{3}{}%
9462 \LWR@setexparray{\LWR@colbarspec}{leftedge}{}%
9463 \LWR@setexparray{\LWR@colbarspec}{1}{}%
9464 \LWR@setexparray{\LWR@colbarspec}{2}{}%

```

```

9465 \LWR@setexparray{LWR@colbarspec}{3}{}%
9466 \LWR@setexparray{LWR@coladdclass}{1}{}%
9467 \LWR@setexparray{LWR@coladdclass}{2}{}%
9468 \LWR@setexparray{LWR@coladdclass}{3}{}%

```

Starting at the first column specification:

```

9469 \defcounter{LWR@tablecolspecindex}{1}%

```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```

9470 \expandarg%
9471 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
9472 \fullexpandarg%
9473 \LWR@traceinfo{original column spec length: \LWR@strresult}%
9474 \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%

```

Haven't seen any optional arguments so far

```

9475 \boolfalse{LWR@opttablecol}%

```

Scan through the column specifications:

```

9476 \whileboolexpr{%
9477 not test{%
9478 \ifnumcomp{\value{LWR@tablecolspecindex}}{>}%
9479 {\value{LWR@tablecolspecwidth}}%
9480 }%
9481 }%
9482 {%

```

Place the next single-character column type into `\LWR@strresult`:

```

9483 \expandarg%
9484 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
9485 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
9486 \fullexpandarg%

```

Not yet found a valid column type:

```

9487 \boolfalse{LWR@validtablecol}%

```

Skip over any optional arguments, such as `siunitx S` column:

```

9488 \IfStrEq{\LWR@strresult}[]{\booltrue{LWR@opttablecol}}{%

```

Throw away anything found inside the optional argument:

```

9489 \ifbool{LWR@opttablecol}%
9490 {}% inside an optional argument
9491 {% not an optional tabular argument

```

Not inside an optional argument, so consider the column type:

```

9492 \ifcsdef{LWR@columnntype@\LWR@strresult}%
9493 {\csuse{LWR@columnntype@\LWR@strresult}}%
9494 {}%

```

If an unknown column type, use l:

```

9495 \ifbool{LWR@validtablecol}{}%
9496 \LWR@traceinfo{invalid column type: \LWR@strresult}%
9497 \LWR@parsenormalcolumn{l}%
9498 }%
9499 }% not an optional column argument

```

If read the closing bracket, no longer inside the optional argument:

```

9500 \IfStrEq{\LWR@strresult}{\boolfalse{LWR@opttablecol}}}%

```

Move to the next character:

```

9501 \defaddtcounter{LWR@tablecolspecindex}{1}%
9502 }% whiledo
9503 }%

```

## 77.15 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some `colortbl` macros which might appear between table cells. If `colortbl` is loaded, these macros will be replaced with functional versions.

For each of the `HTML` colors below, the text for the `HTML` color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```

9504 \@ifundefined{rownum}{\newcount\rownum}{}

```

`\@rowcolors` Emulated in case `xcolor` is not used.

```

9505 \newcommand*\@rowcolors{}

```

`\@rowc@lors` Emulated in case `xcolor` is not used.

```

9506 \newcommand*\@rowc@lors{}

```

`\LWR@xcolorrowHTMLcolor` Emulated `xcolor` row color.

```

9507 \newcommand*\LWR@xcolorrowHTMLcolor{}

```

`\LWR@columnHTMLcolor` `HTML` style code for the column color.

```

9508 \def\LWR@columnHTMLcolor{}

```

`\LWR@rowHTMLcolor` `HTML` style code for the row color.

```

9509 \def\LWR@rowHTMLcolor{}

```

`\LWR@cellHTMLcolor` HTMLstyle code for the cell color.

```
9510 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` HTMLstyle code for the rule color.

```
9511 \newcommand*\LWR@ruleHTMLcolor{}
```

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
9512 \newcommand*\rowcolor{\LWR@getmynexttoken}%
```

`\arrayrulecolor` [*model*] {*color*}

`\arrayrulecolornexttoken` [*model*] {*color*}

Print versions for use outside and inside a tabular:

```
9513 \newcommand{\arrayrulecolor}[2][named]{}
```

```
9514 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

`\doublerulesepcolor` [*model*] {*color*}

`\doublerulesepcolornexttoken` [*model*] {*color*}

Print versions for use inside and outside a tabular:

```
9515 \newcommand{\doublerulesepcolor}[2][named]{}
```

```
9516 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 77.16 Starting a new row

`\LWR@maybenewtablerow` If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
9517 \newcommand*\LWR@maybenewtablerow
```

```
9518 {%
```

```
9519 \ifbool{LWR@startedrow}%
```

```
9520 }% started the row
```

```
9521 {% not started the row
```

Pre-compute the `aria-hidden` attribute, used to hide from screen readers the final row if it is only used to create the bottom border:

```
9522 \ifbool{LWR@tabularfinalrow}%
```

```
9523 {%
```

```
9524 \renewcommand*\LWR@tempone%
```

```
9525 { aria-hidden=\textquotedbl{}true\textquotedbl}%
```

```
9526 }%
```

```
9527 {%
```

```
9528 \renewcommand*\LWR@tempone{}%
```

```
9529 }%
```

Start a new row if doing `\hline`:

```

9530 \ifboolexpr{%
9531 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9532 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}}%
9533 }%
9534 {%
9535 \LWR@htmltag{%
9536 tr %
9537 class=\textquotedbl{}hline\textquotedbl%
9538 \LWR@tempone% aria-hidden
9539 }%
9540 \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9541 \booltrue{LWR@startedrow}%
9542 \booltrue{LWR@intabularmetadata}%
9543 }%

```

If not doing `\hline`, start a row if doing a top or bottom rule:

```

9544 {% not doing hline
9545 \ifbool{LWR@doingtbrule}%
9546 {%
9547 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9548 \LWR@htmltag{%
9549 tr %
9550 class=\textquotedbl{}tbrule\textquotedbl%
9551 \LWR@tempone% aria-hidden
9552 }%
9553 }{%
9554 \LWR@htmltag{%
9555 tr class=\textquotedbl{}tbrule\textquotedbl\ % space
9556 style=\textquotedbl{}border-top: 1px solid % space
9557 \LWR@origpound\LWR@ruleHTMLcolor \textquotedbl{}%
9558 \LWR@tempone% aria-hidden
9559 }%
9560 }%
9561 \LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9562 \booltrue{LWR@startedrow}%
9563 \booltrue{LWR@intabularmetadata}%
9564 }%
9565 {%

```

If not the final row, start a new row:

```

9566 \ifbool{LWR@tabularfinalrow}%
9567 }%
9568 {%
9569 \LWR@htmltag{tr}\LWR@orignewline%

```

Remember that now have started the row, and create the row tag, with a class if necessary.

```

9570 \booltrue{LWR@startedrow}%
9571 \booltrue{LWR@intabularmetadata}%
9572 }%
9573 }%
9574 }% end of not doing hline
9575 }% end of not started the row
9576 }

```

## 77.17 Printing vertical bar tags

`\LWR@printbartag {<index>}`

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

9577 \newcommand*{\LWR@printbartag}[1]{%
9578 \LWR@traceinfo{LWR@printbartag !#1!}%
9579 \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9580 {}% muting or empty
9581 {% not muting
9582 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{#1}}%
9583 \ifdefempty{\LWR@tempone}{\LWR@tempone}%
9584 }% not muting
9585 \LWR@traceinfo{LWR@printbartag done}%
9586 }

```

## 77.18 Printing @ or ! tags

`\LWR@printatbang {<at — or — bang>} {<index>}`

```

9587 \newcommand*{\LWR@printatbang}[2]{%

```

Fetch the column at or bang spec:

```

9588 \xdef\LWR@atbangspec{\LWR@getexparray{LWR@col#1spec}{#2}}%
9589 \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

9590 \ifdefempty{\LWR@atbangspec}%
9591 {}%
9592 {% not empty
9593 \LWR@htmltag{%
9594 td class=\textquotedbl{}td#1%
9595 \LWR@subaddcmidruletrim{}{}%
9596 \LWR@printbartag{#2}%
9597 \textquotedbl{}%
9598 \LWR@tdstartstyles%
9599 \LWR@addcmidrulewidth%
9600 \LWR@addcdashline%
9601 \LWR@addtabularrulecolors%
9602 \LWR@tdendstyles%
9603 }%

```

Create an empty cell if muting for the `\bottomrule`:

```

9604 \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
9605 {}%
9606 {\LWR@atbangspec}%
9607 %
9608 \LWR@htmltag{/td}\LWR@orignewline%
9609 \global\booltrue{LWR@tabularcelladded}%
9610 }% not empty
9611 }%

```

`\LWR@addleftmostbartag`

```

9612 \newcommand*\LWR@addleftmostbartag{%
9613 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}{%
9614 \LWR@printbartag{leftedge}%
9615 }{%
9616 }

```

`\LWR@tabularleftedge`

```

9617 \newcommand*\LWR@tabularleftedge{%
9618 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}%
9619 {%
9620 \LWR@printatbang{at}{leftedge}%
9621 \LWR@printatbang{bang}{leftedge}%
9622 }% left edge
9623 {}% not left edge
9624 }

```

## 77.19 Cell opening tag

`\LWR@thiscolspec` Temporary storage.

```

9625 \newcommand*\LWR@thiscolspec{}

```

`\LWR@tabledatasinglecolumnntag` Print a table data opening tag with style for alignment and color.

```

9626 \newcommand*\LWR@tabledatasinglecolumnntag%
9627 {%
9628 \LWR@traceinfo{LWR@tabledatasinglecolumnntag}%
9629 \LWR@maybenewtablerow%

```

Don't start a new paragraph tag if have already started one, or have found the end of the tabular, or if are inside a `\multirow`:

```

9630 \ifboolexpr{
9631 bool{LWR@intabularmetadata}
9632 and not bool{LWR@exitingtabular}
9633 and not bool{LWR@in@multirow@par}
9634 }%
9635 {% making a tabular data cell

```

Print the @ and ! contents before first column:

```

9636 \LWR@tabularleftedge%

```



Fetch the current column's alignment character into \LWR@strresult:

```
9637 \xdef\LWR@strresult{%
9638 \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
9639 }%
```

Print the start of a new table data cell:

```
9640 \LWR@traceinfo{LWR@tabledatasinglecolumn tag: about to print td tag}%
9641 \LWR@htmltag{%
9642 td class=\textquotedbl{}td%
```

Append this column's spec:

```
9643 \LWR@strresult%
```

If this column has a cmidrule, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
9644 \LWR@addcmidruletrim%
9645 \LWR@addleftmostbartag%
9646 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
```

Add any tabular > column text alignment or font control css:

```
9647 \LWR@getexparray{LWR@coladdclass}%
9648 {\arabic{LWR@tableLaTeXcolindex}}%
```

Close the class description:

```
9649 \textquotedbl{}%
```

Add styles for rules, alignment:

```
9650 \LWR@tdstartstyles%
9651 \LWR@addcmidrulewidth%
9652 \LWR@addcdashline%

9653 \xdef\LWR@thiscolspec{%
9654 \LWR@getexparray{LWR@tablecolspec}%
9655 {\arabic{LWR@tableLaTeXcolindex}}%
9656 }%
9657 \LWR@addformatwpalignment{\LWR@thiscolspec}%
```

Add styles for cell and rule colors:

```
9658 \LWR@addtabulararrowcolor%
9659 \LWR@addtabularrulecolors%

9660 \LWR@tdendstyles%
9661 }% HTML td
9662 \LWR@traceinfo{LWR@tabledatasinglecolumn tag: done printing td tag}%
```

If this is a p, m, b, or X column, allow paragraphs:

```
9663 \ifboolexpr{%
9664 test{ \ifdefstring{\LWR@strresult}{p} } or
```

```

9665 test{ \ifdefstring{\LWR@strresult}{m} } or
9666 test{ \ifdefstring{\LWR@strresult}{b} }
9667 }%
9668 {% allow pars
9669 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: about to LWR@startpars}%
9670 \booltrue{\LWR@tableparcell}%
9671 \LWR@startpars%
9672 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: done with LWR@startpars}%
9673 }% allow pars
9674 }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

9675 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
9676 }%
9677 {%
9678 \LWR@getexparray{\LWR@colbefore spec}{\arabic{\LWR@tableLaTeXcolindex}}%
9679 }%
9680 \boolfalse{\LWR@intabularmetadata}%
9681 }% making a tabular data cell
9682 }% not making a tabular data cell
9683 \LWR@traceinfo{\LWR@tabledatasinglecolumn tag: done}%
9684 }%

```

## 77.20 Midrules

`\LWR@midrules` `\LWR@midrules` is a data array (section 44) of columns each containing a non-zero width if a midrule should be created for this column.

`\LWR@trimlrules` `\LWR@trimlrules` is a data array (section 44) of columns containing `l` if a midrule should be left trimmed for each column.

`\LWR@trimrrules` `\LWR@trimrrules` is a data array (section 44) of columns containing `r` if a midrule should be right trimmed for each column.

`\LWR@cdashlines` `\LWR@cdashlines` is a data array (section 44) of columns each containing a `Y` if an `arydshln` package "cdashed line" should be created for this column.

`\LWR@heavyrulewidth` (*Len*) The default width of the rule.

```

9685 \newlength{\LWR@heavyrulewidth}
9686 \setlength{\LWR@heavyrulewidth}{.08em}

```

`\LWR@lightrulewidth` (*Len*) The default width of the rule.

```

9687 \newlength{\LWR@lightrulewidth}
9688 \setlength{\LWR@lightrulewidth}{.05em}

```

`\LWR@cmidrulewidth` (*Len*) The default width of the rule.

```

9689 \newlength{\LWR@cmidrulewidth}
9690 \setlength{\LWR@cmidrulewidth}{.03em}

```

`\LWR@thiscmidrulewidth` (*Len*) The width of the next rule, defaulting to `\LWR@cmidrulewidth`.

If not `\LWR@cmidrulewidth`, a style will be used to generate the custom width.

Assigned from the LWR@midrules array.

```
9691 \newlength{\LWR@thiscmidrulewidth}
9692 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of tabular and also at `\`.

Clears all LWR@midrules and LWR@trimrules markers for this line.

```
9693 \newcommand*\LWR@clearmidrules}
9694 {%
9695 \defcounter{LWR@midrulecounter}{1}%
9696 \whileboolexpr{%
9697 not test{%
9698 \ifnumcomp{\value{LWR@midrulecounter}}{>}%
9699 {\value{LWR@tabletotalLaTeXcols}}%
9700 }%
9701 }%
9702 {%
9703 \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{\0pt}%
9704 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9705 \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
9706 \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
9707 \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
9708 \defaddtocounter{LWR@midrulecounter}{1}%
9709 }%
9710 }
```

`\LWR@subcmidrule`  $\langle width \rangle$   $\langle trim \rangle$   $\langle leftcolumn \rangle$   $\langle rightcolumn \rangle$

Marks LWR@midrules data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

LWR@doingcmidrule is set to force an empty row at the end of the tabular to create the rule.

```
9711 \newcommand*\LWR@subcmidrule}[4]{%
9712 \defcounter{LWR@midrulecounter}{#3}%
9713 \whileboolexpr{%
9714 not test {%
9715 \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
9716 }%
9717 }%
9718 {%
9719 \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
9720 \defaddtocounter{LWR@midrulecounter}{1}%
9721 }% whiledo
9722 \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{}%
9723 \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{}%
9724 \booltrue{LWR@doingcmidrule}%
9725 }
```

`\LWR@docmidrule`  $[\langle width \rangle]$   $(\langle trim \rangle)$   $\langle leftcolumn-rightcolumn \rangle$

Marks LWR@midrules array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.

```

9726 \NewDocumentCommand{\LWR@docmidrule}
9727 {O{\LWR@cmidrulewidth} D()} >{\SplitArgument{1}{-}}m}
9728 {\LWR@subcmidrule{#1}{#2}{#3}}

```

`\LWR@subcdashline`  $\langle leftcolumn \rangle$   $\langle rightcolumn \rangle$

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```

9729 \newcommand*{\LWR@subcdashline}[2]{%
9730 \defcounter{\LWR@midrulecounter}{#1}%
9731 \whileboolexpr{%
9732 not test {%
9733 \ifnumcomp{\value{\LWR@midrulecounter}}{>}{#2}%
9734 }%
9735 }%
9736 {%
9737 \LWR@setexparray{\LWR@cdashlines}{\arabic{\LWR@midrulecounter}}{Y}%
9738 \defaddtocounter{\LWR@midrulecounter}{1}%
9739 }% whiledo
9740 \booltrue{\LWR@doingcmidrule}%
9741 }

```

`\LWR@docdashline`  $\langle leftcolumn-rightcolumn \rangle$

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

```

9742 \NewDocumentCommand{\LWR@docdashline}{>{\SplitArgument{1}{-}}m}%
9743 {%
9744 \LWR@subcdashline#1%
9745 }

```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```

9746 \newcommand*{\LWR@tdstartstyles}{\boolfalse{\LWR@tdhavecellstyle}}

```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```

9747 \newcommand*{\LWR@tdaddstyle}{%
9748 \ifbool{\LWR@tdhavecellstyle}%
9749 { ; }%
9750 { style=\textquotedbl}%
9751 \booltrue{\LWR@tdhavecellstyle}%
9752 }

```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```

9753 \newcommand*{\LWR@tdendstyles}{%
9754 \ifbool{\LWR@tdhavecellstyle}%
9755 {%
9756 \textquotedbl%
9757 \boolfalse{\LWR@tdhavecellstyle}%
9758 }%
9759 }

```

`\LWR@subaddcmidruletrim`  $\langle\{lefttrim\}\rangle$   $\langle\{righttrim\}\rangle$  Adds a `\cmidrule` with optional trim.

```

9760 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
9761 \setlength{\LWR@templengthone}{%
9762 \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9763 }%
9764 \ifdimcomp{\LWR@templengthone}{>}{0pt}%
9765 {%

```

Print the class with left and right trim letters appended:

```

9766 \space tdrule#1#2%

```

Remember the width of the rule:

```

9767 \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
9768 }%
9769 {%
9770 \setlength{\LWR@thiscmidrulewidth}{0pt}%
9771 }%
9772 }

```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```

9773 \newcommand*{\LWR@addcmidruletrim}{%
9774 \LWR@subaddcmidruletrim%
9775 {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9776 {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9777 }

```

`\LWR@addrulewidth`  $\langle\{thiswidth\}\rangle$   $\langle\{defaultwidth\}\rangle$

If not default width, add a custom style with width and color depending on `thiswidth`.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9778 \newcommand{\LWR@addrulewidth}[2]{%

```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```

9779 \ifboolexpr{%
9780 test{\ifdimcomp{#1}{=}{0pt}} or
9781 (
9782 (test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP})
9783 and (test {\ifdefvoid{\LWR@ruleHTMLcolor}})
9784)
9785 }%
9786 }% default width and color
9787 {% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```

9788 \LWR@forceminwidth{#1}%

```

Begin adding another style:

```
9789 \LWR@tdaddstyle%
```

The style itself:

```
9790 border-top:\LWR@printlength{\LWR@atleastonept} solid % space
```

If default gray, the darkness of the color depends on the thickness of the rule:

```
9791 \ifdefvoid{\LWR@ruleHTMLcolor}{%
9792 \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
9793 {\LWR@origpound{A0A0A0}%
9794 % lightrule or heavier
9795 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%
9796 {\LWR@origpound{808080}%
9797 {black}%
9798 % lightrule or heavier
9799 }{%
9800 \LWR@origpound\LWR@ruleHTMLcolor%
9801 }%
9802 }% custom width and/or color
9803 }
```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9804 \newcommand{\LWR@addcmidrulewidth}{%
9805 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9806 }
```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```
9807 \newcommand{\LWR@addcdashline}{%
9808 \edef\LWR@tempone{%
9809 \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
9810 }%
9811 \ifdefstring{\LWR@tempone}{Y}{%
9812 \LWR@tdaddstyle%
9813 border-top: 1pt dashed %
9814 \ifdefvoid{\LWR@ruleHTMLcolor}%
9815 {black}%
9816 {\LWR@origpound\LWR@ruleHTMLcolor}%
9817 }{%
9818 }
```

`\LWR@WPcell` `{<text-align>}{<vertical-align>}`

```
9819 \newcommand*{\LWR@WPcell}[2]{%
9820 \LWR@tdaddstyle%
9821 \LWR@print@embox{text-align:#1}; \LWR@print@embox{vertical-align:#2}%
9822 }
```

`\LWR@addformatwpalignment` `{<colspec>}`

If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9823 \newcommand*{\LWR@addformatwpalignment}[1]{%
9824 \ifbool{FormatWP}{%
9825 \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{%
9826 \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{%
9827 \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{%
9828 \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{%
9829 \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{%
9830 \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{%
9831 }{%
9832 }

```

## 77.21 Cell colors

`\LWR@addtabularrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9833 \newcommand*{\LWR@addtabularrowcolor}{%
9834 \ifbool{LWR@tabularmutemods}{%
9835 \ifdefvoid{\LWR@rowHTMLcolor}{%
9836 \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9837 {% xcolor row color
9838 \LWR@tdaddstyle%
9839 background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9840 }%
9841 }%
9842 {% explicit row color
9843 \LWR@tdaddstyle%
9844 background:\LWR@origpound\LWR@rowHTMLcolor%
9845 }%
9846 }%
9847 }

```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```

9848 \newcommand*{\LWR@addtabularhrulecolor}{%

```

If either form of horizontal rule is requested:

```

9849 \ifboolexpr{%
9850 test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9851 test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9852 bool{LWR@doingtbrule}%
9853 }{%

```

If there is a no custom color:

```

9854 \ifdefvoid{\LWR@ruleHTMLcolor}%
9855 {%
9856 \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9857 {%
9858 \LWR@tdaddstyle%
9859 border-top: 4px double%
9860 }% else

```

```

9861 \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9862 {%
9863 \LWR@tdaddstyle%
9864 border-top: 2px dashed%
9865 }{% else
9866 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9867 {%
9868 \LWR@tdaddstyle%
9869 border-top: 1px dashed%
9870 }}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```

9871 }%

```

If there is a custom color:

```

9872 {%
9873 \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9874 {%
9875 \LWR@tdaddstyle%
9876 border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9877 }{% else
9878 \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9879 {%
9880 \LWR@tdaddstyle%
9881 border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9882 }{% else
9883 \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9884 {%
9885 \LWR@tdaddstyle%
9886 border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9887 }{% else
9888 \LWR@tdaddstyle%
9889 border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9890 }}}%
9891 }%
9892 }{%
9893 }

```

`\LWR@addtabularrulecolors` Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9894 \newcommand*{\LWR@addtabularrulecolors}{%

```

Custom horizontal rule color:

```

9895 \LWR@addtabularhrulecolor%

```

No vertical rules if finishing the tabular with a row of empty cells:

```

9896 \ifbool{LWR@tabularmutemods}{}{%

```

If at the leftmost cell, possibly add a leftmost vertical rule:

```

9897 \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%

```



Fetch the left edge's vertical bar specification:

```
9898 \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
9899 \ifdefstring{\LWR@tempone}{tvertbarl}{%
9900 \LWR@tdaddstyle%
9901 border-left: 1px solid % space
9902 \LWR@vertruleHTMLcolor%
9903 }{}%
9904 \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9905 \LWR@tdaddstyle%
9906 border-left: 4px double % space
9907 \LWR@vertruleHTMLcolor%
9908 }{}%
9909 \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9910 \LWR@tdaddstyle%
9911 border-left: 1px dashed % space
9912 \LWR@vertruleHTMLcolor%
9913 }{}%
9914 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9915 \LWR@tdaddstyle%
9916 border-left: 2px dashed % space
9917 \LWR@vertruleHTMLcolor%
9918 }{}%
9919 }{}%
```

Possibly add a right vertical rule for this cell:

```
9920 \edef\LWR@tempone{%
9921 \LWR@getexparray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}%
9922 }%
9923 \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
9924 \LWR@tdaddstyle%
9925 border-right: 1px solid \LWR@vertruleHTMLcolor%
9926 }{}%
9927 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9928 \LWR@tdaddstyle%
9929 border-right: 4px double \LWR@vertruleHTMLcolor%
9930 }{}%
9931 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9932 \LWR@tdaddstyle%
9933 border-right: 1px dashed \LWR@vertruleHTMLcolor%
9934 }{}%
9935 \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
9936 \LWR@tdaddstyle%
9937 border-right: 2px dashed \LWR@vertruleHTMLcolor%
9938 }{}%
9939 }%
9940 }
```

```
\LWR@subaddtabularcellcolor {<html color>}
```

```
9941 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9942 \LWR@htmltag{div class=\textquotedbl{}cellcolor\textquotedbl\ % space
```

```

9943 style=\textquotedbl{}%
9944 background:\LWR@origpound{}{}#1 %
9945 \textquotedbl\ %
9946 }% space
9947 \defaddtocomputer{\LWR@cellcolordepth}{1}%
9948 }

```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```

9949 \newcommand*{\LWR@addtabularcellcolor}{%
9950 \ifdefvoid{\LWR@cellHTMLcolor}%
9951 {%
9952 \ifdefvoid{\LWR@rowHTMLcolor}%
9953 {%
9954 \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9955 {%
9956 \ifdefvoid{\LWR@columnHTMLcolor}%
9957 {%
9958 {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9959 }%
9960 {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9961 }%
9962 {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
9963 }%
9964 {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9965 }

```

## 77.22 Multicolumns

### 77.22.1 Parsing multicolumns

`\LWR@printmccoltype@normal` {<col type>}

Prints the column type, and remembers that any vertical bars are no longer on the left edge.

```

9966 \newcommand*{\LWR@printmccoltype@normal}[1]{%
9967 #1%
9968 \boolfalse{\LWR@mcolvertbaronleft}%
9969 }

```

`\LWR@printmccoltype@ignore` {<col type>}

This type does not print a multi-column data cell.

```

9970 \newcommand*{\LWR@printmccoltype@ignore}[1]{%

```

`\LWR@printmccoltype@vertbar` {<col type>}

Adds a left or right vertical bar.

```

9971 \newcommand*{\LWR@printmccoltype@vertbar}[1]{%
9972 \ifbool{\LWR@mcolvertbaronleft}%
9973 {\defaddtocomputer{\LWR@mcolvertbarsl}{1}}% left edge
9974 {\defaddtocomputer{\LWR@mcolvertbarsr}{1}}% not left edge
9975 }

```

`\LWR@printmccoltype@colon`  $\{\langle col type \rangle\}$

Adds a left or right vertical bar.

```
9976 \newcommand*\LWR@printmccoltype@colon[1]{%
9977 \ifbool{LWR@mcolvertbaronleft}%
9978 {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9979 {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9980 }
```

`\LWR@printmccoltype@semicolon`  $\{\langle col type \rangle\}$

Adds a left or right vertical bar.

```
9981 \let\LWR@printmccoltype@semicolon\LWR@printmccoltype@colon
```

`\LWR@printmccoltype`  $\{\langle colspec \rangle\}$  Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

`\LWR@columnmtype@mctype@<type>` is defined by `\LWR@modifycolumnmtype`.

```
9982 \newcommand*\LWR@printmccoltype[1]{%
9983 \LWR@traceinfo{lwr@printmccoltype -#1-}%
```

Get one token of the column spec:

```
9984 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
```

Detokenize to avoid problems with special characters:

```
9985 \edef\LWR@strresult{\detokenize\expandafter{\LWR@strresult}}%
```

Add to the HTML tag depending on which column type is found:

```
9986 \ifcsdef{LWR@columnmtype@mctype@\LWR@strresult}%
9987 {\csuse{LWR@columnmtype@mctype@\LWR@strresult}}%
9988 {\boolfalse{LWR@mcolvertbaronleft}}%
9989 \LWR@traceinfo{lwr@printmccoltype done}%
9990 }
```

`\LWR@printmccoldata@other`  $\{\langle num args to skip \rangle\} \{\langle entire colspec \rangle\}$

For @, !, >, <, print the next token without paragraph tags:

```
9991 \newcommand*\LWR@printmccoldata@other[2]{%
9992 \defaddtocounter{LWR@tablemulticolspos}{1}%
9993 \StrChar{#2}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9994 \LWR@strresult%
```

A valid column data type was found:

```
9995 \booltrue{LWR@validtablecol}%
9996 }
```

`\LWR@printmccoldata@skip`  $\langle num\ args\ to\ skip \rangle$   $\langle entire\ colspec \rangle$

Nothing to print for this column type.

```
9997 \newcommand*\LWR@printmccoldata@skip[2]{%
9998 \defaddtocounter{LWR@tablemulticolspos}{#1}%
```

A valid column data type was found:

```
9999 \booltrue{LWR@validtablecol}%
10000 }
```

For `\LWR@printmccoldata@. . .`,  $\langle num\ args\ to\ skip \rangle$  is provided by `\LWR@column@mcdata@<coltype>` when it was defined by `\LWR@modifycolumn@type`. `\entire colspec` is provided by `\LWR@printmccoldata` when it uses `\LWR@column@mcdata@<coltype>`.

`\LWR@printmccoldata@normal`  $\langle num\ args\ to\ skip \rangle$   $\langle entire\ colspec \rangle$

```
10001 \newcommand*\LWR@printmccoldata@normal[2]{%
10002 \LWR@multicoltext%
10003 \defaddtocounter{LWR@tablemulticolspos}{#1}%
10004 }
```

`\LWR@printmccoldata@paragraph`  $\langle num\ args\ to\ skip \rangle$   $\langle entire\ colspec \rangle$

```
10005 \newcommand*\LWR@printmccoldata@paragraph[2]{%
10006 \LWR@startpars%
10007 \LWR@multicoltext%
10008 \defaddtocounter{LWR@tablemulticolspos}{#1}%
10009 \LWR@stoppars%
10010 }
```

`\LWR@printmccoldata`  $\langle entire\ colspec \rangle$

Print the data for any valid column type found.

```
10011 \newcommand*\LWR@printmccoldata[1]{%
10012 \LWR@traceinfo{LWR@printmccoldata -#1}%
```

Not yet found a valid column type:

```
10013 \boolfalse{LWR@validtablecol}%
```

Get one token of the column spec, into a local copy in case nested.

```
10014 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
10015 \edef\LWR@printmccoldata@token{\LWR@strresult}%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
10016 \ifcsdef{LWR@column@mcdata@\LWR@printmccoldata@token}%
10017 {\csuse{LWR@column@mcdata@\LWR@printmccoldata@token}{#1}}%
10018 {}%
```

If an unknown column type, print the text:

```
10019 \ifbool{LWR@validtablecol}{\LWR@multicoltext{}}%
```

Tracing:

```
10020 \LWR@traceinfo{lwr@printmccoldata done}%
10021 }
```

```
\parsemulticolumnalignment {<1: colspec>} {<2: printresults cname>}
```

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```
10022 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
10023 \defcounter{LWR@tablemulticolspos}{1}%
10024 \StrLen{#1}[\LWR@strresult]%
10025 \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}%
```

Scan across the tokens in the column spec:

```
10026 \whileboolexpr{%
10027 not test {%
10028 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
10029 {\value{LWR@tablemulticolwidth}}%
10030 }%
10031 }%
10032 {%
```

Execute the assigned print function for each token in the column spec:

```
10033 \csuse{#2}{#1}%
```

Move to the next token in the column spec:

```
10034 \defaddtocounter{LWR@tablemulticolspos}{1}%
10035 }%
10036 }
```

### 77.22.2 Multicolumn factored code

```
\LWR@addmulticolvertrulecolor
```

```
10037 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
10038 \ifbool{LWR@tabularmutemods}{}{%
```

Left side:

```
10039 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
10040 \LWR@tdaddstyle%
10041 border-left: 1px solid \LWR@vertruleHTMLcolor%
```

```

10042 }{}%
10043 \ifnumcomp{\value{LWR@mcolvertbodybarsl}}{>}{1}{%
10044 \LWR@tdaddstyle%
10045 border-left: 4px double \LWR@vertruleHTMLcolor%
10046 }{}%
10047 \ifnumcomp{\value{LWR@mcolvertbodybarsldash}}{=}{1}{%
10048 \LWR@tdaddstyle%
10049 border-left: 1px dashed \LWR@vertruleHTMLcolor%
10050 }{}%
10051 \ifnumcomp{\value{LWR@mcolvertbodybarsldash}}{>}{1}{%
10052 \LWR@tdaddstyle%
10053 border-left: 2px dashed \LWR@vertruleHTMLcolor%
10054 }{}%

```

Right side:

```

10055 \ifnumcomp{\value{LWR@mcolvertbodybarsr}}{=}{1}{%
10056 \LWR@tdaddstyle%
10057 border-right: 1px solid \LWR@vertruleHTMLcolor%
10058 }{}%
10059 \ifnumcomp{\value{LWR@mcolvertbodybarsr}}{>}{1}{%
10060 \LWR@tdaddstyle%
10061 border-right: 4px double \LWR@vertruleHTMLcolor%
10062 }{}%
10063 \ifnumcomp{\value{LWR@mcolvertbodybarsrdash}}{=}{1}{%
10064 \LWR@tdaddstyle%
10065 border-right: 1px dashed \LWR@vertruleHTMLcolor%
10066 }{}%
10067 \ifnumcomp{\value{LWR@mcolvertbodybarsrdash}}{>}{1}{%
10068 \LWR@tdaddstyle%
10069 border-right: 2px dashed \LWR@vertruleHTMLcolor%
10070 }{}%
10071 }%
10072 }

```

```
10073 \newcommand{\LWR@multicoltext}{}

```

To find multicolumn right trim:

```
10074 \newcounter{LWR@lastmulticolumn}

```

```
\LWR@domulticolumn [1: vpos] [2: #rows] [3: numLaTeXcols] [4: numHTMLcols] [5: colspec]
 [6: text]

```

```

10075 \NewDocumentCommand{\LWR@domulticolumn}{o o m m +m}{%
10076 \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and when used remember that a valid column type was found:

```

10077 \renewcommand{\LWR@multicoltext}{%
10078 #6%
10079 \booltrue{LWR@validtablecol}%
10080 }%

```

Expand the preamble and save it.

```
10081 \LWR@expandpreamble{#5}%
10082 \edef\LWR@origmccolspec{\the\@temptokena}%
```

Compute the rightmost column to be included. This is used to create the right trim.

```
10083 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
10084 \defaddtocounter{LWR@lastmulticolumn}{#3}%
10085 \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
10086 \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
10087 \LWR@htmltag{%
10088 td colspan=\textquotedbl#4\textquotedbl\ %

10089 \IfValueT{#2}{ % rows?
10090 rowspan=\textquotedbl#2\textquotedbl\ %
10091 }%

10092 class=\textquotedbl{ }td%
```

Print the column type and vertical bars:

```
10093 \defcounter{LWR@mcolvertbarsl}{0}%
10094 \defcounter{LWR@mcolvertbarsr}{0}%
10095 \defcounter{LWR@mcolvertbarsldash}{0}%
10096 \defcounter{LWR@mcolvertbarsrdash}{0}%
10097 \booltrue{LWR@mcolvertbaronleft}%
10098 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoltype}%
```

If this column has a `cmidrule`, add “rule” to the end of the `HTML` class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```
10099 \LWR@subaddcmidruletrim%
10100 {%
10101 \LWR@getexparray{LWR@trimlrules}%
10102 {\arabic{LWR@tableLaTeXcolindex}}%
10103 }%
10104 {%
10105 \LWR@getexparray{LWR@trimrrules}%
10106 {\arabic{LWR@lastmulticolumn}}%
10107 }%
```

Also add vertical bar class.

```
10108 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%
10109 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}%
10110 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%
10111 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%
10112 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}%
10113 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{
10114 { tvertbarldoubledash}{}%
```

```

10115 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}1{ tvertbarrdash}{}%
10116 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}1{%
10117 { tvertbarrdoubledash}{}%

```

Close the class tag's opening quote:

```

10118 \textquotedbl{}%

10119 \LWR@tdstartstyles%

```

Style for vertical position:

```

10120 \IfValueT{#1}{% vpos?
10121 \ifstrequal{#1}{b}%
10122 {%
10123 \LWR@tdaddstyle%
10124 \LWR@print@mbbox{vertical-align:bottom}%
10125 }{}%
10126 \ifstrequal{#1}{t}%
10127 {%
10128 \LWR@tdaddstyle%
10129 \LWR@print@mbbox{vertical-align:top}%
10130 }{}%
10131 }% vpos?

```

Style for row colors:

```

10132 \LWR@addtabularrowcolor%

```

Other styles:

```

10133 \LWR@addcmidrulewidth%
10134 \LWR@addcdashline%
10135 \LWR@addtabularhrulecolor%
10136 \LWR@addmulticolverterulecolor%
10137 \LWR@addformatwppalignment{\LWR@origmccolspec}%
10138 \LWR@tdendstyles%
10139 }% end of the opening table data tag
10140 \boolfalse{LWR@intabularmetadata}%
10141 \LWR@parsemulticolumnalignment{\LWR@origmccolspec}{LWR@printmccoldata}%
10142 }

```

### 77.22.3 Multicolumn

`\LWR@htmlmulticolumn`  $\langle \{numcols\} \rangle$   $\langle \{alignment\} \rangle$   $\langle \{text\} \rangle$

```

10143 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
10144 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

10145 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%

```

Create the multicolumn tag:

```

10146 \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%

```



Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
10147 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
10148 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
10149 \booltrue{LWR@skipatbang}%
10150 }
```

#### 77.22.4 Longtable captions

longtable captions use \multicolumn.

Per the caption package. User-redefinable float type.

```
10151 \providecommand*{\LTcapttype}{table}
```

```
\LWR@longtabledatacaptiontag * [⟨toc entry⟩] {⟨caption⟩}
```

```
10152 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
10153 {%
```

Remember the latest name for \nameref:

```
10154 \IfValueTF{#2}{% optional given?
10155 \ifblank{#2}% optional empty?
10156 {\LWR@setlatestname{#3}}% empty
10157 {\LWR@setlatestname{#2}}% given and non-empty
10158 }% optional given
10159 {\LWR@setlatestname{#3}}% no optional
```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```
10160 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%
```

Create the multicolumn tag. The caption will be centered by the css caption class.

```
10161 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
10162 {\arabic{LWR@tabhtmlcoltotal}}%
10163 {p}%
10164 {% \LWR@domulticolumn
10165 \IfBooleanTF{#1}% star?
```

Star version, show a caption but do not make a LOT entry:

```
10166 {% yes star
10167 \LWR@figcaption%
10168 \LWR@isolate{#3}%
10169 \endLWR@figcaption%
10170 }%
10171 {% No star:
```

Not the star version:

Don't step the counter if `\caption[]`{A caption.}

```

10172 \ifbool{LWR@starredlongtable}%
10173 {%
10174 \ifblank{#2}% TOC entry
10175 {}%
10176 {%
10177 \refstepcounter{\LTcapttype}%
10178 \protected@edef\@currentlabel{%
10179 \@nameuse{p@\LTcapttype}\@nameuse{the\LTcapttype}%
10180 }%
10181 }%
10182 }{%}
```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

10183 \LWR@figcaption%
10184 \LWR@isolate{\@nameuse{fnum@\LTcapttype}}%
10185 \CaptionSeparator%
10186 \LWR@isolate{#3}%
10187 \endLWR@figcaption%
```

See if an optional caption was given:

```
10188 \ifblank{#2}% TOC entry empty
```

if the optional caption was given, but empty, do not form a TOC entry

```
10189 {}%
```

If the optional caption was given, but might only be []:

```

10190 {% TOC entry not empty
10191 \IfNoValueTF{#2}% No TOC entry?
```

The optional caption is []:

```

10192 {% No TOC entry
10193 \addcontentsline%
10194 {\@nameuse{ext@\LTcapttype}}%
10195 {\LTcapttype}%
10196 {%
10197 \protect\numberline%
10198 {\LWR@isolate{\@nameuse{p@\LTcapttype}}\@nameuse{the\LTcapttype}}%
10199 {\ignorespaces \LWR@isolate{#3}\protect\relax}%
10200 }%
10201 }% end of No TOC entry
```

The optional caption has text enclosed:

```

10202 {% yes TOC entry
10203 \addcontentsline%
10204 {\@nameuse{ext@\LTcapttype}}%
10205 {\LTcapttype}%
10206 {%
10207 \protect\numberline%
10208 {\LWR@isolate{\@nameuse{p@\LTcapttype}}\@nameuse{the\LTcapttype}}%
```

```

10209 {\ignorespaces \LWR@isolate{#2}\protect\relax}%
10210 }%
10211 }% end of yes TOC entry
10212 }% end of TOC entry not empty
10213 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

10214 \booltrue{LWR@skipatbang}%
10215 }% end of \LWR@domulticolumn
10216 \defaddtocounter{LWR@tableLaTeXcolindex}{\value{LWR@tabletotalLaTeXcols}}%
10217 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}
10218
10219 }

```

### 77.22.5 Counting HTML tabular columns

The L<sup>A</sup>T<sub>E</sub>X specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a L<sup>A</sup>T<sub>E</sub>X \multicolumn command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```

10220 \newcounter{LWR@tabhtmlcolindex}
10221 \newcounter{LWR@tabhtmlcolend}
10222 \newcounter{LWR@tabhtmlcoltotal}

```

\LWR@subtabularhtmlcolumns {<index>}

Factored from \LWR@tabularhtmlcolumns, which follows.

```

10223 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%

```

Temporarily define a macro equal to the @ specification for this column:

```

10224 \edef\LWR@atbangspec{\LWR@getexparray{LWR@colatspec}{#1}}%

```

If the @ specification is not empty, add to the count:

```

10225 \ifdefempty{\LWR@atbangspec}%
10226 {}%
10227 {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%

```

Likewise for the ! columns:

```

10228 \edef\LWR@atbangspec{\LWR@getexparray{LWR@colbangspec}{#1}}%
10229 \ifdefempty{\LWR@atbangspec}%
10230 {}%
10231 {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
10232 }

```

```
\LWR@tabularhtmlcolumns {<starting LATEX column>} {<number LATEX columns>}
```

Compute the total number of HTML columns being spanned, considering the starting L<sup>A</sup>T<sub>E</sub>X table column and the number of L<sup>A</sup>T<sub>E</sub>X tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter LWR@tabhtmlcoltotal.

```
10233 \newcommand*\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L<sup>A</sup>T<sub>E</sub>X span, to which additional @ and ! columns may be added:

```
10234 \defcounter{LWR@tabhtmlcolindex}{#1}%
10235 \defcounter{LWR@tabhtmlcoltotal}{#2}%
10236 \defcounter{LWR@tabhtmlcolend}{#1}%
10237 \defaddtocounter{LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
10238 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{1}{%
10239 \LWR@subtabularhtmlcolumns{leftedge}%
10240 }{1}%
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
10241 \whileboolexpr{%
10242 test {%
10243 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}}%
10244 }%
10245 }%
10246 {%
10247 \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}%
10248 \defaddtocounter{LWR@tabhtmlcolindex}{1}%
10249 }% whiledo
10250 }
```

```
10251 \end{warpHTML}
```

## 77.23 Multirow if not loaded

A default definition in case multirow is not loaded. This is used during table parsing.

```
10252 \begin{warpHTML}
10253 \newcommand{\multirow}[2][c]{}
10254 \end{warpHTML}
```

## 77.24 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a lateximage.

See section 436 for the HTML versions.

**for HTML & PRINT:** 10255 \begin{warpall}

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

For discussion of the use of `\DeclareExpandableDocumentCommand`, see:  
[https://tex.stackexchange.com/questions/168434/  
 problem-with-abbreviation-of-multirow-and-multicolumn-latex](https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex)

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
10256 \AtBeginDocument{
```

```
\@ifundefined{@xmultirow} determines if multirow was never loaded.
```

Null action if not loaded:

```
10257 \@ifundefined{@xmultirow}
10258 {
10259 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10260 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10261 {}%
10262 }% no version of multirow was loaded
10263 {% \@xmultirow defined, so some version of multirow was loaded
```

```
\IfPackageLoadedTF{multirow} determines if v2.0 or later of multirow was used,
which included the \ProvidesPackage macro.
```

The print version:

```
10264 \IfPackageLoadedTF{multirow}{% v2.0 or newer
10265 \IfPackageAtLeastTF{multirow}{2016/09/01}% 2016/09/27 for v2.0
10266 {% v2.0+:
10267 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10268 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10269 {\multicolumn{#1}{#2}{\@xmultirow[#3][#4][#5][#6][#7][#8]}}%
10270 }
10271 {% loaded but older, probably not executed:
10272 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10273 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10274 {\multicolumn{#1}{#2}{\@xmultirow[#4][#5][#6][#7][#8]}}%
10275 }
10276 }% packagedloaded{multirow}
```

If not `\IfPackageLoadedTF{multirow}` but `\@xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```
10277 {% v1.6 or older did not \ProvidePackage
10278 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
10279 {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
10280 {\multicolumn{#1}{#2}{\@xmultirow[#4][#5][#6][#7][#8]}}%
10281 }
10282
10283 }% \@ifundefined{@xmultirow}
10284
10285 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
10286
10287 }% AtBeginDocument
```

```
10288 \end{warpall}
```

## 77.25 Utility macros inside a table

**for HTML output:** 10289 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
10290 \newcommand*{\LWR@donothing}{}
```

In case array is not loaded:

```
10291 \let\firsthline\relax
10292 \let\lasthline\relax
10293 \newcommand*{\firsthline}{}
10294 \newcommand*{\lasthline}{}

```

In case bigdelim is not loaded:

```
10295 \newcommand*{\ldelim}{}
10296 \newcommand*{\rdelim}{}

```

```
10297 \end{warpHTML}
```

## 77.26 Special-case tabular markers

**for HTML & PRINT:** 10298 \begin{warpall}


`\TabularMacro` Place this just before inserting a custom macro in a table data cell. Doing so tells `lwarp` not to automatically start a new HTML table data cell yet. See section [8.10.1](#).

```
10299 \newcommand*{\TabularMacro}{}

```

```
10300 \end{warpall}
```

`\ResumeTabular` Used to resume tabular entries after resuming an environment.

 **tabular inside another environment** When creating a new environment which contains a tabular environment, `lwarp`'s emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
 \tabular{cc}
 left & right \\
}
{
 \TabularMacro\ResumeTabular
 left & right \\
 \endtabular
}
\StopDefiningTabulars

```

**for HTML output:** 10301 \begin{warphTML}

```

10302 \newcommand*\ResumeTabular{%
10303 \boolfalse{LWR@exitingtabular}%
10304 \boolfalse{LWR@tabularmutemods}%
10305 \boolfalse{LWR@tabularfinalrow}%
10306 \LWR@getmynexttoken%
10307 }

10308 \end{warphTML}

```

**for PRINT output:** 10309 \begin{warpprint}

```

10310 \newcommand*\ResumeTabular{}

10311 \end{warpprint}

```

## 77.27 Checking for a new table cell

**for HTML output:** 10312 \begin{warphTML}

`\LWR@tabledatacolumnntag` Open a new HTML table cell unless the next token is for a macro which does not create data, such as `\hline`, `\toprule`, etc:

```

10313 \newcommand*\LWR@tabledatacolumnntag%
10314 {%
10315 \LWR@traceinfo{LWR@tabledatacolumnntag}%

```

`\show\LWR@mynexttoken` to see what tokens to look for

If not any of the below, start a new table cell:

```

10316 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumnntag%

```

If find `\end`, exit the tabular:

```

10317 \ifdefequal{\LWR@mynexttoken}{\end}%
10318 {%
10319 \booltrue{LWR@tabularfinalrow}%
10320 \booltrue{LWR@exitingtabular}%
10321 }{%

```

longtable can have a caption in a cell

```
10322 \ifdefequal{\LWR@mynexttoken}{\caption}%
10323 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

Look for other things which would not start a table cell:

```
10324 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
10325 {\global\let\LWR@mynextaction\LWR@donothing}{}%
10326 \ifdefequal{\LWR@mynexttoken}{\multirow}%
10327 {\global\let\LWR@mynextaction\LWR@donothing}{}%
10328 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
10329 {\global\let\LWR@mynextaction\LWR@donothing}{}%
10330 \ifdefequal{\LWR@mynexttoken}{\noalign}%
10331 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
10332 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
10333 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
10334 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
10335 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10336 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
10337 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10338 \ifdefequal{\LWR@mynexttoken}{\hline}%
10339 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10340 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
10341 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10342 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
10343 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10344 \ifdefequal{\LWR@mynexttoken}{\toprule}%
10345 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10346 \ifdefequal{\LWR@mynexttoken}{\midrule}%
10347 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10348 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
10349 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10350 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
10351 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10352 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
10353 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
10354 \ifdefequal{\LWR@mynexttoken}{\cline}%
10355 {\global\let\LWR@mynextaction\LWR@donothing}{}%
```



```

10356 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
10357 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10358 \ifdefequal{\LWR@mynexttoken}{\hhline}%
10359 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10360 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
10361 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10362 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
10363 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10364 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
10365 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10366 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
10367 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10368 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
10369 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10370 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
10371 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10372 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
10373 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

For arydashln:

```

10374 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
10375 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10376 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
10377 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10378 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
10379 {\global\let\LWR@mynextaction\LWR@donothing}{}%

10380 \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
10381 {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Ignore an empty line between rows:

```

10382 \ifdefequal{\LWR@mynexttoken}{\par}%
10383 {%
10384 \global\let\LWR@mynextaction\LWR@donothing%
10385 }{%

```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.

Start the new table cell if was not any of the above:

```


10386 \LWR@traceinfo{\LWR@tabledatacolumnntag: done, about to do \LWR@mynextaction}%
10387 \LWR@mynextaction%
10388 }

```

```
10389 \end{warpHTML}
```

## 77.28 \mrowcell

**for HTML & PRINT:** 10390 \begin{warpall}


 **multirow cells** `\mrowcell` The user must insert `\mrowcell` into any `\multirow` cells which must be skipped. This command has no action during print output.

```
10391 \newcommand*\mrowcell{}
```

```
10392 \end{warpall}
```

## 77.29 \mcolrowcell

**for HTML & PRINT:** 10393 \begin{warpall}

 **multirow cells** `\mcolrowcell` The user must insert `\mcolrowcell` into any `\multicolumnrow` cells which must be skipped. This command has no action during print output.

```
10394 \newcommand*\mcolrowcell{}
```

```
10395 \end{warpall}
```

## 77.30 HTML tabular environment

**for HTML output:** 10396 \begin{warpHTML}

These are default definitions in case `booktabs` is not loaded, and are not expected to be used, but must exist as placeholders. `memoir` may have already loaded `booktabs`.

```
10397 \providecommand*\toprule[1][\hline]
10398 \providecommand*\midrule[1][\hline]
10399 \providecommand*\cmidrule{\cline}
10400 \providecommand*\bottomrule[1][\hline]
10401 \providecommand*\addlinespace[1][\hline]
10402 \providecommand*\morecmidrules{}
10403 \providecommand*\specialrule[3][\hline]
```

`\noalign`  $\langle text \rangle$  Redefined for use inside `tabular`.

```
10404 \LetLtxMacro\LWR@orignoalign\noalign
10405
10406 \newcommand{\LWR@tabularnoalign}[1]{%
10407 \advance\rownum\m@ne%
10408 \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
10409 \renewcommand*\LWR@xcolorrowHTMLcolor{}%
10410 \multicolumn{value{\LWR@tabletotalLaTeXcols}}{l}{#1} \\\
10411 \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
10412 % \@rowc@lors%
10413 \LWR@getmynexttoken%
10414 }
```

`\LWR@HTMLhline` The definition of `\hline` depends on whether `tabls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```

10415 \AtBeginDocument{
10416
10417 \IfPackageLoadedTF{lwarp-tabls}
10418 {
10419 \newcommand*\LWR@HTMLhline}[1][{}]{%
10420 \ifbool{FormatWP}%
10421 {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10422 {\defaddtocounter{LWR@hlines}{1}}}%
10423 \LWR@getmynexttoken}%
10424 }
10425 {
10426 \newcommand*\LWR@HTMLhline}{%
10427 \ifbool{FormatWP}%
10428 {\LWR@docmidrule{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10429 {\defaddtocounter{LWR@hlines}{1}}}%
10430 \LWR@getmynexttoken}%
10431 }
10432
10433 }% AtBeginDocument

```

`\LWR@HTMLcline` `{\langle columns \rangle}`

```

10434 \NewDocumentCommand{\LWR@HTMLcline}{m}%
10435 {%
10436 \LWR@docmidrule{#1}%
10437 \LWR@maybenewtablerow%
10438 \LWR@getmynexttoken%
10439 }%

```

`\LWR@tabular@warpprintonly` `{\langle contents \rangle}`

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```

10440 \newcommand{\LWR@tabular@warpprintonly}[1]{%
10441 \ifbool{warpingprint}{#1}{}%
10442 \LWR@getmynexttoken%
10443 }

```

`\LWR@nullifyNoAutoSpacing` For `babel-french`, turn off auto spacing at the start of the `tabular`, then nullify the autospacing commands inside the `tabular`, since they were not compatible with the `tabular` parsing code for each cell, which uses `xstring`.

```

10444 \AtBeginDocument{
10445 \@ifundefined{NoAutoSpacing}%
10446 {% no babel-french
10447 \newcommand*\LWR@nullifyNoAutoSpacing{}%
10448 }% no babel-french
10449 {% yes babel-french
10450 \newcommand*\LWR@nullifyNoAutoSpacing}{%
10451 \NoAutoSpacing%
10452 \renewcommand*\NoAutoSpacing{}%
10453 \renewcommand*\LWR@FBcancel{}%
10454 }


```

```
10455 }% yes babel-french
10456 }% AtBeginDocument
```

`tabular (enu) <direction> [(<verticalposition>)] {(<colspecs>)}`

The `<direction>` is from `plext` for Japanese documents, and is ignored.

```
10457 \StartDefiningTabulars
10458
10459 \NewDocumentCommand{\LWR@HTML@tabular}{d<> o m}
10460 {%
10461 \LWR@traceinfo{\LWR@HTML@tabular started}%
```

 **<table> inside <span>** In `LATEX`, a `tabular` may be placed inside a `minipage`, but in `HTML` a `<table>` may not be inside a `<span>`. Since there may be several nested `<span>`s, with an unknown number of other objects between, it is hard to undo all these `<span>`s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a `<span>`. Furthermore, in the `HTML` output, the entire `<table>` is placed on a single line of `HTML` code, since the line breaking commands are neutralized inside a `<span>`. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `<span>` to print-only.

```
10462 \LWR@spanwarnformat{tabular}%
10463 \addtocounter{\LWR@tabulardepth}{1}%
```

Not yet started a table row:

```
10464 \boolfalse{\LWR@startedrow}%
```

Not yet doing any rules:

```
10465 \defcounter{\LWR@hlines}{0}%
10466 \defcounter{\LWR@hdashedlines}{0}%
10467 \boolfalse{\LWR@doingtbrule}%
10468 \boolfalse{\LWR@doingcmidrule}%
```

For `babel-french`, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the `tabular` parsing code.

```
10469 \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of `tabular` command. Unmute the `@` and `!` columns.

```
10470 \boolfalse{\LWR@exitingtabular}%
10471 \boolfalse{\LWR@tabularmutemods}%
```

Not adding final row for the lower border:

```
10472 \boolfalse{\LWR@tabularfinalrow}%
```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```
10473 \boolfalse{\LWR@usedmultirow}%
10474 \boolfalse{\LWR@foundmrowcell}%
```

In case of nesting:

```
10475 \renewcommand*\LWR@multicoltext{ }%
10476 \booltrue{LWR@intabularmetadata}%
```

New PDF page, unless in a `\multirow`:

```
10477 \ifbool{LWR@in@multirow@par}%
10478 {\leavevmode\LWR@orignewline}%
10479 {\LWR@forcenewpage}%
```

In case of nesting, locally no longer in a `\multirow`:

```
10480 \boolfalse{LWR@in@multirow@par}%
```

Create the table tag:

```
10481 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
10482 \LWR@parsetablecols{#3}%
```

Table col spec is: `\LWR@tablecolspec` which is a string of `llccrr`, etc.

Do not place the table inside a paragraph:

```
10483 \LWR@stoppars%
```

Without at least one header cell, some screen readers think that the table is just for page layout, and do not read it as data. Add a hidden row with a single non-empty header cell to tell the screen readers that this is a table of data for the user.

```
10484 \LWR@htmltag{tr style=\textquotedbl{}display:none\textquotedbl}%
10485 \LWR@htmltag{th}.\LWR@htmltag{/th}%
10486 \LWR@htmltag{/tr}%
10487 \LWR@orignewline%
10488 \LWR@forceemptyline%
```

Track column #:

```
10489 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
10490 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
10491 \LWR@clearmidrules%
```

`\` becomes a macro to end the table row:

```
10492 \LetLtxMacro{\}{\LWR@tabularendofline}%
```

`\warpprintonly` inside a tabular must grab the next token.

```
10493 \LetLtxMacro\warpprintonly\LWR@tabular@warpprintonly%
```

The following adjust for colortbl.

```
10494 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
10495 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
10496 \def\LWR@columnHTMLcolor{ }%
10497 \def\LWR@rowHTMLcolor{ }%
10498 \def\LWR@cellHTMLcolor{ }%
10499 \@rowcolors%
```

The vertical rules are set to the color active at the start of the tabular. `\arrayrulecolor` will then affect horizontal rules inside the tabular, but not the vertical rules.

```
10500 \ifdefvoid{\LWR@ruleHTMLcolor}%
10501 {\edef\LWR@vertruleHTMLcolor{black}}%
10502 {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%
```

Tracking the depth of cell color `<div>`:

```
10503 \defcounter{LWR@cellcolordepth}{0}%
```

The following may appear before a data cell is created, so after doing their actions, we look ahead with `\LWR@getmynexttoken` to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tabls` package.

```
10504 \LWR@traceinfo{LWR@HTML@tabular: redefining macros}%
10505 \LetLtxMacro\noalign\LWR@tabularnoalign%
10506 \LetLtxMacro\hline\LWR@HTMLhline%
10507 \LetLtxMacro\cline\LWR@HTMLcline%

10508 \DeclareDocumentCommand{\hdashline}{o}{%
10509 \ifbool{FormatWP}%
10510 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10511 {\defaddtocounter{LWR@hdashedlines}{1}}%
10512 \LWR@getmynexttoken%
10513 }%

10514 \DeclareDocumentCommand{\cdashline}{m}{%
10515 \LWR@docdashline{##1}\LWR@getmynexttoken%
10516 }%

10517 \DeclareDocumentCommand{\firsthdashline}{o}{%
10518 \ifbool{FormatWP}%
10519 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10520 {\defaddtocounter{LWR@hdashedlines}{1}}%
10521 \LWR@getmynexttoken%
10522 }%

10523 \DeclareDocumentCommand{\lasthdashline}{o}{%
10524 \ifbool{FormatWP}%
10525 {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
10526 {\defaddtocounter{LWR@hdashedlines}{1}}%
10527 \LWR@getmynexttoken%
10528 }%
```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use `\LWR@getmynexttoken`.

```

10529 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
10530 \renewcommand*\mrowcell{%
10531 \LWR@maybenewtablerow%
10532 \LWR@tabularleftedge%
10533 \booltrue{LWR@skippingmrowcell}%
10534 \booltrue{LWR@foundmrowcell}%
10535 }%
10536 \renewcommand*\mcolrowcell{%
10537 \LWR@maybenewtablerow%
10538 \booltrue{LWR@skippingmcolrowcell}%
10539 \booltrue{LWR@foundmrowcell}%
10540 }%
10541 \LetLtxMacro\caption\LWR@longtabledatacaptiontag%
```

Reset for new processing:

```

10542 \boolfalse{LWR@tableparcell}%
10543 \boolfalse{LWR@skippingmrowcell}%
10544 \boolfalse{LWR@skippingmcolrowcell}%
10545 \boolfalse{LWR@skipatbang}%
10546 \boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```

10547 \StartDefiningTabulars%
10548 \protected\gdef&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```

10549 \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```

10550 \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```

10551 \LWR@traceinfo{LWR@@HTML@tabular: about to LWR@getmynexttoken}%
10552 \LWR@getmynexttoken%
10553 }%
```

Ending the environment:

```

10554 \newcommand*\LWR@HTML@endtabular}
10555 {%
10556 \LWR@traceinfo{LWR@HTML@endtabular}%
```

Unnest one level of tabular paragraph handling:

```

10557 \addtocounter{LWR@tabularpardepth}{-1}%
```

Finish a row which is not yet done:

```

10558 \ifboolexpr{%
```

```

10559 test {%
10560 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
10561 {\value{LWR@tabletotalLaTeXcols}}
10562 } or %
10563 (%
10564 bool{LWR@intabularmetadata} and%
10565 not bool{LWR@tabularcelladded} and%
10566 test {%
10567 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
10568 {\value{LWR@tabletotalLaTeXcols}}%
10569 }%
10570)%
10571 }%
10572 {%

10573 \booltrue{LWR@tabularfinalrow}%
10574 \LWR@tabularfinishrow%
10575 \boolfalse{LWR@tabularfinalrow}%
10576 }%
10577 {%
10578 \LWR@closetabledatacell%
10579 }%
10580 \ifbool{LWR@startedrow}%
10581 {\LWR@htmltag{/tr}\LWR@orignewline}%
10582 {}%

```

#### xcolor row color support:

```

10583 \@rowc@lors%

10584 \LWR@htmlblocktag{/table}%
10585 \boolfalse{LWR@intabularmetadata}%

```

#### Unnest one level of tabular:

```

10586 \addtocounter{LWR@tabulardepth}{-1}%

```

#### Restore & to its usual meaning:

```

10587 \ifnumequal{\value{LWR@tabulardepth}}{0}{%
10588 \protected\gdef&\LWR@origampmacro}%
10589 \StopDefiningTabulars%
10590 }{%

```

Error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```

10591 \ifbool{LWR@usedmultirow}{%
10592 \ifbool{LWR@foundmrowcell}%
10593 {\relax}%
10594 {%
10595 \PackageError{lwarp}%
10596 {%
10597 When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
10598 or the bigdelim package, \MessageBreak
10599 place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
10600 in empty cells which are to be skipped. \MessageBreak
10601 See the Lwarp package documentation: \MessageBreak

```



```

10602 "Special cases and limitations" -> "Tabular"
10603 }%
10604 {%
10605 See the Lwarp package documentation:\MessageBreak
10606 "Special cases and limitations" -> "Tabular".
10607 }%
10608 }%
10609 }{}%

10610 \LWR@traceinfo{LWR@HTML@endtabular finished}%
10611 }
10612
10613 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}
10614
10615 \StopDefiningTabulars

```

siunitx may redefine tabular, so set the following later:

```

10616 \AtBeginDocument{
10617 \LetLtxMacro\LWR@origendtabular\endtabular
10618 \csletcs{LWR@origendtabular*}{endtabular*}
10619 \LWR@formatted{@tabular}
10620 \LWR@formatted{endtabular}
10621 \LWR@formatted{endtabular*}
10622 }

10623 \end{warpHTML}

```

## 78 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

\*\_html.aux (*file*) A new entry in \*\_html.aux is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{<section name>}{<filename>
 {<limagedepth>}{<limagenumber>}}

```

Table 16 shows the data structures related to cross-referencing.

**for HTML output:** 10624 \begin{warpHTML}

### 78.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

```
10625 \def\@currentlabelname{\linkhomename}%
```

```
\LWR@stripperperiod {<text>} [⟨.⟩]
```

Table 16: Cross-referencing data structures

|                                                                                                                                                                                                             |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Original L<sup>A</sup>T<sub>E</sub>X:</b>                                                                                                                                                                | (print and HTML) |
| <b>\refstepcounter:</b> Steps the counter, sets \currentcounter, \currentlabel.                                                                                                                             |                  |
| <b>\currentcounter:</b> Counter type <ctr>, such as “section”.                                                                                                                                              |                  |
| <b>\currentlabel:</b> \p@<ctr>\the<ctr> Updated by \refstepcounter.                                                                                                                                         |                  |
| <b>\label:</b> Writes to the .aux file:<br><code>\newlabel{&lt;label&gt;}{\currentlabel}{\thepage}{name}{Href}{}</code>                                                                                     |                  |
| <b>\newlabel:</b> When the .aux file is read, sets \r@<label>.                                                                                                                                              |                  |
| <b>\r@&lt;label&gt;:</b> Set to: {\currentlabel}{\thepage}{name}{Href}{}                                                                                                                                    |                  |
| <b>\ref:</b> Returns the first part of \r@<label>.                                                                                                                                                          |                  |
| <b>\pageref:</b> Returns the second part of \r@<label>.                                                                                                                                                     |                  |
| <b>Added by lwarp:</b>                                                                                                                                                                                      | (HTML only)      |
| <b>\label:</b> Adds HTML tags (section 78.3), and two more .aux entries (section 78.2), for \r@<label>@lwarp and \r@<label>@lwarp@image. (nameref changes to \ref, etc. are undone \AtBeginDocument.)       |                  |
| <b>\newlabel:</b> {Href} is changed to {<jobname>-autopage-#}, or the label entered by the user. When the .aux file is read, used to set \r@<label>, and then \r@<label>@lwarp, and \r@<label>@lwarp@image. |                  |
| <b>\r@&lt;label&gt;@lwarp:</b> Set to {{nameref}{pageref}{fileref}}{}}{}}:                                                                                                                                  |                  |
| <b>\LWR@nameref:</b> The section or object name for this label.                                                                                                                                             |                  |
| <b>\LWR@currentautosecpageref:</b> The LWR@currentautosecpage for this label.                                                                                                                               |                  |
| <b>\LWR@htmlfileref:</b> The filename or name for this label.                                                                                                                                               |                  |
| <b>\r@&lt;label&gt;@lwarp@image:</b> Set to {{depth}{number}}{}}{}}{}}:                                                                                                                                     |                  |
| <b>\LWR@lateximagedepthref:</b> The lateximagedepth for this label.                                                                                                                                         |                  |
| <b>\LWR@lateximagenumberref:</b> The lateximagenumber for this label.                                                                                                                                       |                  |
| <b>\nameref:</b> Emulated from hyperref for lwarp. See section 78.4.                                                                                                                                        |                  |
| <b>\ref and \nameref:</b> Adds HTML tags. See section 78.4.                                                                                                                                                 |                  |
| <b>Added by amsmath:</b>                                                                                                                                                                                    | (print and HTML) |
| <b>\label:</b> Execution is delayed until the math environment is completed.                                                                                                                                |                  |
| <b>\ltx@label:</b> L <sup>A</sup> T <sub>E</sub> X \label, (HTML: patched by lwarp,) later patched by cleveref.                                                                                             |                  |
| <b>Added by cleveref:</b>                                                                                                                                                                                   | (print and HTML) |
| <b>\refstepcounter:</b> Added: sets \cref@currentlabel.                                                                                                                                                     |                  |
| <b>\cref@currentlabel:</b> (<type>=<ctr> unless an alias is used):<br>[<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>}}<br>Also see section 62.4 for use with footnotes.                          |                  |
| <b>\label:</b> Also writes to the .aux file:<br><code>\newlabel{&lt;label&gt;@cref}{\cref@currentlabel}{\thepage}}{}}{}}</code>                                                                             |                  |
| <b>\newlabel:</b> Unchanged. When the .aux file is read, sets \r@<label>@cref.                                                                                                                              |                  |
| <b>\r@&lt;label&gt;@cref:</b> Set to: {{\cref@currentlabel}{\thepage}}{}}{}}                                                                                                                                |                  |
| <b>Utility functions:</b> See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.                                                                                                             |                  |
| <b>Cross-referencing names:</b> \crefname and \Crefname assign human-readable names for references to this counter type.                                                                                    |                  |
| <b>Additionally patched by lwarp:</b>                                                                                                                                                                       | (HTML only)      |
| <b>\cref, etc.:</b> Modified for lwarp. See section 206.                                                                                                                                                    |                  |
| <b>\label inside math:</b> See section 85.7.1.                                                                                                                                                              |                  |
| <b>Footnotes:</b> See \noteentry in section 62.4.                                                                                                                                                           |                  |

Removes a trailing period.

```
10626 \def\LWR@stripperperiod#1.\ltx@empty#2\@nil{#1}%
```

`\LWR@setlatestname`  $\langle object\ name \rangle$

Removes `\label`, strips any final period, and remembers the result.

```
10627 \newcommand*\LWR@setlatestname}[1]{%
```

Remove `\label` and other commands from the name, the strip any final period. See `getttitlestring`.

```
10628 \GetTitleStringExpand{#1}%
10629 \edef\@currentlabelname{\detokenize\expandafter\GetTitleStringResult}%
10630 \edef\@currentlabelname{%
10631 \expandafter\LWR@stripperperiod\@currentlabelname%
10632 \ltx@empty.\ltx@empty\@nil%
10633 }%
10634 }
```

## 78.2 New lwarp labels.

`*_html.aux` (*file*) New entries in `*_html.aux` are used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>@lwarp}{<<section name>}{<auto page ref>}{<file name>}{}}
\newlabel{<labelname>@lwarp@image}{<<limagedepth>}{<limagenumber>}{}}}}
```

The L<sup>A</sup>T<sub>E</sub>X kernel reserves the fifth argument of `\r@<label>` for future use. Therefore, `lwarp` adds two `*_html.aux` entries, one with three and another with two arguments, to write a total of five argument without colliding with the reserved argument.

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref`  $\langle args\ list \rangle$   $\langle selector \rangle$   $\langle label \rangle$

`\@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with `lwarp` references. The regular reference will still cause the warning.

```
10635 \def\LWR@setref#1#2#3{%
10636 \ifx#1\relax%
10637 ??%
10638 \else%
10639 \expandafter#2#1%
10640 \fi}
```

`\LWR@nameref`  $\langle label \rangle$  Returns the section name for this label:

```
10641 \newcommand*\LWR@nameref}[1]{%
```

```

10642 \begingroup%
10643 \LWR@nullifyfootnotes%
10644 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffive{#1}%
10645 \endgroup%
10646 }

```

`\LWR@currentautosecpage` `{\langle label \rangle}` Returns the `LWR@currentautosecpage` for this label:

```

10647 \newcommand*\LWR@currentautosecpage[1]{%
10648 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffive{#1}%
10649 }

```

`\LWR@htmlfileref` `{\langle label \rangle}` Returns the file number or name for this label:

```

10650 \newcommand*\LWR@htmlfileref[1]{%
10651 \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@thirdoffive{#1}%
10652 }

```

`\LWR@lateximagedepthref` `{\langle label \rangle}` Returns the `lateximagedepth` for this label. This determines if the HTML link will be to a `lateximage` or just a text link.

```

10653 \newcommand*\LWR@lateximagedepthref[1]{%
10654 \expandafter\LWR@setref\csname r@#1@lwarp@image\endcsname\LWR@firstoffive{#1}%
10655 }

```

`\LWR@lateximagenumberref` `{\langle label \rangle}` Returns the `lateximagenumber` for this label:

```

10656 \newcommand*\LWR@lateximagenumberref[1]{%
10657 \expandafter\LWR@setref\csname r@#1@lwarp@image\endcsname\LWR@secondoffive{#1}%
10658 }

```

`\LWR@write@lwarplabel` `{\langle label \rangle}` Sanitize the name and then creates the label:

```

10659 \newcommand*\LWR@write@lwarplabel[1]{%
10660 \LWR@traceinfo{LWR@write@lwarplabel !#1!}%
10661 \LWR@setlatestname{\@currentlabelname}%
10662 \@bsphack%
10663 \protected@write\@auxout{%
10664 {%
10665 \string\newlabel{#1@lwarp}{%
10666 {\@currentlabelname}%
10667 {\theLWR@currentautosecpage}%
10668 }%
10669 \ifbool{FileSectionNames}%
10670 {\LWR@thisfilename}%
10671 {\arabic{LWR@htmlfilenumber}}%
10672 }%
10673 }%
10674 }%
10675 }%
10676 }%
10677 \protected@write\@auxout{%
10678 {%
10679 \string\newlabel{#1@lwarp@image}{%
10680 {\arabic{LWR@lateximagedepth}}%
10681 {\arabic{LWR@lateximagenumber}}%

```

```

10682 {}%
10683 {}%
10684 {}%
10685 }%
10686 }%
10687 \@esphack%
10688 }

```

### 78.3 Labels

`\LWR@label@subcreatetag` Creates the tag from `\LWR@sanitized`.

```

10689 \newcommand*\LWR@label@subcreatetag{%
10690 \LWR@htmltag{a \LWR@print@mbx{id=\textquotedbl\LWR@sanitized\textquotedbl}}%
10691 \LWR@htmltag{/a}%
10692 }

```

`\LWR@label@inmathcomment`

```

10693 \newcommand*\LWR@label@inmathcomment{%
10694 \ifbool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) %
10695 {%

```

The combined  $\LaTeX$  & HTML label is printed in a `\mbox` field:

```

10696 \mbox{%

```

Shift the label over to the right side of the environment to avoid over-printing the math:

```

10697 \ifdef{\totwidth@}{\ifbool{LWR@amsmultline}}{\hspace*{\totwidth@}}{}%

```

Temporarily end the HTML comment, insert the  $\LaTeX$  & HTML label, then resume the HTML comment. `\@firstofone` is required to remove extra braces introduced by the `amsmath` package.)

```

10698 \LWR@htmlclosecomment%
10699 \LWR@label@subcreatetag%
10700 \LWR@htmlopencomment%
10701 }% \mbox
10702 }% mathjax
10703 {%
10704 \LWR@label@subcreatetag%
10705 }%
10706 }

```

`\LWR@label@createtag` `{\langle label \rangle}` Creates an HTML id tag.

Used by `\LWR@new@label` and `\hyperdef`.

`\detokenize` is used to allow underscores in the labels.

```

10707 \newcommand*\LWR@label@createtag[1]{%
10708 \LWR@traceinfo{LWR@label@createtag !#1!}%

```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
10709 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10710 }%
10711 {% not lateximage
```

If not doing a lateximage, create an HTML ID tag.

```
10712 \LWR@sanitize{#1}%
10713 \ifbool{LWR@insidemathcomment}%
10714 {% inside HTML math comment
10715 \LWR@label@inmathcomment%
10716 }% inside HTML math comment
10717 {% not inside HTML math comment
10718 \ifbool{LWR@doingstartpars}%
10719 {% pars allowed
10720 \ifbool{LWR@doingapar}%
10721 {% par started
10722 \LWR@label@subcreatetag%
10723 }% par started
10724 }% par not started
10725 \LWR@stoppars%
10726 \LWR@label@subcreatetag%
10727 \LWR@startpars%
10728 }% par not started
10729 }% pars allowed
10730 {% pars not allowed
10731 \LWR@label@subcreatetag%
10732 }% pars not allowed
10733 }% not inside HTML math comment
10734 }% not lateximage
10735 }
```

`\LWR@new@Label {<label>}`

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L<sup>A</sup>T<sub>E</sub>X `\label`.

This is also used during a lateximage, including SVG math, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a lateximage.

`cleveref` later encases this to add its own cross-referencing.

`nameref` patches are undone `\AtBeginDocument`.

```
10736 \newcommand*{\LWR@new@Label}[1]{%
10737 \LWR@traceinfo{LWR@new@label: starting}%
10738 \LWR@traceinfo{LWR@new@label: !#1!}%
10739 % \@bsphack%
```

Create a traditional L<sup>A</sup>T<sub>E</sub>X label, as modified by `cleveref`:

```
10740 \LWR@orig@Label{#1}%
```

Create a special label which holds the section number, section name, LWR@htmlfilenumber, LWR@lateximagedepth, and LWR@lateximagenumber:

```

10741 \LWR@traceinfo{%
10742 LWR@new@label: filesectionnames is %
10743 \ifbool{FileSectionNames}{true}{false}%
10744 }%
10745 \LWR@traceinfo{%
10746 LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
10747 }%
10748 \LWR@traceinfo{%
10749 LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
10750 }%
10751 \LWR@write@lwarplabel{#1}%
10752 \LWR@label@createtag{#1}%
10753 % \esphack%
10754 \LWR@traceinfo{LWR@new@label: done}%
10755 }

```

## 78.4 References

`\LWR@addlinktitle`

```

10756 \newcommand*\LWR@addlinktitle{%
10757 \ifdefvoid{\LWR@ThisAltText}{ }{ % space
10758 title=\textquotedbl\LWR@ThisAltText\textquotedbl\ % space
10759 \gdef\LWR@ThisAltText{}}%
10760 }%
10761 }

```

`\LWR@startref {<label>}` (Common code for `\ref` and `\nameref`.)

Open an HTML tag reference to a filename, # character, and a label.

```

10762 \newcommand*\LWR@startref}[1]
10763 {%
10764 \LWR@sanitize{#1}%
10765 \LWR@traceinfo{LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

10766 \LWR@htmltag{a href=\textquotedbl%
10767 \LWR@traceinfo{LWR@startref B}%
10768 \LWR@print@embox{\LWR@htmlrefsectionfilename{#1}}%
10769 \LWR@traceinfo{LWR@startref C}%
10770 \LWR@origpound%

```

Create the destination id:

See if LWR@lateximagedepth is unknown:

```

10771 \LWR@traceinfo{LWR@startref D: !#1!}%
10772 \ifcsundef{r@#1@lwarp}%

```

“??” if LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

10773 {%
10774 \LWR@traceinfo{LWR@startref D0: ??}%
10775 ??%
10776 }%

```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

(Using `xifthen \ifthenelse` here failed in some cases, but `etoolbox \ifnumgreater` works.)

```

10777 {%
10778 \ifnumgreater{LWR@lateximagedepthref{#1}}{0}%
10779 {%
10780 lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10781 }%
10782 {%
10783 \LWR@traceinfo{LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```

10784 \LWR@print@ebox{LWR@sanitized}%
10785 }%
10786 }%
10787 \LWR@traceinfo{LWR@startref E}%

```

Closing quote:

```

10788 \textquotedbl%

```

Maybe add a title:

```

10789 \LWR@addlinktitle%
10790 }%
10791 \LWR@traceinfo{LWR@startref F}%
10792 }

```

`\LWR@subnewref {<label>} {<label or sub@label>}`

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```

10793 \NewDocumentCommand{LWR@subnewref}{m m}{%
10794 \LWR@traceinfo{LWR@subnewref #1 #2}%
10795 \LWR@startref{#1}%
10796 \LWR@print@ref{#2}%
10797 \LWR@htmltag{/a}%
10798 }

```

`\ref * {<label>}`

`\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

`\LWR@HTML@ref * {<label>}` Create an internal document reference link, or without a link if starred per `hyperref`.



The HTML version:

```

10799 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10800 \LWR@traceinfo{LWR@HTML@ref !#2!}%
10801 \IfBooleanTF{#1}%
10802 {\LWR@print@ref{#2}}%
10803 {\LWR@subnewref{#2}{#2}}%
10804 }
10805
10806 \AtBeginDocument{% **8*
10807 \LWR@formatted{ref}
10808 }
10809
10810 \NewDocumentCommand{\LWR@HTML@Ref}{s m}{%
10811 \LWR@traceinfo{LWR@HTML@Ref !#2!}%
10812 \IfBooleanTF{#1}%
10813 {\LWR@print@Ref{#2}}%
10814 {\LWR@subnewref{#2}{#2}}%
10815 }
10816
10817 \AtBeginDocument{% **8*
10818 \LWR@formatted{Ref}
10819 }

```

`\LWR@refwithsection * {<label>}`

Creates a reference, printing the section number as the text. Used for back references.

```

10820 \NewDocumentCommand{\LWR@refwithsection}{s m}{%
10821 \LWR@traceinfo{LWR@refwithsection !#2!}%

```

If starred, just use the text without a hyperlink:

```

10822 \IfBooleanTF{#1}%
10823 {\LWR@print@ref{\BaseJobname-autopage-\LWR@currentautosecpageref{#2}}}%

```

If not starred: Check for a reference to the start of the document. (Generated by **backref**.)

```

10824 {% not starred
10825 \ifstrequal{#2}{Doc-Start}%
10826 {%
10827 \LWR@startref{\BaseJobname-autopage-1}%
10828 *%
10829 \LWR@htmltag{/a}%
10830 }%
10831 {% not Doc-Start

```

Open the reference:

```

10832 \LWR@startref{#2}%

```

Add the text of the link.

Check for and handle an undefined reference:

```

10833 \edef\@tempa{\LWR@currentautosecpageref{#2}}%
10834 \ifdefstring{\@tempa}{??}%
10835 {??}%

```

For a defined reference:

```

10836 {% not ??

```

Set \@tempa to \r@<label>, which is {section number}{page number}{name}{Href}{}

```

10837 \edef\@tempa{\csexpandonce{r@\BaseJobname-autopage-\@tempa}}%
10838 \expandafter\LWR@edeffirstoffive\@tempa%

```

Check the section number alone:

If the reference has no section number print an asterisk:

```

10839 \expandafter\ifblank\expandafter{\@tempa}%
10840 {*}

```

If there is a section number, print it:

```

10841 {%
10842 \LWR@print@ref{%
10843 \BaseJobname-autopage-\LWR@currentautosecpageref{#2}%
10844 }%
10845 }%
10846 }% not ??

```

Close the reference:

```

10847 \LWR@htmltag{/a}%
10848 }% not Doc-Start
10849 }% not starred
10850 }

```

For MATHJAX:

```

10851 \CustomizeMathJax{\let\LWRref\ref}
10852 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}

```

\pagerefPageFor Text for page references.

```

10853 \newcommand*{\pagerefPageFor}{see }

```

\pageref \* {<label>} Create an internal document reference, or just the unlinked number if starred, per hyperref.

```

10854 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10855 \IfBooleanTF{#1}%
10856 {(\pagerefPageFor\LWR@print@ref{#2})}%
10857 {(\cpageref{#2})}%
10858 }

```

`\nameref {<label>}`

`nameref` may have already defined `\nameref`. Redefine it here.

```
10859 \providecommand{\nameref}[1]{%
10860
10861 \renewrobustcmd*{\nameref}[1]{%
10862 \LWR@traceinfo{nameref}%
10863 \LWR@startref{#1}%
10864 \LWR@traceinfo{nameref B}%
10865 \LWR@nameref{#1}%
10866 \LWR@traceinfo{nameref C}%
10867 \LWR@htmltag{/a}%
10868 \LWR@traceinfo{nameref: done}%
10869 }
```

`\Nameref {<label>}` In print, adds the page number. In HTML, does not.

Overwrites `nameref` definition if already defined.

```
10870 \LetLtxMacro\Nameref\nameref
```

`\NR@getttitle {<text>}` From `nameref`, used by `caption`.

```
10871 \def\NR@getttitle#1{%
10872 \GetTitleString{#1}%
10873 \let\@currentlabelname\GetTitleStringResult%
10874 }
```

## 78.5 Hyper-references



Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

`hyperref (Pkg)`



Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
10875 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10876 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support `backref`.

```
10877 \AtBeginDocument{
10878 \def\@currentHref{\BaseJobname-autopage-\theLWR@previousautopagelabel}%
10879 }
```

`\LWR@linkcatcodes` Sets `catcodes` before processing macros which have hyperlinks as arguments.

```

10880 \newcommand*{\LWR@linkcatcodes}{%
10881 \catcode`\#=12%
10882 \catcode`\%=12%
10883 \catcode`\&=12%
10884 \catcode`\~=12%
10885 \catcode`_ =12%

```

For babel-french:

```

10886 \LWR@hook@processingtags%
10887 }

```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```

10888 \newcommand*{\LWR@linkmediacatcodes}{%
10889 \catcode`\#=12%
10890 \catcode`\%=12%
10891 % \catcode`\&=12% left alone for splitting flash variables
10892 \catcode`\~=12%
10893 \catcode`_ =12%

```

For babel-french:

```

10894 \LWR@hook@processingtags%
10895 }

```

`\LWR@subhyperref`  $\{\langle URL \rangle\}$

Starts a link for `\LWR@hrefb`. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```

10896 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10897 \LWR@traceinfo{\LWR@subhyperref !#1!}%
10898 \edef\tmpb{\detokenize\expandafter{#1}}%
10899 \LWR@HTMLsanitize@tmpb%
10900 \LWR@htmltag{%
10901 a href=\textquotedbl\tmpb\textquotedbl\ % space
10902 \LWR@addlinktitle % space
10903 target=\textquotedbl_{}blank\textquotedbl\ % space
10904 }%
10905 }

```

`\LWR@subhyperreftext@sanitized`  $\{\langle text \rangle\}$

Finishes the hyperref for `\LWR@hrefb`. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```

10906 \newcommand{\LWR@subhyperreftext@sanitized}[1]{%
10907 \edef\tmpb{#1}%
10908 \LWR@HTMLsanitize@tmpb%
10909 \tmpb%
10910 \LWR@htmltag{/a}%
10911 \LWR@ensuredoingapar%
10912 }

```

`\LWR@subhyperref@text@unsanitized` {<*text*>}

Finishes the hyperref for `\LWR@hrefb`. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```
10913 \newcommand{\LWR@subhyperref@text@unsanitized}[1]{%
10914 #1%
10915 \LWR@htmltag{/a}%
10916 \LWR@ensuredoingapar%
10917 }
```

`\LWR@subhyperrefclass` {<*URL*>} {<*text*>} {<*htmlclass*>}

```
10918 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10919 \LWR@htmltag{%
10920 a % space
10921 href=\textquotedbl\beginngroup\@sanitize#1\endgroup\textquotedbl\ % space
10922 class=\textquotedbl#3\textquotedbl\ % space
10923 \LWR@addlinktitle % space
10924 }\LWR@orignewline%
10925 #2%
10926 \LWR@htmltag{/a}%
10927 \LWR@ensuredoingapar%
10928 }
```

`\LWR@href` [*<options>*] {<*URL*>} {<*text*>}

Create a link with accompanying text. The accompanying text is sanitized for HTML.

```
10929 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10930 \LWR@ensuredoingapar%
10931 \LWR@subhyperref{#2}%
10932 \endgroup% restore catcodes
```

If use `\LWR@subhyperref@text@sanitized` here, some forms of text may not expand correctly, and thus break.

```
10933 \LWR@subhyperref@text@unsanitized% takes the following text as an argument
10934 }
10935
10936 \newrobustcmd*{\LWR@href}{%
10937 \beginngroup%
10938 \LWR@linkcatcodes%
10939 \LWR@hrefb%
10940 }
```

A version which sanitizes both the URL and the text. Used by `\LWR@url`.

```
10941 \DeclareDocumentCommand{\LWR@hrefb@sanitized}{O{} m}{%
10942 \LWR@ensuredoingapar%
10943 \LWR@subhyperref{#2}%
10944 \endgroup% restore catcodes
```

Used by `\LWR@url` to sanitize the text argument before printing.

```
10945 \LWR@subhyperref@text@sanitized% takes the following text as an argument
```

```

10946 }
10947
10948 \newrobustcmd*{\LWR@href@sanitized}{%
10949 \begingroup%
10950 \LWR@linkcatcodes%
10951 \LWR@hrefb@sanitized%
10952 }

```

`\LWR@href@partsanitized` [*options*] {*URL*} {*text*}

Create a link with accompanying text. The accompanying text is not sanitized, for use internally with algorithmically derived tags.

```

10953 \DeclareDocumentCommand{\LWR@hrefb@partsanitized}{O{} m}{%
10954 \LWR@ensuredoingapar%
10955 \LWR@subhyperref{#2}%
10956 \endgroup% restore catcodes
10957 \LWR@subhyperreftext@unsanitized% takes the following text as an argument
10958 }
10959
10960 \newrobustcmd*{\LWR@href@partsanitized}{%
10961 \begingroup%
10962 \LWR@linkcatcodes%
10963 \LWR@hrefb@partsanitized%
10964 }

```

`\LWR@nolinkurl` {*URL*}

Print the name of the link without creating the link:

```

10965 \newcommand*{\LWR@nolinkurlb}[1]{%
10966 \LWR@ensuredoingapar%
10967 \edef\tmpb{#1}%
10968 \LWR@HTMLsanitize@tmpb%
10969 \tmpb%
10970 \endgroup%
10971 }
10972
10973 \newrobustcmd*{\LWR@nolinkurl}{%
10974 \begingroup%
10975 \LWR@linkcatcodes%
10976 \LWR@nolinkurlb%
10977 }

```

`\LWR@url` {*URL*}

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@url` here and also redefined by `lwarp-url`.

```

10978 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10979 \LWR@ensuredoingapar%
10980 \LWR@href@sanitized{#1}{#1}%
10981 \endgroup%
10982 }
10983
10984 \newrobustcmd*{\LWR@url}{%

```

```

10985 \begingroup%
10986 \LWR@linkcatcodes%
10987 \LWR@urlb%
10988 }

```

```

\LWR@subinlineimage {<1: <alt> tag}& {<2: class}& {<3: filename}& {<4: extension}& {<5: css style}& {<6:
aria role}&

```

Creates the HTML tag for the image. Factored from `lateximage`.

To allow sanitization of the `alt` tag, if the `alt` tag is detokenized then it must also be expanded before being used here.

```

10989 \newcommand*{\LWR@subinlineimage}[6]{%
10990 \begingroup%
10991 \boolfalse{\LWR@HTMLsanitize@tmpb@removebackslash}%
10992 \ifblank{#6}% ARIA role
10993 {\renewcommand*{\LWR@tempone}{}}%
10994 {\renewcommand*{\LWR@tempone}{role=\textquotedbl#6\textquotedbl\LWR@indentHTML}}%
10995 \ifblank{#1}% alt text
10996 {% alt is file name
10997 \LWR@htmltag{img \LWR@indentHTML
10998 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
10999 alt=\textquotedbl#3\textquotedbl \LWR@indentHTML
11000 \LWR@tempone
11001 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
11002 class=\textquotedbl#2\textquotedbl \LWR@orignewLine
11003 }%
11004 }%
11005 {% alt is as given
11006 \def\tmpb{#1}%
11007 \LWR@HTMLsanitize@tmpb%
11008 \LWR@htmltag{img \LWR@indentHTML
11009 src=\textquotedbl#3.#4\textquotedbl \LWR@indentHTML
11010 alt=\textquotedbl\tmpb\textquotedbl \LWR@indentHTML
11011 \LWR@tempone
11012 style=\textquotedbl#5\textquotedbl \LWR@indentHTML
11013 class=\textquotedbl#2\textquotedbl \LWR@orignewLine
11014 }%
11015 }%
11016 \endgroup%
11017 }

11018 \end{warpHTML}

```

Table 17: Float data structures

---

For each `<type>` of float (figure, table, etc.) there exists the following:

- counter `<type>`:** A counter called `<type>`, such as figure, table.
  - `\<type>name`:** Name. `\figurename` prints “Figure”, etc.
  - `\ext@<type>`:** File extension. `\ext@figure` prints “lof”, etc.
  - `\fps@<type>`:** Placement.
  - `\the<type>`:** Number. `\thetable` prints the number of the table, etc.
  - `\p@<type>`:** Parent’s number. Prints the number of the [within] figure, etc.
  - `\fnum@<type>`:** Prints the figure number for the caption.  
`\<type>name \the<type>`, “Figure 123”.
  - `\<type>`:** Starts the float environment. `\figure` or `\begin{figure}`
  - `\end<type>`:** Ends the float environment. `\endfigure` or `\end{figure}`
  - `\tf@<ext>`:** The L<sup>A</sup>T<sub>E</sub>X file identifier for the output file.
  - `LWR@have<type>`:** A boolean remembering whether a `\listof` was requested for a float of this type.
  - File with extension `lo<f, t, a-z>`:** An output file containing the commands to build the `\listof<type>` “table-of-contents” structure.
  - Cross-referencing names:** For `cleveref`’s `\cref` and related, `\crefname` and `\Crefname` assign human-readable names for references to this float type.
- 

## 79 Floats

Floats are supported, although partially through emulation.

Table 17 shows the data structure associated with each `<type>` of float.

### 79.1 Float environment

**for HTML output:** 11019 `\begin{warpHTML}`

`\LWR@floatbegin {<type>} [<placement>]` Begins a `\newfloat` environment.

11020 `\NewDocumentCommand{\LWR@floatbegin}{m o}{%`

Warn if starting a float inside a `<span>`:

11021 `\LWR@spanwarninvalid{float}%`

11022 `\ifbool{FormatWP}{\newline}{}%`

11023 `\LWR@stoppars%`



There is a new float, so increment the unique float counter:

```
11024 \addtocounter{LWR@thisautoid}{1}%
11025 \booltrue{LWR@freezethisautoid}%

11026 \begingroup%
```

Settings while inside the environment:

```
11027 \LWR@print@raggedright%
```

Open an HTML figure tag. The figure is assigned a class equal to its type, and another class according to the float package style, if used. Note that `\csuse` returns an empty string if `\LWR@floatstyle@<type>` is not defined.

```
11028 \LWR@htmltag{%
11029 figure id=\textquotedbl%
11030 \LWR@print@embox{autoid-\arabic{LWR@thisautoid}}%
11031 \textquotedbl\ % space
11032 class=\textquotedbl#1 \@nameuse{LWR@floatstyle@#1}\textquotedbl%
11033 }%
11034 \ifbool{FormatWP}{%
11035 \LWR@orignewline%
11036 \LWR@BlockClassWP}{\wp#1}%
11037 }{%}
```

Update the caption type:

```
11038 \renewcommand*\@capttype{#1}%
```

Mark the float for a word processor conversion:

```
11039 \LWR@startpars%
11040 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
11041
11042 === begin #1 ===
11043
11044 }{%}
```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```
11045 }
```

For koma-script. The following does not work for tables.

```
11046 \AtBeginDocument{
11047
11048 \IfPackageLoadedTF{tocbasic}{
11049
11050 \appto\figure@atbegin{%
11051 \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
11052 }
11053
11054 }{}% tocbasic
11055
11056 }% AtBeginDocument
```

`\@xfloat` Support packages which create floats directly.  
`\@xdblfloat` Look for `\centering`, etc using `\LWR@floatalignment`.

```

11057 \AtBeginDocument{
11058 \def\@xfloat #1[#2]{%
11059 \LWR@floatbegin{#1}[#2]
11060 \LWR@futurenonspacel\WR@mynexttoken\LWR@floatalignment%
11061 }
11062 \def\@xdblfloat #1[#2]{%
11063 \LWR@floatbegin{#1}[#2]
11064 \LWR@futurenonspacel\WR@mynexttoken\LWR@floatalignment%
11065 }
11066 }

```

`\LWR@floatend` Ends a `\newfloat` environment.

```

11067 \newcommand*\LWR@floatend}{%

```

If saw a `\centering`, finish the center environment:

```

11068 \LWR@endfloatalignment%

```

Mark the float end for a word processor conversion:

```

11069 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
11070
11071 === end ===
11072
11073 }{%
11074 \LWR@stoppars%

```

Close an HTML figure tag:

```

11075 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
11076 \LWR@htmlElementend{figure}%
11077 \endgroup%
11078 \boolfalse{LWR@freezethisautoid}%
11079 \LWR@startpars%
11080 \ifbool{FormatWP}{\newline}{}%
11081 }

```

`\end@float` Support packages which create floats directly.  
`\end@dblfloat`

```

11082 \AtBeginDocument{
11083 \let\end@float\LWR@floatend
11084 \let\end@dblfloat\LWR@floatend
11085 }

```

## 79.2 Float tracking

`LWR@thisautoid` (*Ctr*) A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```

11086 \newcounter{LWR@thisautoid}

```

`LWR@thisautoidWP` (*Ctrl*) A sequential counter for all word processor conversion `<div>`s. This is used to convince LIBREOFFICE to form a frame around this element.

```
11087 \newcounter{LWR@thisautoidWP}
```

`LWR@freezethisautoid` (*bool*) Prevents multiple increments of `\LWR@thisautoid` inside a float.

```
11088 \newbool{LWR@freezethisautoid}
11089 \boolfalse{LWR@freezethisautoid}
```

`\LWR@forcenewautoidanchor` Adds a new `<autoid>` anchor.

```
11090 \newcommand*{\LWR@forcenewautoidanchor}{%
11091 \addtocounter{LWR@thisautoid}{1}%
11092 \ifbool{LWR@doingapar}%
11093 {%
11094 \LWR@htmltag{a id=\textquotedbl%
11095 \LWR@print@embox{autoid-\arabic{LWR@thisautoid}}}%
11096 \textquotedbl\ }% space
11097 \LWR@htmltag{/a }%
11098 }%
11099 {%
11100 \LWR@stoppars%
11101 \LWR@htmltag{a id=\textquotedbl%
11102 \LWR@print@embox{autoid-\arabic{LWR@thisautoid}}}%
11103 \textquotedbl\ }% space
11104 \LWR@htmltag{/a }%
11105 \LWR@startpars%
11106 }%
11107 }
```

`\LWR@newautoidanchor` Sometimes adds a new `<autoid>` anchor.

```
11108 \newcommand*{\LWR@newautoidanchor}{%
11109 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11110 }%
11111 {\ifbool{LWR@freezethisautoid}}{\LWR@forcenewautoidanchor}}%
11112 }
```

`\@capttype` Remembers which float type is in use.

```
11113 \newcommand*{\@capttype}{}%
```

`\LWR@floatalignmentname` Set to center, flushleft, or flushright if saw `\centering`, `\raggedright`, or `\raggedleft`.

```
11114 \newcommand*{\LWR@floatalignmentname}{}%
```

`\LWR@floatalignment` If sees a `\centering`, `\raggedleft`, or `\raggedright`, creates a center, flushright, or flushleft environment.

```
11115 \newcommand*{\LWR@floatalignment}{%
11116 \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
11117 \center%
11118 \renewcommand*{\LWR@floatalignmentname}{center}%
11119 }%}
```

```

11120 \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
11121 \flushleft%
11122 \renewcommand*\LWR@floatalignmentname}{flushleft}%
11123 }{%
11124 \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
11125 \flushright%
11126 \renewcommand*\LWR@floatalignmentname}{flushright}%
11127 }{%
11128 }

```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```

11129 \newcommand*\LWR@endfloatalignment{%
11130 \ifdefvoid{\LWR@floatalignmentname}%
11131 {}%
11132 {\@nameuse{end\LWR@floatalignmentname}}%
11133 \renewcommand*\LWR@floatalignmentname}{}%
11134 }

```

### 79.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```

11135 \AtBeginDocument{\providecommand*\CaptionSeparator}{:~}}

```

`\@caption`  $\langle posn \rangle$  [ $\langle name \rangle$ ] [ $\langle long name \rangle$ ]

`\@makecaption` [ $\langle name and num \rangle$ ] [ $\langle text \rangle$ ]

Prints the float type and number, the caption separator, and the caption text.

`\@caption` is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```

11136 \AtBeginDocument{
11137 \IfPackageLoadedTF{caption}{}{
11138 \let\LWR@orig@caption\@caption%
11139 \long\def\@caption#1[#2]{%

```

Warn if using a caption inside a `<span>`:

```

11140 \LWR@spanwarnformat{caption}%
11141 \LWR@setlatestname{#2}%
11142 \LWR@orig@caption{#1}[#2]}% also takes third argument
11143 }%
11144
11145 \renewcommand{\@makecaption}[2]{%
11146 \LWR@traceinfo{\@makecaption}%
11147 \caption@begin{\@caption}%
11148 \LWR@isolate{#1}%
11149 \edef\LWR@tempone{#1}%
11150 \ifdefvoid{\LWR@tempone}{\CaptionSeparator}%
11151 \LWR@isolate{#2}%

```

```

11152 \caption@end%
11153 \LWR@traceinfo{@makecaption: done}%
11154 }%
11155 }
11156 }

```

## 79.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L<sup>A</sup>T<sub>E</sub>X PDF file, or at the start of a new section, the L<sup>A</sup>T<sub>E</sub>X PDF page number at that point is stored in LWR@currentautosecfloatpage, (and the associated filename is remembered by the special L<sup>A</sup>T<sub>E</sub>X labels). This page number is used to generate an autepage HTML <id> in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autepage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by \l@figure, etc. to create the HTML links in the List of Figures, etc.

LWR@nextautoid (*Ctr*) Tracks autoid for floats. Tracks autepage for floats.  
LWR@nextautopage (*Ctr*) These are updated per float as the .lof, .lot file is read.

```

11157 \newcounter{LWR@nextautoid}
11158 \newcounter{LWR@nextautopage}

```

```
\LWRsetnextfloat {<autopage>} {<float autoid>}
```

\*\_html.lof (*file*) This is written to the \*\_html.lof or \*\_html.lot file just before each float's usual entry. The autepage and the float's autoid are remembered for \l@figure to use when creating the HTML links.  
\*\_html.lot (*file*)

```

11159 \newcommand*\LWRsetnextfloat}[2]{%
11160 \setcounter{LWR@nextautopage}{#1}%
11161 \setcounter{LWR@nextautoid}{#2}%
11162 }

```

LWR@figcaption (*env*) An HTML <figcaption> is not allowed in places where L<sup>A</sup>T<sub>E</sub>X does allow a figure caption, such as inside a longtable where the tabular has already started, or inside a center environment. Therefore, a <div> of class figurecaption is used instead.

```

11163 \newenvironment*LWR@figcaption}
11164 {%
11165 \ifbool{FormatWP}{%
11166 \BlockClass[font-style:italic]{figurecaption}%
11167 }{%
11168 \BlockClass{figurecaption}%
11169 }%

```

Inside the caption, temporarily prevent underfull \hbox warnings, such as when the caption contains a math SVG image.

```

11170 \hbadness=10000\relax%
11171 }%
11172 {\endBlockClass}

```

`\LWR@HTML@caption@begin`  $\langle type \rangle$

Low-level code to create HTML tags for captions.

The print versions are from the `caption` package, if loaded.

```
11173 \newcommand*\LWR@HTML@caption@begin[1]
11174 {%
11175 \LWR@traceinfo{LWR@HTML@caption@begin}%
```

Keep `par` and `minipage` changes local:

```
11176 \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```
11177 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{}{}%
11178 \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{##5}%
```

Enclose the original caption code inside an HTML tag:

```
11179 \LWR@figcaption%
11180 \LWR@traceinfo{LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
11181 \LWR@print@caption@begin{#1}%
11182 \LWR@traceinfo{LWR@HTML@caption@begin: done}%
11183 }
```

`\LWR@HTML@caption@end` Low-level patches to create HTML tags for captions.

```
11184 \newcommand*\LWR@HTML@caption@end}
11185 {%
11186 \LWR@traceinfo{LWR@HTML@caption@end}%
11187 \LWR@print@caption@end%
```

Closing tag:

```
11188 \endLWR@figcaption%
11189 \endgroup%
11190 % \leavevmode% avoid bad space factor (0) error
11191 \LWR@traceinfo{LWR@HTML@caption@end: done}%
11192 }
```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument` `\caption@end` so that other packages which modify captions will have already been loaded before saving the print-mode version.

Print versions are provided here in case `caption` is not loaded.

```
11193 \AtBeginDocument{
11194 \providecommand{\caption@begin}[1]{}
11195 \LWR@formatted{caption@begin}
11196
11197 \providecommand{\caption@end}{}
11198 \LWR@formatted{caption@end}
11199 }
```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```

11200 \AtBeginDocument{%
11201 \IfPackageLoadedTF{caption}{
11202 \let\LWR@origcaptionlistentry\captionlistentry
11203
11204 \renewcommand*\captionlistentry{%
11205 \LWR@ensuredoingapar%
11206 \LWR@origcaptionlistentry%
11207 }

11208 \def\LWR@LTcaptionlistentry{%
11209 \LWR@ensuredoingapar%
11210 \LWR@forcenewautoidanchor%
11211 \bgroup%
11212 \ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
11213 {\egroup\LWR@LT@captionlistentry}%
11214 }%
11215
11216 \def\LWR@LT@captionlistentry#1{%
11217 \caption@listentry@firstoftwo[LTcapytype]{#1}%
11218 }%
11219 }% caption loaded
11220 {% caption not loaded
11221 \newcommand{\captionlistentry}[2][{}]{%
11222 \newcommand{\LWR@LT@captionlistentry}[2][{}]{%
11223 }
11224 }% AtBeginDocument

```

`\addcontentsline` Patched to write the autopage and autoid before each float's entry. No changes if writing .toc For a theorem, automatically defines `\ext@<type>` as needed, to mimic and reuse the float mechanism.

f

```

11225 \let\LWR@origaddcontentsline\addcontentsline
11226
11227 \renewcommand*\addcontentsline}[3]{%
11228 \ifstrequal{#1}{toc}{}% not TOC

11229 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11230 {}%
11231 {\LWR@newautoidanchor}%

11232 \ifcvoid{ext@#2}{\csdef{ext@#2}{#1}}{%

11233 \addtocontents{\@nameuse{ext@#2}}{%
11234 \protect\LWRsetnextfloat%
11235 {\arabic{LWR@currentautosecfloatpage}}%
11236 {\arabic{LWR@thisautoid}}%
11237 }%
11238 }% not TOC
11239 \LWR@origaddcontentsline{#1}{#2}{#3}%
11240 }

```

`capt-of (Pkg)` Either package provides `\captionof`, which is later patched at the beginning of `caption (Pkg)`

the document.

`\captionof` Patched to handle paragraph tags.

```

11241 \RequirePackage{capt-of}
11242
11243 \AtBeginDocument{
11244 \let\LWR@origcaptionof\captionof
11245
11246 \renewcommand*\captionof}{%
11247 \LWR@stoppars%
11248 \LWR@origcaptionof%
11249 }
11250 }% AtBeginDocument

11251 \end{warpHTML}

```

## 80 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “`sidetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L<sup>A</sup>T<sub>E</sub>X infrastructure is used for TOC, along with some patches to generate HTML output.

**for HTML output:** `11252 \begin{warpHTML}`

### 80.1 Reading and printing the toc

`\LWR@myshorttoc` `{\langle toc/lof/lot/sidetoc \rangle}`

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L<sup>A</sup>T<sub>E</sub>X, the file is not reset after being read, since the `sidetoc` may be referred to again in each HTML page.

```

11253 \newcommand*\LWR@myshorttoc}[1]{%
11254 \LWR@traceinfo{LWR@myshorttoc: #1}%

```

Only if the file exists:

```

11255 \IfFileExists{\jobname.#1}{%
11256 \LWR@traceinfo{LWR@myshorttoc: loading}%

```



Many of the commands in the file will have @ characters in them, so @ must be



made a regular letter.

```
11257 \begingroup%
11258 \makeatletter%
```

Disable \ref to avoid nested HTML references.

```
11259 \LetLtxMacro\ref\LWR@print@ref%
11260 \LWR@disablepinyin%
```

Read in the toc file:

```
11261 \@input{\jobname.#1}%
11262 \endgroup%
11263 }%
11264 {%
11265 \LWR@traceinfo{LWR@myshorttoc: done}%
11266 }
```

```
\LWR@subtableofcontents {<toc/lof/lot>} {<sectionstarname>}
```

Places a TOC/LOF/LOT at the current position.

```
11267 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
11268 \@ifundefined{chapter}%
11269 {\LWR@closeprevious{section}}%
11270 {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large toc:

```
11271 \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
11272 \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
11273 \LWR@html@elementclass{nav}{#1}%
```

Create the actual list:

```
11274 \LWR@myshorttoc{#1}%
```

Close the nav:

```
11275 \LWR@html@elementclassend{nav}{#1}%
11276 }
```

```
\@starttoc {<ext>}
```

Patch \@starttoc to encapsulate the TOC inside HTML tags:

```

11277 \let\LWR@orig@starttoc\@starttoc
11278
11279 \renewcommand{\@starttoc}[1]{
11280 \LWR@htmlclass{nav}{#1}%
11281 \LWR@orig@starttoc{#1}%
11282 \LWR@htmlclassend{nav}{#1}%
11283 }

```

`LWR@copiedsidetoc` (*bool*) Used to only copy the toc file to the sidetoc a single time.

(listings and perhaps other packages would re-use `\tableofcontents` for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```

11284 \newbool{LWR@copiedsidetoc}
11285 \boolfalse{LWR@copiedsidetoc}

```

`\tableofcontents` Patch `\tableofcontents`, etc. to print footnotes first. `newfloat` uses `\listoffigures` for all future float types.

```

11286 \AtBeginDocument{
11287
11288 \let\ltxmacro\LWR@origtableofcontents\tableofcontents
11289
11290 \renewcommand*\tableofcontents{%

```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```

11291 \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
11292
11293 === table of contents ===
11294
11295 }
11296 {

```

Copy the `.toc` file to `.sidetoc` for printing the sidetoc. The original `.toc` file is renewed when `\tableofcontents` is finished.

```

11297 \ifbool{LWR@copiedsidetoc}{}%
11298 \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
11299 \booltrue{LWR@copiedsidetoc}%
11300 }%
11301 \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11302 \begingroup%
11303 \let\ltxmacro\ref\LWR@print@ref%
11304 \LWR@disablepinyin%
11305 \LWR@origtableofcontents%
11306 \endgroup%
11307 }
11308 }% \tableofcontents
11309
11310 }% AtBeginDocument

```

`\listoffigures`

```

11311 \let\LWR@origlistoffigures\listoffigures
11312
11313 \renewcommand*{\listoffigures}{
11314 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11315
11316 === list of figures ===
11317
11318 }
11319 {
11320 \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11321 \begingroup%
11322 \LetLtxMacro\ref\LWR@print@ref%
11323 \LWR@disablepinyin%
11324 \LWR@origlistoffigures%
11325 \endgroup%
11326 }
11327 }

```

`\listoftables`

```

11328 \let\LWR@origlistoftables\listoftables
11329
11330 \renewcommand*{\listoftables}{
11331 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
11332
11333 === list of tables ===
11334
11335 }
11336 {
11337 \LWR@printpendingfootnotes

```

Disable `\ref` to avoid nested HTML references.

```

11338 \begingroup%
11339 \LetLtxMacro\ref\LWR@print@ref%
11340 \LWR@disablepinyin%
11341 \LWR@origlistoftables%
11342 \endgroup%
11343 }
11344 }

```

## 80.2 toc commands

`\LWR@listof {<type>} {<title>}`

Emulate the `\listof` command from the `float` package (section 281). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X `\listoffigures` and `\listoftables` commands, and in `tocloft` and `memoir`.

```

11345 \NewDocumentCommand{\LWR@listof}{m +m}{%
11346 \ifundefined{L@#1}{%

```

```

11347 \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
11348 }{}%
11349 \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
11350 \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
11351 \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
11352 \jobname.\@nameuse{ext@#1}\relax%
11353 }

```

### 80.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sidedocname`, and may contain paragraphs.

Per table 18, CSS may be used to format the sideroc.

Table 18: CSS related to the sideroc

`div.sidetoccontainer`: The entire sideroc.

`div.sidetoctitle`: The title.

`div.sidetoccontents`: The table of contents.

```
11354 \end{warpHTML}
```

**for HTML & PRINT:** 11355 `\begin{warpall}`

`SideTOCDepth (Ctr)` Controls how deep the side-TOC gets. Use a standard L<sup>A</sup>T<sub>E</sub>X section level similar to `tocdepth`. Warn if parts of the website may be inaccessible.

```

11356 \newcounter{SideTOCDepth}
11357 \setcounter{SideTOCDepth}{1}
11358
11359 \AtEndDocument{%
11360 \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{
11361 \PackageWarningNoLine{lwarp}
11362 {%
11363 SideTOCDepth is less than FileDepth,\MessageBreak
11364 so some website pages may be inaccessible%
11365 }
11366 }{}
11367 }

```

`\sidedocname` Holds the default name for the sideroc.

```
11368 \newcommand{\sidedocname}{Contents}
```

```
11369 \end{warpall}
```

**for HTML output:** 11370 `\begin{warpHTML}`

`\LWR@sidedoc` Creates the actual side-TOC.

```
11371 \newcommand*{\LWR@sidedoc}{%
```

```

11372 \LWR@forcenewpage
11373 \LWR@stoppars
11374

```

The entire sidetoc is placed into a nav of class sidetoc.

```

11375 \LWR@htmlElementclass{div}{sidetoccontainer}
11376 \LWR@htmlElementclass{nav}{sidetoc}
11377
11378 \setcounter{tocdepth}{\value{SideTOCDepth}}

```

The title is placed into a <div> of class sidetoc title, and may contain paragraphs.

```

11379 \begin{BlockClass}{sidetoc title}
11380 \ifcvoid{thetitle}{}{\InlineClass{sidetoc thetitle}{\thetitle}\par}
11381 \sidetocname
11382 \end{BlockClass}

```

The table of contents is placed into a <div> of class sidetoc contents.

```

11383 \begin{BlockClass}{sidetoc contents}
11384 \LinkHome
11385
11386 \LWR@myshorttoc{sidetoc}
11387 \end{BlockClass}
11388 \LWR@htmlElementclassend{nav}{sidetoc}
11389 \LWR@htmlElementclassend{div}{sidetoc container}
11390 }

```

## 80.4 Low-level TOC line formatting

`\numberline {<number>}`

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```

11391 \newcommand*{\LWR@numberline}[1]{%
11392 \LWR@sectionnumber{#1}\quad%
11393 }
11394
11395 \LetLtxMacro\numberline\LWR@numberline

```

`\LWR@maybetocdata` Replaced by `tocdata`. Adds author name.

```

11396 \newcommand*{\LWR@maybetocdata}{}

```

`\hypertoc {<1: depth>} {<2: type>} {<3: name>} {<4: page>}`

Called by `\l@section`, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

**#1:** Depth.

**#2:** section, subsection, etc.

**#3:** The text of the caption.

**#4:** Page number, which for HTML is the LWR@currentautosecpage when the section was created.

```
11397 \NewDocumentCommand{\hypertoc}{m m +m m}{%
11398 \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to tocdepth:

```
11399 \ifnumcomp{#1}{>}{\value{tocdepth}}%
11400 {}%
11401 {%
11402 \LWR@startpars%
```

Create an HTML link to <filename>#autosec-(page), with the name, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11403 \LWR@subhyperrefclass{%
11404 \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
11405 \LWR@origpound\LWR@print@mbbox{autosec-#4}%
11406 }{#3}{toc#2}%

11407 \LWR@maybetocdata%

11408 \LWR@stoppars%
11409 }%
11410 \LWR@traceinfo{hypertoc done}%
11411 }
```

lofdepth (*Ctr*) TOC depth for figures.

```
11412 \IfClassLoadedTF{memoir}{}{
11413 \newcounter{lofdepth}
11414 \setcounter{lofdepth}{1}
11415 }
```

lotdepth (*Ctr*) TOC depth for tables.

```
11416 \IfClassLoadedTF{memoir}{}{
11417 \newcounter{lotdepth}
11418 \setcounter{lotdepth}{1}
11419 }
```

\hypertocfloat {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

**#1** is depth

**#2** is figure, table, etc.

**#3** is lof, lot, of the parent.

**#4** the text of the caption

**#5 page number**

```
11420 \newcommand{\hypertocfloat}[5]{%
```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```
11421 \ifundefined{c@#3depth}{%
11422 \newcounter{#3depth}%
11423 \setcounter{#3depth}{1}%
11424 }{%
```

Respond to lofdepth, etc.:

```
11425 \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
11426 \ifthenelse{\cnttest{#1}{<=}}{\arabic{#3depth}}}%
11427 {%
11428 \LWR@startpars%
```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
11429 \LWR@subhyperrefclass{%
11430 \LWR@htmlrefsectionfilename{%
11431 \BaseJobname-autopage-\arabic{LWR@nextautopage}%
11432 }%
11433 \LWR@origpound\LWR@print@mbx{autoid-\arabic{LWR@nextautoid}}}%
11434 {#4}{toc#2}%

11435 \LWR@maybetocdata%

11436 \LWR@stoppars%
11437 }%
11438 }%
11439 }
```

Automatically called by \contentsline:

```
\l@book {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \book.

```
11440 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \part.

```
11441 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

`\l@chapter {<name>} {<page>}`

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\chapter`.

```
11442 \ifundefined{chapter}
11443 {}
11444 {
11445 \DeclareDocumentCommand{\l@chapter}{m m}
11446 {\hypertoc{0}{chapter}{#1}{#2}}
11447 }
```

`\l@section {<name>} {<page>}`

```
11448 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

`\l@subsection {<name>} {<page>}`

```
11449 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

`\l@subsubsection {<name>} {<page>}`

```
11450 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}
```

`\l@paragraph {<name>} {<page>}`

```
11451 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}
```

`\l@subparagraph {<name>} {<page>}`

```
11452 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}
```

`\l@figure {<name>} {<page>}`

```
11453 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}
```

`\l@table {<name>} {<page>}`

```
11454 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}
```

```
11455 \end{warpHTML}
```

## 81 Index and glossary

See:

<http://tex.stackexchange.com/questions/187038/>

[how-to-mention-section-number-in-index-created-by-imakeidx](#)

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in



the index listing. This method allows each index entry to link directly to its exact position in the document.

**for HTML output:** 11456 `\begin{warpHTML}`

```
11457 \newcounter{LWR@autoindex}
11458 \setcounter{LWR@autoindex}{0}
11459
11460 \newcounter{LWR@autoglossary}
11461 \setcounter{LWR@autoglossary}{0}
```

`\IndexPageSeparator` User-adjustable delimiters for page and range separators in the \*.ind files.  
`\IndexRangeSeparator`

```
11462 \newcommand*\IndexPageSeparator}{, }
11463 \newcommand*\IndexRangeSeparator}{--}
```

`theindex (env.)`

```
11464 \@ifundefined{chapter}
11465 {\newcommand*\LWR@indexsection}[1]{\section*{#1}}
11466 {\newcommand*\LWR@indexsection}[1]{\chapter*{#1}}
11467
11468
11469 \AtBeginDocument{
11470
11471 \renewenvironment*{theindex}{%
11472 \LWR@indexsection{\indexname}%
11473 \LetLtxMacro\item\LWR@indexitem%
11474 \LetLtxMacro\subitem\LWR@indexsubitem%
11475 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
11476 }{}
11477
11478 }% AtBeginDocument
```

`\LWR@indexitem` [*<index key>*] The optional argument is added to support `repeatindex`.

```
11479 \newcommand{\LWR@indexitem}[1][\@empty]{
11480
11481 \InlineClass{indexitem}{\LWR@htmlcomment{}}#1%
11482 }
```

`\LWR@indexsubitem`

```
11483 \newcommand{\LWR@indexsubitem}{
11484
11485 \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
11486 }
```

`\LWR@indexsubsubitem`

```
11487 \newcommand{\LWR@indexsubsubitem}{
11488
11489 \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
11490 }
```

`\LWR@index@modifyentry` {<*indexing term*>}

If using *xindex*, modifies the pipe character to become `\hyperindexformat`. The indexing term is split into two argument at the pipe, then fed to `\LWR@index@modifyentrysub`.

```
11491 \NewDocumentCommand{\LWR@index@modifyentry}{>\SplitArgument{1}{|}}m}
11492 {\LWR@index@modifyentrysub#1}
```

Handle left and right parenthesis range argument, or add a `\hyperindexformat` clause.

```
11493 \newcommand*{\LWR@index@modifyentrysub}[2]{%
11494 \edef\LWR@tempone{#1}%
11495 \edef\LWR@temptwo{#2}%
11496 \IfValueTF{#2}{%
11497 \ifx#2(%
11498 \appto\LWR@tempone{|}%
11499 \else%
11500 \ifx#2)%
11501 \appto\LWR@tempone{|}%
11502 \else%
11503 \appto\LWR@tempone{%
11504 |hyperindexformat\LWRleftbrace%
11505 \LWRbackslash#2%
11506 \LWRrightbrace%
11507 }%
11508 \fi%
11509 \fi%
11510 }%
11511 {}%
11512 }
```

`\LWR@index@tricked` (*bool*) Used to track *xindex* creation. See next.

```
11513 \newbool{\LWR@index@tricked}
11514 \boolfalse{\LWR@index@tricked}
```

`\@wrindex` {<*indexing term*>} Redefined to write the `\LWR@autoindex` counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that `\hyperref` was used.

```
11515 \def\LWR@wrindex#1{%
11516 \ifbool{\LWR@index}{%
11517 \ifbool{\LWR@index@tricked}{%
11518 \protected@write\@indexfile{%
11519 {%
11520 \LWRpercent\space hyperpage\LWRrightbrace%
11521 \LWRpercent\space trick xindex to assume hyperref%
11522 }%
11523 \global\booltrue{\LWR@index@tricked}%
11524 }%
11525 \LWR@index@modifyentry{#1}%
11526 }{%
11527 \def\LWR@tempone{#1}%
11528 }%
11529 \addtocounter{\LWR@autoindex}{1}%
```

```
11530 \protected@write@indexfile{}%
11531 {\string\indexentry{\LWR@tempone}{\arabic{\LWR@autoindex}}}%
```

The label is assigned after the file write to avoid conflict with `cleveref`.

```
11532 \label{\LWRindex-\arabic{\LWR@autoindex}}%
11533 \endgroup%
11534 \@esphack%
11535 }
11536
11537 \AtBeginDocument{
11538 \let\@wrindex\LWR@wrindex
11539 }
```

`\@wrglossary {<term>}` Redefined to write the `LWR@autoglossary` counter instead of page.

```
11540 \def\@wrglossary#1{%
11541 \addtocounter{\LWR@autoglossary}{1}%
11542 \LWR@new@label{\LWRglossary-\the\LWR@autoglossary}%
11543 \protected@write@glossaryfile{}%
11544 {\string\glossaryentry{#1}{\the\LWR@autoglossary}}%
11545 \endgroup%
11546 \@esphack%
11547 }
```

`\LWR@indexnameref@anonref {<LWR@autoindex>}`

Displays a reference link where there no `\ref` available.

```
11548 \newcommand*\LWR@indexnameref@anonref[1]{%
11549 \LWR@startref{\LWRindex-#1}%
11550 (*)%
11551 \LWR@htmltag{/a}%
11552 }
```

`\LWR@indexnameref@ref {<LWR@autoindex>}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```
11553 \newcommand*\LWR@indexnameref@ref[1]{%
11554 \edef\LWR@thisref{\csuse{r@\LWRindex-#1}}%
11555 \ifdefvoid{\LWR@thisref}{}%
11556 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11557 \ifdefvoid{\LWR@thisref}%
11558 {\LWR@indexnameref@anonref{#1}}%
11559 {\ref{\LWRindex-#1}}%
11560 }%
11561 }
```

`\LWR@indexnameref@refnameref {<LWR@autoindex>}`

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or `??` objects, only the name is used.

```
11562 \newcommand*\LWR@indexnameref@refnameref[1]{%
```

```

11563 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11564 \ifdefvoid{\LWR@thisref}{}{%
11565 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11566 \ifdefvoid{\LWR@thisref}{}{%
11567 \ifdefstring{\LWR@thisref}{(*)}%
11568 {}%
11569 {\ref{LWRindex-#1} }% space
11570 }%
11571 }%
11572 \nameref{LWRindex-#1}%
11573 }

```

`\LWR@indexnameref@cref`  $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show `(*)`.

```

11574 \newcommand*{\LWR@indexnameref@cref}[1]{%
11575 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11576 \ifdefvoid{\LWR@thisref}{}%
11577 \nameref{LWRindex-#1}%
11578 }{%
11579 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11580 \ifdefvoid{\LWR@thisref}{}%
11581 \nameref{LWRindex-#1}%
11582 }{%
11583 \ifdefstring{\LWR@thisref}{(*)}{%
11584 \LWR@indexnameref@anonref{#1}%
11585 }{%
11586 \cref{LWRindex-#1}%
11587 }%
11588 }%
11589 }%
11590 }

```

`\LWR@indexnameref@crefnameref`  $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show only the name.

```

11591 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
11592 \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
11593 \ifdefvoid{\LWR@thisref}{}%
11594 {}%
11595 {%
11596 \edef\LWR@thisref{\expandafter\@firstoffive\LWR@thisref}%
11597 \ifdefvoid{\LWR@thisref}{}%
11598 {}%
11599 {%
11600 \ifdefstring{\LWR@thisref}{(*)}%
11601 {}%
11602 {\cref{LWRindex-#1} }% space
11603 }%
11604 }%
11605 \nameref{LWRindex-#1}%
11606 }

```

`\LWR@indexnameref`  $\langle LWR@autoindex \rangle$

Creates a hyperlink based on the given entry's autoindex.

```
11607 \newcommand*\LWR@indexnameref[1]{%
11608 {% group
```

Temporarily redefine `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```
11609 \ifdef{\caption@xref}{%
11610 \renewcommand*\caption@xref[2]{(*)}%
11611 }{%

11612 \ifdefstring{\LWR@IndexRef}{ref}{%
11613 \LWR@indexnameref@ref{#1}%
11614 }{%
11615 \ifdefstring{\LWR@IndexRef}{nameref}{%
11616 \nameref{LWRindex-#1}%
11617 }{%
11618 \ifdefstring{\LWR@IndexRef}{refnameref}{%
11619 \LWR@indexnameref@refnameref{#1}%
11620 }{%
11621 \ifdefstring{\LWR@IndexRef}{cref}{%
11622 \LWR@indexnameref@cref{#1}%
11623 }{%
11624 \ifdefstring{\LWR@IndexRef}{crefnameref}{%
11625 \LWR@indexnameref@crefnameref{#1}%
11626 }{%
11627 \ifdefstring{\LWR@IndexRef}{autoref}{%
11628 \LWR@indexnameref@cref{#1}%
11629 }{% text string
11630 \LWR@startref{LWRindex-#1}%
11631 \LWR@IndexRef%
11632 \LWR@htmltag{/a}%
11633 }}}}]}%
11634 }% group
11635 }
```

`\LWR@doindexentrysubsub`  $\langle \text{range start: } LWR@autoindex, \text{ or macros.} \rangle \langle \text{range end or blank} \rangle$

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```
11636 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
11637 \IfInteger{#1}%
11638 {\LWR@indexnameref{#1}}%
11639 {#1}%
11640 \IfValueT{#2}{%
11641 \IndexRangeSeparator%
11642 \IfInteger{#2}%
11643 {\LWR@indexnameref{#2}}%
11644 {#2}%
11645 }%
11646 }
```

`\LWR@doindexentrysub`  $\langle \text{range delimiter} \rangle \langle LWR@autoindex \text{ or macros, possible a range} \rangle$


```
11647 \NewDocumentCommand{\LWR@doindexentrysub}{m >\SplitArgument{1}{#1}}m}
```

```
11648 {\LWR@doindexentrysubsub#2}
```

`\LWR@doindexentry`  $\langle$ *LWR@autoindex or macros, possible a range* $\rangle$

```
11649 \newcommand*{\LWR@doindexentry}[1]{%
11650 \relax% required
11651 \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
11652 }
```

`\LWR@hyperindexrefnullified` Handles macros commonly seen inside an `\index` entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

```
\appto\LWR@hyperindexrefnullified{. . . }
```

```
11653 \newcommand{\LWR@hyperindexrefnullified}{%
11654 \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
11655 \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
11656 \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
11657 \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
11658 \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
11659 \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
11660 \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
11661 \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
11662 \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
11663 \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
11664 \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
11665 \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
11666 \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
11667 }
```

`\hyperindexref`  $\langle$ *list of LWR@autoindex, commas, and ranges* $\rangle$

`\hyperindexref{LWR@autoindex}` is inserted into `*.ind` by the *makeindex* style file `lwarp.ist` or the *xindy* style file `lwarp.xdy`. For *xindex*, `\hyperpage` is inserted, which is `\let` to `\hyperindexref`. For *gindex*, `\addindexitem` and related are inserted, which are defined to use `\hyperindexref`.

The argument is split at commas, and also for ranges, then passed to `\LWR@hyperindexrefsub`.

```
11668 \newcommand*{\hyperindexref}[1]{%
11669 \relax% required
11670 \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
11671 }
```

`\LWR@hyperindexref@comma`  $\langle$ *separator* $\rangle$   $\langle$ *list of args* $\rangle$

The list is split at commas, and passed to `\LWR@hyperindexref@@comma`.

```
11672 \NewDocumentCommand{\LWR@hyperindexref@comma}
11673 {m >\SplitList{#1}} m}
11674 {%
```

Used to place the separator between each entry, but not before the first.

```
11675 \def\LWR@hyperindexref@thiscomma{ }%
11676 \def\LWR@hyperindexref@nextcomma{#1}%
```

Each comma-delimited entry is now passed individually to \LWR@hyperindexref@comma.

```
11677 \ProcessList{#2}\LWR@hyperindexref@comma%
11678 }
```

\LWR@hyperindexref@comma {<*arg, perhaps with a range*>}

A comma separator is placed if not the first item, then the range is parsed.

```
11679 \newcommand*\LWR@hyperindexref@comma[1]{%
11680 \LWR@hyperindexref@thiscomma%
11681 \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
11682 \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
11683 }
```

\LWR@hyperindexref@range {<*range delimiter*>} {<*arg*>}

```
11684 \NewDocumentCommand{\LWR@hyperindexref@range}
11685 {m >{\SplitArgument{1}{#1}} m}
11686 {\LWR@hyperindexrefsub#2}
```

\LWR@hyperindexrefsub {<*range start: LWR@autoindex*>} {<*range end, or -NoValue-*>}

Handles the start and end of a range, if applicable.

```
11687 \newcommand*\LWR@hyperindexrefsub[2]{%
11688 \LWR@hyperindexrefsubtwo{#1}%
11689 \IfValueT{#2}{%
11690 \IndexRangeSeparator%
11691 \LWR@hyperindexrefsubtwo{#2}%
11692 }%
11693 }
```

\LWR@hyperindexrefsubtwo {<*LWR@autoindex*>}

```
11694 \newcommand*\LWR@hyperindexrefsubtwo[1]{%
```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```
11695 \edef\LWR@tempone{#1}%
11696 \IfBeginWith{\LWR@tempone}{ }{%
11697 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
11698 }{%}
```

If a numeric entry, create a link. If not numeric, such as \see, use the entry as-is. \emph, \textit, etc. have been redefined above to create and format the entry.

```
11699 \IfInteger{\LWR@tempone}%
11700 {\LWR@indexnameref{\LWR@tempone}}%
11701 {%
11702 \begingroup%
```

```

11703 \LWR@hyperindexrefnullified%
11704 #1%
11705 \endgroup%
11706 }%
11707 }

```

`\hyperpage` Emulate `hyperref`.

```
11708 \LetLtxMacro\hyperpage\hyperindexref
```

`\nohyperpage` Emulate `hyperref`.

```
11709 \def\nohyperpage#1{}
```

`\hyperindexformat` Emulate `hyperref`.

```

11710 \def\hyperindexformat#1#2{%
11711 #1{\hyperpage{#2}}%
11712 }%

11713 \end{warpHTML}

```

**for PRINT output:** A null command for print mode, in case `hyperref` was not used:

```

11714 \begin{warpprint}
11715 \newcommand{\hyperindexref}[1]{#1}
11716 \end{warpprint}

```

**for HTML & PRINT:** For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

11717 \begin{warpall}
11718 \providecommand{\glo@name}{}
11719 \end{warpall}

```

## 82 Bibliography presentation

**for HTML output:** `11720 \begin{warpHTML}`

`\bibliography` `{\filenames}` At one time this was modified to read `\BaseJobname.bbl`, which meant the HTML version could not resolve until the print version was also present. This also confused `multibib`. It has been reverted to the original to use `\jobname.bbl`.

`\@biblabel` `{\text-refnumber}`

```
11721 \renewcommand{\@biblabel}[1][#1]\quad}
```

`thebibliography` (*enu*) To emphasize document titles in the bibliography, the following redefines `\em` inside `thebibliography` to gather everything until the next closing brace, then display these tokens with `\textit`.



*Adapted from* embracedef.sty, *which is by* TAKAYUKI YATO:  
<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```

11722 \AtBeginDocument{
11723
11724 \AtBeginEnvironment{thebibliography}{
11725
11726 \providecommand*\LWR@newem}[1]{\textit{#1}}
11727
11728 \renewrobustcmd{\em}{%
11729 \begingroup
11730 \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
11731 \afterassignment\LWR@em@after
11732 \toks@\bgroup
11733 }
11734
11735 \def\LWR@em@finish#1{%
11736 \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
11737 \endgroup
11738 \LWR@em@after\egroup
11739 }
11740
11741 }% \AtBeginEnvironment{thebibliography}
11742
11743 }% \AtBeginDocument

11744 \end{warpHTML}

```

## 83 Restoring original formatting

**for HTML output:** 11745 \begin{warpHTML}

`\LWR@restoreMathJaxformatting` A few macros (ref: tcolorbox) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
11746 \newcommand*\LWR@restoreMathJaxformatting}{}
```

`\LWR@restoreorigformatting` Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a lateximage.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```

11747 \newcommand*\LWR@restoreorigformatting}{%
11748 \LWR@traceinfo{\LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```

11749 \renewcommand*\LWR@formatting}{print}%
11750 \linespread{1}%

```

```

11751 \setbool{LWR@doingparhooks}{false}%

11752 \def\color@endgroup{\endgraf\endgroup}%

11753 \LetLtxMacro\hfil\LWR@origfil%
11754 \let\hss\LWR@orighss%
11755 \let\llap\LWR@origllap%
11756 \let\rlap\LWR@origrlap%
11757 \let\hfilneg\LWR@origfilneg%

11758 \let\,\LWR@origcomma% disable HTML short unbreakable space
11759 \let\textless\LWR@origtextless%
11760 \let\textgreater\LWR@origtextgreater%

11761 \let\&\LWR@origampersand%
11762 \let%\LWR@origpercent%

11763 \LetLtxMacro\em\LWR@origem%
11764 \LetLtxMacro\normalfont\LWR@orignormalfont%
11765 \let\sp\LWR@origsp%
11766 \let\sb\LWR@origsb%
11767 \LetLtxMacro\underline\LWR@origunderline%
11768 \LetLtxMacro~\LWR@origtilde%
11769 \LetLtxMacro\nobreakspace\LWR@orignobreakspace%

```

\endtabular must be restored to its original, instead of relying on lwarp's \LWR@formatted mechanism:

```

11770 \LetLtxMacro\endtabular\LWR@origendtabular%
11771 \csletcs{endtabular*}{LWR@origendtabular*}%

11772 \LetLtxMacro\noalign\LWR@orignoalign%
11773 \LetLtxMacro\hline\LWR@orighline%

11774 \let\newline\LWR@orignewline%
11775 \LetLtxMacro\includegraphics\LWR@origincludegraphics%

11776 \LetLtxMacro\@ensuredmath\LWR@origensuredmath%

11777 \let\math\LWR@orig@math%
11778 \let\endmath\LWR@orig@endmath%
11779 \let\displaymath\LWR@orig@displaymath%
11780 \let\enddisplaymath\LWR@orig@enddisplaymath%
11781 %
11782 \LWR@restoreorigaccents%
11783 \LWR@restoreoriglists%

11784 \let\@mpfootnotetext\LWR@orig@mpfootnotetext%

11785 \LWR@hook@processingtags%

```

To enable MATHJAX-specific nullification, used for tcolorbox:

```

11786 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
11787 {\LWR@restoreMathJaxformatting}%
11788 {}%
11789 }

11790 \end{warpHTML}

```

## 84 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

**for HTML output:** 11791 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

```
11792 \newcommand*{\LWR@dash}{-}
```

`\LWR@nullfonts` Removes formatting during filename operations, file references, and HTML comments.

 **Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```

11793 \catcode`\$=\active% redefining $ below
11794 \catcode`_ =12% redefining _ below
11795 \newcommand*{\LWR@nullfonts}{%

```

Various built-in symbols.

```

11796 \renewcommand*{\$}{-}%
11797 \renewcommand*{\%}{-}%
11798 \renewcommand*{_}{-}%
11799 \renewcommand*{\}{-}%
11800 \renewcommand*{\{ }{-}%
11801 \renewcommand*{\&}{-}% used to be 'and'
11802 \renewcommand*{\#}{-}%
11803 \renewcommand*{\,}{-}%
11804 \renewcommand*{\~}{-}%
11805 %
11806 % accents:
11807 \renewcommand*{\`}[1]{##1}%
11808 \renewcommand*{\'}[1]{##1}%
11809 \renewcommand*{\^}[1]{##1}%
11810 \renewcommand*{\~}[1]{##1}%
11811 \renewcommand*{\=}[1]{##1}%
11812 \renewcommand*{\u}[1]{##1}%
11813 \renewcommand*{\.}[1]{##1}%
11814 \renewcommand*{\"}[1]{##1}%
11815 \renewcommand*{\H}[1]{##1}%
11816 \renewcommand*{\v}[1]{##1}%
11817 \renewcommand*{\d}[1]{##1}%
11818 \renewcommand*{\c}[1]{##1}%

```

```

11819 \renewcommand*{\b}[1]{##1}%
11820 \renewcommand*{\t}[1]{##1}%
11821 %
11822 \let\newline\LWR@dash%
11823 \let\textasciicircum\LWR@dash%
11824 \let\textasciitilde\LWR@dash%
11825 \let\textasteriskcentered\LWR@dash%
11826 \let\textbackslash\LWR@dash%
11827 \let\textbar\LWR@dash%
11828 \let\textbardbl\LWR@dash%
11829 \let\textbigcircle\LWR@dash%
11830 \let\textbraceleft\LWR@dash%
11831 \let\textbraceright\LWR@dash%
11832 \let\textbullet\LWR@dash%
11833 \let\textcopyright\LWR@dash%
11834 \let\textdagger\LWR@dash%
11835 \let\textdaggerdbl\LWR@dash%
11836 \let\textdollar\LWR@dash%
11837 \let\textellipsis\LWR@dash%
11838 \let\textendash\LWR@dash%
11839 \let\textendash\LWR@dash%
11840 \let\textexclamdown\LWR@dash%
11841 \let\textgreater\LWR@dash%
11842 \let\textless\LWR@dash%
11843 \let\textordfeminine\LWR@dash%
11844 \let\textordmasculine\LWR@dash%
11845 \let\textparagraph\LWR@dash%
11846 \let\textperiodcentered\LWR@dash%
11847 \let\textpertenthousand\LWR@dash%
11848 \let\textperthousand\LWR@dash%
11849 \let\textquestiondown\LWR@dash%
11850 \let\textquotedblleft\LWR@dash%
11851 \let\textquotedblright\LWR@dash%
11852 \let\textquoteleft\LWR@dash%
11853 \let\textquoteright\LWR@dash%
11854 \let\textregistered\LWR@dash%
11855 \let\textsection\LWR@dash%
11856 \let\textsterling\LWR@dash%
11857 \let\texttrademark\LWR@dash%
11858 \let\textunderscore\LWR@dash%
11859 \let\textvisiblespace\LWR@dash%
11860 \let\copyright\LWR@dash%
11861 \let\dag\LWR@dash%
11862 \let\ddag\LWR@dash%
11863 \let\dots\LWR@dash%
11864 \let\P\LWR@dash%
11865 \let\pounds\LWR@dash%
11866 \let\S\LWR@dash%
11867 %
11868 \renewcommand*{\aa}{a}%
11869 \renewcommand*{\AA}{A}%
11870 \renewcommand*{\AE}{AE}%
11871 \renewcommand*{\ae}{ae}%
11872 \renewcommand*{\dh}{d}%
11873 \renewcommand*{\DH}{D}%
11874 \renewcommand*{\DJ}{D}%
11875 \renewcommand*{\dj}{d}%
11876 \renewcommand*{\IJ}{IJ}%
11877 \renewcommand*{\ij}{ij}%
11878 \renewcommand*{\L}{L}%

```

```

11879 \renewcommand*\l{l}%
11880 \renewcommand*\NG{NG}%
11881 \renewcommand*\ng{ng}%
11882 \renewcommand*\O{O}%
11883 \renewcommand*\o{o}%
11884 \renewcommand*\oe{oe}%
11885 \renewcommand*\OE{OE}%
11886 \renewcommand*\ss{ss}%
11887 \renewcommand*\SS{SS}%
11888 \renewcommand*\th{th}%
11889 \renewcommand*\TH{TH}%
11890 %
11891 \let\guillemotleft\@empty%
11892 \let\guilsinglleft\@empty%
11893 \let\quotedblbase\@empty%
11894 \let\textquotedbl\@empty%
11895 \let\guillemotright\@empty%
11896 \let\guilsinglright\@empty%
11897 \let\quotesinglbase\@empty%

11898 \renewcommand*\HTMLUnicode}[1]{%
11899 \renewcommand*\HTMLentity}[1]{%

11900 \renewcommand{\textsuperscript}[1]{##1}%
11901 \renewcommand{\textsubscript}[1]{##1}%

11902 \renewcommand{\underline}[1]{##1}%

11903 \RenewDocumentCommand{\hspace}{s m}{}%

11904 \RenewDocumentCommand{\LWR@htmlspanclass}{o D(){} m +m}{##4}%
11905 \DeclareExpandableDocumentCommand{\InlineClass}{D({}){} o m +m}{##4}%

```

#### Nullify math macros.

```

11906 \def\(\##1\){}%
11907 \def\[##1\]{}%
11908 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%

```

#### Nullify logos:

```

11909 \renewcommand*\TeX{TeX}%
11910 \renewcommand*\LaTeX{LaTeX}%
11911 \renewcommand*\LaTeXe{LaTeX2e}%
11912 \renewcommand*\LuaTeX{LuaTeX}%
11913 \renewcommand*\LuaLaTeX{LuaLaTeX}%
11914 \renewcommand*\XeTeX{XeTeX}%
11915 \renewcommand*\XeLaTeX{XeLaTeX}%
11916 \renewcommand*\ConTeXt{ConTeXt}%
11917 \renewcommand*\BibTeX{BibTeX}%
11918 \renewcommand*\MakeIndex{MakeIndex}%
11919 \renewcommand*\AmS{AmS}%
11920 \renewcommand*\MiKTeX{MiKTeX}%
11921 \renewcommand*\LyX{LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

11922 \def\texorpdfstring{\expandafter\@secondoftwo}%
11923 }
11924 \catcode`\$=3%
11925 \catcode`_=8%

```

`\FilenameNullify` {<*redefinitions*>}

Adds more nullifying definitions for filename generation.

```

11926 \newcommand*\FilenameNullify[1]{%
11927 \appto{\LWR@nullfonts}{#1}%
11928 }

11929 \end{warpHTML}

```

## 85 Math

### 85.1 Limitations

See [Math](#), section 8.7.

### 85.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

**for HTML & PRINT:** 11930 \begin{warpall}

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.  
 Default: (

```
11931 \newcommand*\AltTextOpen}{(}
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.  
 Default: )

```
11932 \newcommand*\AltTextClose}{)}
```

`\ImageAltText` The HTML alt tag for an image.  
 Default: image

```
11933 \newcommand*\ImageAltText}{image}
```

`\MathImageAltText` The HTML alt tag for an SVG math image.  
 Default: "math image"

```
11934 \newcommand*\MathImageAltText}{math image}
```

`\LWR@ThisAltText` The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingledollar`, and each use of `MATHJAX`.

```
11935 \newcommand*\LWR@ThisAltText{}
```

`\ThisAltText`  $\langle text \rangle$

Assigns the HTML alt tag for the next image generated by `lwarp`, such as a `lateximage`, `picture`, or `svg math`.

```
11936 \newcommand*\ThisAltText[1]{%
11937 \renewcommand{\LWR@ThisAltText}{#1}%
11938 }
```

`\PackageDiagramAltText` Appended to the `lateximage` HTML alt tag for the images generated by many `Diagram` packages.  
Default: “`diagram`”

```
11939 \newcommand*\PackageDiagramAltText{diagram}
```

```
11940 \end{warppall}
```

### 85.3 Inline and display math

**for HTML output:** 11941 `\begin{warppHTML}`

`LWR@externalfilecnt` (*Ctr*) Counter for the external files which are generated and then referenced from the HTML:

```
11942 \newcounter{LWR@externalfilecnt}
```

`LWR@indisplaymathimage` (*bool*) True if processing display math for `svg` output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

```
11943 \newbool{LWR@indisplaymathimage}
```

`LWR@insidemathcomment` (*bool*) True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label’s HTML tags will be seen by HTML.

```
11944 \newbool{LWR@insidemathcomment}
11945 \boolfalse{LWR@insidemathcomment}
```

`LWR@xfakebold` (*bool*) True if `xfakebold \setBold` is in use.

```
11946 \newbool{LWR@xfakebold}
11947 \boolfalse{LWR@xfakebold}
```

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

```
11948 \newcommand*\LWR@orig@setBold{}
```

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

```
11949 \newcommand*{\LWR@orig@unsetBold}{}

```

`\LWR@applyxfakebold` Redefined by `lwarp-xfakebold`.

```
11950 \newcommand*{\LWR@applyxfakebold}{}

```

`\LWR@setcurrentfont` Sets the actual L<sup>A</sup>T<sub>E</sub>X font to that which was selected for HTML output. Ex: In HTML mode, `\bfseries` sets `\LWR@f@series` to “bf”. This sets the PDF output here for use inside a `lateximage`.

```
11951 \newcommand*{\LWR@setcurrentfont}{%
11952 \LWR@traceinfo{Using font family \LWR@f@family}%
11953 \@nameuse{\LWR@print@\LWR@f@family family}%
11954 \LWR@traceinfo{Using font series \LWR@f@series}%
11955 \@nameuse{\LWR@print@\LWR@f@series series}%
11956 \LWR@traceinfo{Using font shape \LWR@f@shape}%
11957 \@nameuse{\LWR@print@\LWR@f@shape shape}%
11958 \LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%
11959 \@nameuse{\LWR@print@\LWR@f@shapecaps shape}%
11960 }

```

`\$` Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar `\$`, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a `lateximage`, in which case it will not be seen by MATHJAX.

```
11961 \let\LWR@origtextdollar\$
11962
11963 \renewcommand*{\$}{%
11964 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11965 {\LWR@origtextdollar}%
11966 {\HTMLUnicode{00024}}%
11967 }

```

`lwarp_baseline_marker.png` A marker to be used to help *pdfcrop* identify the inline math baseline and width.  
(file) If either `graphicx` or `graphics` is loaded, this marker is placed at the lower left and

`lwarp_baseline_marker.eps` lower right corners of the inline math. *pdfcrop* is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.  
(file)

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final svg image.

If `graphicx` is loaded, this marker is sized as a tiny 1 sp square. If `graphics` is loaded, this marker is used at its default size of around .25 pt. If neither `graphics` package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using `graphicx`.

`\LWR@addbaselinemarker` Places a small marker in an svg inline image. If `graphics` or `graphicx` are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.



```

11968 \AtBeginDocument{
11969
11970 \ifpdf
11971 \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11972 \else
11973 \ifXeTeX
11974 \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11975 \else
11976 \newcommand*\LWR@baselinename}{lwarp_baseline_marker.eps}
11977 \fi
11978 \fi
11979
11980 \IfFileExists{\LWR@baselinename}%
11981 {
11982 \IfPackageLoadedTF{graphicx}{
11983 \newcommand*\LWR@addbaselinemarker}{%
11984 \LWR@originincludegraphics{\LWR@baselinename}%
11985 }
11986 }{
11987 \IfPackageLoadedTF{graphics}{
11988 \newcommand*\LWR@addbaselinemarker}{%
11989 \LWR@originincludegraphics{\LWR@baselinename}%
11990 }
11991 }{
11992 \newcommand*\LWR@addbaselinemarker}{%
11993 \global\booltrue{LWR@warnbaselinemarker}%
11994 }
11995 \AtEndDocument{
11996 \ifbool{LWR@warnbaselinemarker}{
11997 \PackageNoteNoLine{lwarp}{%
11998 Load graphicx or graphics for improved\MessageBreak
11999 SVG math sizing and baselines%
12000 }
12001 }{}
12002 }
12003 }
12004 }
12005 }{% lwarp_baseline_marker.png or .eps is not present
12006 \newcommand*\LWR@addbaselinemarker}{%
12007 \global\booltrue{LWR@warnbaselinemarker}%
12008 }
12009 \AtEndDocument{
12010 \ifbool{LWR@warnbaselinemarker}{
12011 \PackageWarningNoLine{lwarp}{%
12012 File \LWR@baselinename\space is not installed\MessageBreak
12013 alongside the lwarp-*.sty files, so\MessageBreak
12014 SVG math sizing and baselines may not be accurate}
12015 }{}
12016 }
12017 }
12018
12019 }% AtBeginDocument

```

`LWR@warnbaselinemarker` (*bool*) True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

12020 \newbool{LWR@warnbaselinemarker}
12021 \boolfalse{LWR@warnbaselinemarker}

```

`LWR@unknownmathsize` (*bool*) If *TikZ* or other objects are used inside math mode, the resulting image may exceed the *TEX* box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the *HTML* styles for image size and depth will be neutralized.

```
12022 \newbool{LWR@unknownmathsize}
```

```
\LWR@singledollarmeasure {<math expression>}
```

Measures the size of the image of the math expression.

(In some circumstances *SVG* math is used even if *MATHJAX* is preferred.)

**SVG math:** `\LWR@origensuredmath` is part of argument #4.

**SVG math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**SVG dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

**\ifmmode:** Included “just in case”.

Factored from `\LWR@subsingledollarsvg`.

```
12023 \newcommand*{\LWR@singledollarmeasure}[1]{%
12024 \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
12025 \LWR@restoreorigformatting%
12026 \RenewDocumentEnvironment{lateximage}{s o s t? o o d()}{}{}% inside group
12027 \LWR@print@normalsize%
```

Temporarily set font for the *HTML PDF* output:

```
12028 \LWR@setcurrentfont%
```

`lateximagedepth` must be nested to avoid generating paragraph tags. *AMS* math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
12029 \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the *HTML* styles being generated here.

```
12030 \boolfalse{LWR@unknownmathsize}%
12031 \ifmmode%
12032 \global\sbox{\LWR@singledollarbox}{#1}%
12033 \else%
```

```

12034 \ifbool{LWR@dynamicmath}{%
12035 \ifbool{mathjax}{%
12036 \global\abox{\LWR@singledollarbox}%
12037 {\LWR@originsuredmath{#1}}%
12038 }{%
12039 \global\abox{\LWR@singledollarbox}{#1}%
12040 }%
12041 }{%
12042 \global\abox{\LWR@singledollarbox}{#1}%
12043 }%
12044 \fi%

```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```

12045 \global\abox{\LWR@singledollarbox}{%
12046 \usebox{\LWR@singledollarbox}%
12047 \raisebox{-\dp\LWR@singledollarbox}{%
12048 \LWR@addbaselinemarker%
12049 }%
12050 }%

```

More low-level code to undo the counter change.

```

12051 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.

```

Measure the depth:

```

12052 \setlength{\LWR@singledollardepth}{%
12053 \LateximageFontScale\dp\LWR@singledollarbox%
12054 }%

```

Make the length a global change:

```

12055 \global\LWR@singledollardepth=\LWR@singledollardepth%

```

Likewise for width:

```

12056 \setlength{\LWR@singledollarwidth}{%
12057 \LateximageFontScale\wd\LWR@singledollarbox%
12058 }%
12059 \global\LWR@singledollarwidth=\LWR@singledollarwidth%

```

Likewise for total height:

```

12060 \setlength{\LWR@singledollarheight}{%
12061 \LateximageFontScale\ht\LWR@singledollarbox%
12062 }%
12063 \addtolength{\LWR@singledollarheight}{%
12064 \LateximageFontScale\dp\LWR@singledollarbox%
12065 }%
12066 \global\LWR@singledollarheight=\LWR@singledollarheight%

12067 \endgroup%
12068 }

```

```
\LWR@subsingledollarsvg * {\<2: alt text\} {\<3: add'l hashing\} {\<4: math expression\}}
```

For inline math. Uses svg math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances SVG math is used even if `MATHJAX` is preferred.)

Factored from `\LWR@subsingledollar`.

```
12069 \newcommand*\LWR@subsingledollarsvg}[4]{%
12070 \LWR@traceinfo{LWR@subsingledollarsvg}%
```

Measure the depth, width, and height of the math image:

```
12071 \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The em unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```
12072 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
12073 \def\LWR@singledollarstyle{%
12074 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
12075 }%
12076 }{%
12077 \def\LWR@singledollarstyle{%
12078 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
12079 }%
12080 }%
```

If a very narrow width, use the height.

```
12081 \ifdimless{\LWR@singledollarwidth}{.2em}%
12082 {%
12083 \def\LWR@singledollarstyle{%
12084 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
12085 }%
12086 }%
12087 }%
```

If very wide and short, use the width:

```
12088 \ifdimless{\LWR@singledollarheight}{.2em}%
12089 {%
12090 \def\LWR@singledollarstyle{%
12091 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
12092 }%
12093 }%
12094 }%
```

If there is significant text depth, add the depth to the style.

```
12095 \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
12096 \def\LWR@singledollardepthstyle{%
12097 \ ; % extra space
12098 \LWR@print@box{%
12099 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
12100 } % extra space
```

```

12101 }%
12102 }{%
12103 \def\LWR@singledollardepthstyle{%
12104 }%

```

If using certain TikZ actions inside math, the resulting image may exceed the T<sub>E</sub>X boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```

12105 \ifbool{LWR@unknownmathsize}{%
12106 \def\LWR@singledollarstyle{%
12107 \def\LWR@singledollardepthstyle{%
12108 }{%

```

Create the `lateximage` using the alternate tag and the computed size and depth. The star causes `lateximage` to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

12109 \ifbool{LWR@dynamicmath}{%
12110 \LWR@traceinfo{subsingledollarsvg: dynamic}%
12111 \begin{lateximage}% no hashing
12112 [\MathImageAltText]% alt tag
12113 ?% Do not detokenize the alt tag
12114 []% no add'l hashing
12115 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
12116 (math)% ARIA
12117 }{% not dynamic math
12118 \LWR@traceinfo{subsingledollarsvg: static}%
12119 \IfValueTF{#1}{% #1 True
12120 \LWR@findcurrenttextcolor% sets \LWR@tempcolor

```

Support for `xfakebold`:

```

12121 \ifbool{LWR@xfakebold}%
12122 {\def\LWR@tempone{Y}}%
12123 {\def\LWR@tempone{N}}%

12124 \LWR@traceinfo{subsingledollarsvg about to lateximage}%
12125 \begin{lateximage}*% use hashing
12126 [#2]% alt
12127 *% do not add open/closing braces
12128 ?% Do not detokenize the alt tag
12129 [% addL' hashing
12130 #3%
12131 FM\LWR@f@family%
12132 SR\LWR@f@series%
12133 SH\LWR@f@shape%
12134 SHC\LWR@f@shapecaps%
12135 CL\LWR@tempcolor%
12136 FB\LWR@tempone% xfakebold
12137]%
12138 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
12139 (math)% ARIA
12140 \LWR@traceinfo{subsingledollar did lateximage}%
12141 }{% #1 False
12142 \begin{lateximage}% no hashing
12143 [#2]% alt
12144 ?% Do not detokenize the alt tag
12145 []% no add'l hashing
12146 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS

```

```

12147 (math)% ARIA
12148 }%
12149 }% not dynamic math

```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

```
12150 \LWR@addbaselinemarker%
```

Support for *xfakebold*:

```
12151 \LWR@applyxfakebold%
```

Typeset the contents:

```
12152 \usebox{\LWR@singledollarbox}%
```

The closing baseline marker:

```
12153 \LWR@addbaselinemarker%
```

```
12154 \end{lateximage}%
```

```
12155 %
```

```
12156 }
```

```
\LWR@subsingledollar * {\langle 2: alt text \rangle} {\langle 3: add'l hashing \rangle} {\langle 4: math expression \rangle}
```

For inline math. Uses *MATHJAX*, or for *SVG* math the image is measured and adjusted to the baseline of the *HTML* output, and placed inside a `lateximage`.

**SVG math:** `\LWR@origensuredmath` is part of argument #4.

**SVG math \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**SVG dynamic math:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

**MATHJAX \ensuremath:** `\LWR@origensuredmath` is part of argument #4.

**MATHJAX dynamic math:** Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated *TEX* expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

```

12157 \newlength{\LWR@singledollarwidth}
12158 \newlength{\LWR@singledollarheight}
12159 \newlength{\LWR@singledollardepth}
12160
12161 \newsavebox{\LWR@singledollarbox}
12162
12163 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
12164 \LWR@traceinfo{\LWR@subsingledollar !#2!}%

12165 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}{%
12166 {%
12167 \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
12168 #4% contents
12169 }%
12170 {% not in a lateximage
12171 \begingroup%

```

Support for xfakebold:

```

12172 \LWR@applyxfakebold%

```

MATHJAX cannot parse the often complicated T<sub>E</sub>X expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the alt tag to “(math image)”, as translated according to `\MathImageAltText`. If this is the case, force the use of a `lateximage` even if MATHJAX. Likewise for `siunitx` if `parse-numbers=false`.

If MATHJAX, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

12173 \ifboolexpr{%
12174 (
12175 bool{mathjax} or
12176 (bool{FormatWP} and bool{WPMarkMath})
12177) and
12178 (not test {
12179 \ifstrequal {#2}% from \ensuredmath
12180 {\AltTextOpen\MathImageAltText\AltTextClose}
12181 }
12182) and
12183 (not bool{\LWR@dynamicmath})
12184 }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

12185 {% mathjax
12186 \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
12187 {%
12188 \boolfalse{\LWR@HTMLsanitize@tmpb@removebackslash}%
12189 \textbackslash%
12190 {%

```

`\ifmmode` to avoid error about `\ttfamily` inside math mode in the case of nested math, ex. equation with `tcolorbox` with math.

```

12191 \ifmmode\else\LWR@print@ttfamily\fi%
12192 \LWR@HTMLsanitizedetokenized{\detokenize{#4}}%
12193 }%
12194 \textbackslash)%
12195 }%
12196 }% mathjax

```

For svg, print the math inside a `lateximage`, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code, and a css style to control the baseline adjustment.

```

12197 {% not mathjax
12198 \LWR@traceinfo{%
12199 LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
12200 }%
12201 \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
12202 }% not mathjax
12203 \endgroup%
12204 }% not in a lateximage

```

Clear the single-use alt text:

```

12205 \gdef\LWR@ThisAltText{%
12206 \LWR@traceinfo{LWR@subsingledollar: done}%
12207 }

12208 \LetLtxMacro\LWR@origdollar$
12209 \LetLtxMacro\LWR@secondorigdollar% balance for editor syntax highlighting

12210 \LetLtxMacro\LWR@origopenparen\ (
12211 \LetLtxMacro\LWR@origcloseparen\)
12212 \LetLtxMacro\LWR@origopenbracket\[
12213 \LetLtxMacro\LWR@origclosebracket\]

```

**\$** Redefine the dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```

$$
12214 \begingroup
12215 \catcode`\$=\active%
12216 \protected\gdef$\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```

12217 \protected\gdef\LWR@newsingledollar{\@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```

12218 \protected\gdef\LWR@doubledollar$#1$${%

```

If `MATHJAX` or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```

12219 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%

```

For `MATHJAX`, print the math between `\[` and `\]`. If there is a footnote, endnote, or other kind of note ('note' is present), sync the note numbers.



```

12220 {% mathjax: intentional blank line:
12221
12222 \begingroup%
12223 \IfSubStr{\detokenize\expandafter{#1}}{\detokenize{note}}{%

```

The equation is printed to the PDF output inside HTML comment tags. This allows labels and footnotes to be accepted and processed. The math environment is selected here, and `\LWR@hidelatexequation` will use the original print-mode meaning of math.

```

12224 \LWR@hidelatexequation{math}{#1}%

12225 \InlineClass{hidden}{\LWR@syncnotenumbers}%
12226 \boolfalse[LWR@HTMLsanitize@tmpb@removebackslash]%
12227 \textbackslash[%
12228 {%
12229 \LWR@print@ttfamily%
12230 \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
12231 }%
12232 \textbackslash]
12233 \InlineClass{hidden}{\LWR@syncnotenames}%
12234 }% yes note
12235 {% no note
12236 \boolfalse[LWR@HTMLsanitize@tmpb@removebackslash]%
12237 \textbackslash[%
12238 {%
12239 \LWR@print@ttfamily%
12240 \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
12241 }%
12242 \textbackslash]
12243 }% no note
12244 \endgroup%
12245
12246 }% mathjax

```

For svg, print the math inside a `lateximage`, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code:

```

12247 {% not mathjax
12248 \begin{BlockClass}{displaymath}%
12249 \LWR@newautoidanchor%
12250 \booltrue[LWR@indisplaymathimage]%
12251 \begin{lateximage}%
12252 [% alt text
12253 \textbackslash{[] % extra space
12254 \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12255 \textbackslash{]}%
12256]%
12257 *% do not add open/closing braces
12258 ?% Do not detokenize the alt tag
12259 (math)% ARIA

```

Support for `xfakebold`:

```

12260 \LWR@applyxfakebold%

12261 \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
12262 \end{lateximage}%

```

```
12263 \end{BlockClass}%
12264 }% not mathjax
```

Clear the single-use alt text:

```
12265 \gdef\LWR@ThisAltText{%
12266 }%
```

$\LWR@singledollar$   $\langle\mathit{expression}\rangle$

```
12267 \protected\gdef\LWR@singledollar#1${%
12268 \LWR@traceinfo{LWR@singledollar}%
12269 \ifbool{mathjax}{%
12270 \begingroup%
12271 \boolfalse{LWR@HTMLsanitize@tmp@removebackslash}%
12272 \LWR@subsingledollar*%
12273 {% alt tag
12274 \textbackslash(%
12275 \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12276 \textbackslash)%
12277 }%
12278 {singledollar}% add'l hashing
12279 {#1}% contents
12280 \endgroup%
12281 }{% not mathjax
12282 \LWR@subsingledollar*%
12283 {% alt tag
12284 \textbackslash(%
12285 \LWR@HTMLsanitizedetokenized{\detokenize{#1}} % extra space
12286 \textbackslash)%
12287 }%
12288 {singledollar}% add'l hashing
12289 {\LWR@origensuredmath{#1}}% contents
12290 }% not mathjax
```

Clear the single-use alt text:

```
12291 \gdef\LWR@ThisAltText{%
12292 }
```

$\langle$  Redefine to the above dollar macros.

```
\[
12293 \AtBeginDocument{
12294 \protected\gdef\langle#1\rangle{\$#1\$}
12295 \protected\gdef\lbracket[#1\lbracket{\$#1\$}
12296 }
12297
12298 \endgroup% active $
```

```
12299 \AtBeginDocument{
12300 \LetLtxMacro\LWR@openbracketnormal\lbracket
12301 \LetLtxMacro\LWR@closebracketnormal\rbracket
12302 }
```

$\LWR@ensuredmath$   $\langle\mathit{expression}\rangle$

If MATHJAX, a `lateximage` is used, since `\ensuremath` is often used for complex TEX expressions which MATHJAX may not render. If `svg math`, a hashed file is used with a simple `alt` tag, but additional hashing provided by the contents.

```

12303 \let\ltxMacro\LWR@origensuredmath\@ensuredmath
12304
12305 \renewcommand{\@ensuredmath}[1]{%
12306 \ifbool{mathjax}{%
12307 \begingroup%
12308 \boolfalse[LWR@HTMLsanitize@tmpb@removebackslash]%
12309 \LWR@subsingledollar*{\AltTextOpen\MathImageAltText\AltTextClose}%
12310 {%
12311 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
12312 }%
12313 {%
12314 \relax%
12315 \LWR@origensuredmath{#1}%
12316 }%
12317 \endgroup%
12318 }{% SVG math

```

If already inside a `lateximage` in `math` mode, continue as-is.

```

12319 \ifmmode%
12320 \LWR@origensuredmath{#1}%
12321 \else%

```

Create an inline `math lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

12322 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
12323 {\LWR@origensuredmath{#1}}%
12324 {%
12325 \LWR@subsingledollar*
12326 {\AltTextOpen\MathImageAltText\AltTextClose}%
12327 {%
12328 \protect\LWR@HTMLsanitizedetokenized{%
12329 \detokenize\expandafter{#1}%
12330 }%
12331 }%
12332 {\LWR@origensuredmath{#1}}%
12333 }%
12334 \fi%
12335 }%

```

Clear the single-use `alt` text:

```

12336 \gdef\LWR@ThisAltText{%
12337 }

```

Remember then remove the old `math` and `displaymath` environments:

```

12338 \let\LWR@orig@math\math
12339 \let\LWR@orig@endmath\endmath
12340
12341 \let\LWR@orig@displaymath\displaymath
12342 \let\LWR@orig@enddisplaymath\enddisplaymath
12343

```

```

12344 \let\math\relax
12345 \let\endmath\relax
12346
12347 \let\displaymath\relax
12348 \let\enddisplaymath\relax

```

`math (env.)` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
12349 \NewEnviron{math}{\expandafter\(\BODY\)}
```

`LWR@displaymathnormal (env.)` Set math mode then typeset the body of what was between the begin/end. See the `environ` package for `\BODY`.

```
12350 \NewEnviron{LWR@displaymathnormal}{\expandafter[\BODY\]\@ignoretrue}
```

Set the default `displaymath` to the normal version:

```

12351 \LetLtxMacro\displaymath\LWR@displaymathnormal%
12352 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%

```

`LWR@displaymathother (env.)` A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML alt` tags.

```

12353 \newenvironment{LWR@displaymathother}
12354 {%
12355 \begin{BlockClass}{displaymath}%
12356 \LWR@newautoidanchor%
12357 \booltrue{LWR@indisplaymathimage}%
12358 \begin{lateximage}[\MathImageAltText]?(math)% [alt](ARIA)
12359 \LWR@origdollar\LWR@origdollar%
12360 }
12361 {%
12362 \LWR@origdollar\LWR@origdollar%
12363 \end{lateximage}%
12364 \end{BlockClass}%
12365 }

```

`LWR@equationother (env.)` A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML alt` tags.

```

12366 \newenvironment{LWR@equationother}
12367 {%
12368 \begin{BlockClass}{displaymathnumbered}%
12369 \LWR@newautoidanchor%
12370 \booltrue{LWR@indisplaymathimage}%
12371 \begin{lateximage}[\MathImageAltText]?(math)% [alt](ARIA)
12372 \LWR@orig@equation%
12373 }
12374 {%
12375 \LWR@orig@endequation%
12376 \end{lateximage}%
12377 \end{BlockClass}%
12378 }

```

## 85.4 MATHJAX support

`LWR@nextequation (Ctr)` Used to add one to compute the next equation number.

```
12379 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of `\theequation` to determine `\theMathJaxsection` and `\theMathJaxequation`.

```
12380 \newcommand\LWR@article@theequation{\@arabic\c@equation}
12381
12382 \newcommand\LWR@book@theequation
12383 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
12384
12385
12386 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
12387 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
12388 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
12389
12390 \AtBeginDocument{
12391 % default per article class:
12392 \newcommand*\theMathJaxsubequations{\emptyset}
12393 \newcommand*\theMathJaxsection{}}
12394 \newcommand*\theMathJaxequation{\arabic{equation}}
12395
12396 \ifdefstrequal{\theequation}{\LWR@article@theequation}
12397 {}{
12398 \ifdefstrequal{\theequation}{\LWR@book@theequation}{
12399 \renewcommand*\theMathJaxsection{\ifnum \c@chapter>\z@ \thechapter.\fi}
12400 }{
12401 \ifdefstrequal{\theequation}{\LWR@subsection@theequation}{
12402 \renewcommand*\theMathJaxsection{\thesubsection{.}}
12403 }{
12404 \ifdefstrequal{\theequation}{\LWR@section@theequation}{
12405 \renewcommand*\theMathJaxsection{\thesection{.}}
12406 }{
12407 \ifdefstrequal{\theequation}{\LWR@chapter@theequation}{
12408 \renewcommand*\theMathJaxsection{\thechapter{.}}
12409 }{% unknown format
12410 \PackageWarningNoLine{lwarp}
12411 {%
12412 Unknown equation tag format for \protect\theequation.\MessageBreak
12413 Article-style equation numbering will be used%
12414 }
12415 }}}}
12416 }
```

`\LWR@syncmathjax` Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\ (“ and “\)” characters. They are printed to HTML output, not interpreted by  $\LaTeX$ .

```
12417 \newcommand*\LWR@syncmathjax{%
```

Tell MATHJAX that the next equation number is the current  $\LaTeX$  equation number.

Before each equation, `lwarp` inserts into the HTML code:

```
\setequation{subequations?}{section}{number}
```

subequations? is 0 usually, 1 if inside amsmath subequations.

section is a string printed as-is, or empty.

number is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “\(" and “\)” characters, to be printed to HTML, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```

12418 \LWR@stoppars%
12419 \InlineClass{hidden}{
12420 \textbackslash(%
12421 \textbackslash{)seteqnumber%
12422 \{\theMathJaxsubequations\}%
12423 \{\theMathJaxsection\}%
12424 \{\theMathJaxequation\}%
12425 \textbackslash)%
12426 }
12427 \LWR@startpars%
12428 }
```

```
\LWR@hidelatexequation {<environment>} {<contents>}
```

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```
12429 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

12430 \LWR@stoppars
12431 \LWR@htmlopencomment
12432
```

Start the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```

12433 \begingroup
12434 \@nameuse{LWR@orig@#1}
```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

```

12435 \LWR@restoreorigformatting
12436 \booltrue{LWR@insidemathcomment}
```

Temporarily prevent underfull \hbox warnings.

```
12437 \hbadness=10000\relax%
```

See \LWR@htmlmathlabel in section [85.7.1](#).

Print the contents of the equation:

```
12438 #2
```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```

12439 \@nameuse{LWR@orig@end#1}
12440 \endgroup
12441
```

Close the HTML comment and resume HTML paragraph handling:

```
12442 \LWR@htmlclosecomment
12443 \boolfalse{LWR@insidemathcomment}
12444 \LWR@startpars
12445 }
```

```
\LWR@addmathjax {<environment name>} {<contents>}
```

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```
12446 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
12447 \LWR@orignobreakspace\LWR@orignewline
```

Enclose the MATHJAX environment inside printed “\ (“ and “\)” characters. Print the environment name and contents, sanitizing for HTML special characters.

```
12448 {%
12449 \LWR@print@ttfamily%
12450 \textbackslash{ }begin\{#1\}
```

The alignat environment takes a mandatory argument, which must be replicated here.

```
12451 \ifboolexpr{
12452 test {\ifstrequal{#1}{alignat}} or
12453 test {\ifstrequal{#1}{alignat*}} or
12454 test {\ifstrequal{#1}{alignat+}}
12455 }%
12456 {\{\arabic{LWR@maxfields@}\}}%
12457 }%
```

The environment contents and \end:

```
12458 \LWR@orignewline%
12459 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12460 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#2}}%
12461 \LWR@orignewline%
12462 \textbackslash{ }end\{#1\}
12463 }%

12464 \LWR@orignewline
12465 }
```

## 85.5 Equation environment

Remember existing equation environment, after redefined by amsmath, if loaded.

```
12466 \AtBeginDocument{
12467 \let\LWR@orig@equation\equation
12468 \let\LWR@orig@endequation\endequation
12469 \csletcs{LWR@orig@equation*}{equation*}
12470 \csletcs{LWR@orig@endequation*}{endequation*}
12471 }
```

```
\LWR@doequation {<env contents>} {<env name>}
```

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the  $\LaTeX$  source for the math.

For  $\text{MATHJAX}$  output, the contents are typeset in an original equation environment placed inside a `HTML` comment, with special processing for `\labels`. The contents are also printed to the `HTML` output for processing by the  $\text{MATHJAX}$  script.

```
12472 \newcommand*\LWR@doequation}[2]{%
12473
```

If `mathjax` or `FormatWP`, print the  $\LaTeX$  expression:

```
12474 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
```

$\text{MATHJAX}$  output:

```
12475 {
```

Print commands to synchronize  $\text{MATHJAX}$ 's equation number and format to the current  $\LaTeX$  chapter/section and equation number:

```
12476 \LWR@syncmathjax%
```

Print the  $\LaTeX$  math inside an `HTML` comment:

```
12477 \LWR@hidelatexequation{#2}{#1}
12478 }
```

SVG output: Create the `lateximage` along with an `HTML <alt>` tag having an equation number, the  $\LaTeX$  equation environment commands, and the contents of the environment's `\BODY`.

```
12479 {% not mathjax
```

Begin the `lateximage` with an `<alt>` tag containing the math source:

```
12480 \ifstrequal{#2}{equation*}{%
12481 \begin{BlockClass}{displaymath}%
12482 }{%
12483 \begin{BlockClass}{displaymathnumbered}%
12484 }%
12485 \LWR@newautoidanchor%
12486 \booltrue{LWR@indisplaymathimage}%
12487 \begin{lateximage}{%
12488 \ifstrequal{#2}{equation*}{%
12489 \ifdefequal{\LWR@equationtag}{\theequation}{%
12490 % no tag was given
12491 }{%
12492 (\LWR@equationtag) % tag was given
12493 }%
12494 }{%
12495 (\LWR@equationtag) % automatic numbering
12496 }%
12497 \textbackslash{begin\{#2\}} % extra space
12498 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{#1}} % extra space
```



```
12499 \textbackslash{end\{#2\}}%
12500]*(math)% alt tag, ARIA
```

Support for `xfakebold`:

```
12501 \LWR@applyxfakebold%
```

Create the actual L<sup>A</sup>T<sub>E</sub>X-formatted equation inside the `lateximage` using the contents of the environment.

```
12502 \@nameuse{LWR@orig@#2}%
12503 #1% contents collected by \collect@body
12504 \@nameuse{LWR@orig@end#2}%
12505 \end{lateximage}%
12506 \end{BlockClass}%
12507 }% not mathjax
```

Clear the single-use alt text:

```
12508 \gdef\LWR@ThisAltText{}%
12509 }
```

After the environment, if `MATHJAX`, print the math to the HTML output for `MATHJAX` processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```
12510 \newcommand*\LWR@doendequation}[1]{%
12511 \ifbool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) %
12512 {%
12513 \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
12514 \InlineClass{hidden}{\LWR@syncnotenumbers}%
12515 \LWR@addmathjax{#1}{\BODY}%
12516 \InlineClass{hidden}{\LWR@syncnotenames}%
12517 }{%
12518 \LWR@addmathjax{#1}{\BODY}%
12519 }%
12520 }{%
12521
```

Clear the single-use alt text:

```
12522 \gdef\LWR@ThisAltText{}%
12523 }
```

The following are used to synchronize footnote marks and related to `MATHJAX` if `*note*` is used inside the `MATHJAX` expression. The counter is read from L<sup>A</sup>T<sub>E</sub>X then defined into `MATHJAX` for use during the following equation. After the equation, the `MATHJAX` value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

```
\LWR@synconenotenummer {<MathJax variable>} {<mark>}
```

```
12524 \newcommand*\LWR@synconenotenummer}[2]{%
12525 \textbackslash(
12526 \textbackslash{def\textbackslash{#1}\{#2\}
12527 \textbackslash)
12528 }
```

`\LWR@syncnotenumbers` Assignments to make.

```
12529 \newcommand*{\LWR@syncnotenumbers}{\LWR@synconenotenummer{\LWRfootnote}{\thefootnote}}
```

`\LWR@synconenotename`  $\langle \textit{MathJax variable} \rangle$   $\langle \textit{text} \rangle$

```
12530 \newcommand*{\LWR@synconenotename}[2]{%
12531 \textbackslashash(
12532 \textbackslashash{ }def\textbackslashash{ }#1name\{#2\}
12533 \textbackslashash)
12534 }
```

`\LWR@syncnotenames` Assignments to make.

```
12535 \newcommand*{\LWR@syncnotenames}{\LWR@synconenotename{\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
12536 \AtBeginDocument{
12537 \let\equation\relax
12538 \let\endequation\relax
12539 \csletcs{equation*}{relax}
12540 \csletcs{endequation*}{relax}
12541 }
```

`equation (env)` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```
12542 \AtBeginDocument{
12543 \NewEnviron{equation}%
12544 {\LWR@doequation{\BODY}{equation}}%
12545 [\LWR@doendequation{equation}]
12546
12547 \LetLtxMacro\LWR@equationnormal\equation
12548 \LetLtxMacro\endLWR@equationnormal\endequation
12549 }% AtBeginDocument
```

`equation* (env)`

```
12550 \AtBeginDocument{
12551 \NewEnviron{equation*}%
12552 {\LWR@doequation{\BODY}{equation*}}%
12553 [\LWR@doendequation{equation*}]
12554
12555 \csletcs{LWR@equationnormalstar}{equation*}
12556 \csletcs{LWR@endequationnormalstar}{endequation*}
12557 }% AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `TikZ` expressions.

```
12558 \AtBeginDocument{
12559 \LetLtxMacro\LWR@equationless\equation
12560 \LetLtxMacro\endLWR@equationless\endequation
12561 \csletcs{LWR@equationlessstar}{equation*}
12562 \csletcs{LWR@endequationlessstar}{endequation*}
12563 }
```

## 85.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the `alt` tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated TikZ pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate TikZ picture, which will not render in MATHJAX and will not make sense as an HTML `alt` tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML `alt` tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as TikZ pictures are more likely to compile successfully.

`\displaymathnormal` Use when display math environments have simple math which is to sent to MATHJAX or included in HTML `alt` tags.

```
12564 \newcommand*\displaymathnormal}{%
12565 \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
12566 \LetLtxMacro\[\LWR@openbracketnormal%
12567 \LetLtxMacro\]\LWR@closebracketnormal%
12568 \LetLtxMacro\displaymath\LWR@displaymathnormal%
12569 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
12570 \LetLtxMacro\equation\LWR@equationnormal%
12571 \LetLtxMacro\endequation\endLWR@equationnormal%
12572 \csletcs{equation*}{LWR@equationnormalstar}%
12573 \csletcs{endequation*}{LWR@endequationnormalstar}%
12574 }
```

`\displaymathother` Use when display math environments have complicated objects which will not work with MATHJAX or should not be included in HTML `alt` tags. Complicated contents are more likely to compile correctly.

```
12575 \newcommand*\displaymathother}{%
12576 \boolfalse{mathjax}%
12577 \LetLtxMacro\displaymath\LWR@displaymathother%
12578 \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
12579 \LetLtxMacro\[\LWR@displaymathother%
12580 \LetLtxMacro\]\endLWR@displaymathother%
12581 \LetLtxMacro\equation\LWR@equationother%
12582 \LetLtxMacro\endequation\endLWR@equationother%
12583 \csletcs{equation*}{displaymath}%
12584 \csletcs{endequation*}{enddisplaymath}%
12585 }
```

```
12586 \end{warppHTML}
```

for PRINT output: 12587 `\begin{warpprint}`

Print-mode versions:

```
12588 \newcommand*\displaymathnormal}{%
12589 \newcommand*\displaymathother}{%}
```

```

12590 \newcommand*\theMathJaxsubequations}{0}
12591 \newcommand*\theMathJaxsection}{}
12592 \newcommand*\theMathJaxequation}{\arabic{equation}}

12593 \end{warpprint}

```

**for HTML output:** 12594 \begin{warpHTML}

## 85.7 AMS Math environments

### 85.7.1 Support macros

`LWR@amsmultline` (*bool*) True if processing a multiline environment.

To compensate for multiline-specific code, `LWR@amsmultline` is used to add extra horizontal space in `\LWR@htmlmathlabel` if is used in an `amsmath` environment which is not a multiline environment and not an equation.

```

12595 \newbool{LWR@amsmultline}
12596 \boolfalse{LWR@amsmultline}

```

`\LWR@beginhideamsmath` Starts hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```

12597 \newcommand*\LWR@beginhideamsmath}{
12598 \LWR@stoppars
12599 \LWR@orignobreakspace\LWR@orignewline
12600 \LWR@htmlopencomment
12601
12602 \begingroup
12603 \LWR@restoreorigformatting

```

Temporarily prevent underfull `\hbox` warnings.

```

12604 \hbadness=10000\relax%

12605 \booltrue{LWR@insidemathcomment}
12606 }

```

`\LWR@endhideamsmath` Ends hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```

12607 \newcommand*\LWR@endhideamsmath}{
12608 \endgroup
12609
12610 \LWR@htmlclosecomment
12611 \boolfalse{LWR@insidemathcomment}
12612 \LWR@orignewline
12613 \LWR@startpars
12614 }

```

### 85.7.2 Environment patches

The `amsmath` environments already collect their contents in `\@envbody` for further processing. `eqnarray` is not an  $\mathcal{A}\mathcal{M}\mathcal{S}$  package, and thus requires special handling.

For `svg math`: Each environment is encapsulated inside a `lateximage` environment, along with a special optional argument of `\LWR@amsmathbody` or `\LWR@amsmathbodynumbered` telling `lateximage` to use as the `HTML <alt>` tag the environment's contents which were automatically captured by the `\AMS` environment.

For `MATHJAX`: Each environment is synched with `LATEX`'s equation numbers, typeset with `LATEX` inside an `HTML` comment, then printed to `HTML` output for `MATHJAX` to process.

`eqnarray` (*env.*) This environment is not an `\AMS` environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
12615 \let\LWR@origeqnarray\eqnarray
12616 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
12617 \newbool{LWR@numbereqnarray}
12618 \booltrue{LWR@numbereqnarray}
```

Common code used by `eqnarray` and `Beqnarray` (from `fancybox`):

```
12619 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the `LATEX` expression:

```
12620 \ifbool{mathjax} or (bool{FormatWP} and bool{WPMarkMath})]%
12621 {%
```

If `MATHJAX`, the environment contents (the `\BODY`) are executed in a `HTML` comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for `MATHJAX` to interpret:

```
12622 \LWR@syncmathjax%
12623 \boolfalse{LWR@amsmultline}%
12624 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
12625 \ifbool{LWR@numbereqnarray}%
12626 {%
```

If numbering the equations, execute a copy inside an `HTML` comment block:

```
12627 \LWR@beginhideamsmath%
12628 \LWR@origeqnarray%
12629 \BODY%
12630 \LWR@origendeqnarray%
12631 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for `MATHJAX` to interpret:

```
12632 \LWR@addmathjax{eqnarray}{\BODY}%
12633 }%
12634 {% not LWR@numbereqnarray
```

If not numbering equations, just create the contents for `MATHJAX`:

```

12635 \LWR@addmathjax{eqnarray*}{\BODY}%
12636 }% LWR@numbreqnarray
12637 }% mathjax
12638 {% not mathjax
12639 \ifbool{LWR@numbreqnarray}%
12640 {%

```

For numbered svg equations, first create a lateximage with an alt attribute containing sanitized copy of the source code:

```

12641 \begin{BlockClass}{displaymathnumbered}%
12642 \LWR@newautoidanchor%
12643 \booltrue{LWR@indisplaymathimage}%
12644 \begin{lateximage}[%
12645 (\LWR@startingequationtag\textendash\LWR@equationtag)%
12646 \LWR@addmathjax{eqnarray}{\BODY}%
12647]%
12648 *?(math)%

```

Support for xfakebold:

```

12649 \LWR@applyxfakebold%

```

Create the image contents using an actual eqnarray:

```

12650 \LWR@origeqnarray%
12651 \BODY%
12652 \LWR@origendeqnarray%
12653 \end{lateximage}%
12654 \end{BlockClass}%
12655 }%
12656 {% not LWR@numbreqnarray

```

If not numbered, do the same, but an extra \nonumber seems to be required:

```

12657 \begin{BlockClass}{displaymath}%
12658 \LWR@newautoidanchor%
12659 \booltrue{LWR@indisplaymathimage}%
12660 \begin{lateximage}[%
12661 \LWR@addmathjax{eqnarray*}{\BODY}%
12662]*?(math)%

```

Support for xfakebold:

```

12663 \LWR@applyxfakebold%

12664 \def\@eqnrcr{\nonumber\@seqnrcr}%
12665 \csuse{LWR@origeqnarray}%
12666 \BODY%
12667 \nonumber\csuse{LWR@origendeqnarray}%
12668 \end{lateximage}%
12669 \end{BlockClass}%
12670 }% LWR@numbreqnarray
12671 }% not mathjax

```

Default to number equations in the future:

```

12672 \booltrue{LWR@numbreqnarray}%

```

Clear the single-use alt text:

```
12673 \gdef\LWR@ThisAltText{%
12674 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
12675 \RenewEnviron{eqnarray}
12676 {%
12677
12678 \LWR@eqnarrayfactor
12679
12680 }
```

The starred version is patched to turn off the numbering:

```
12681 \csgpreto{eqnarray*}{\boolfalse{LWR@numbereqnarray}}
12682 \end{warpHTML}
```

## 86 Lateximages

### 86.1 Description

`lateximage` (*env.*) A `lateximage` is a piece of the document which is typeset in L<sup>A</sup>T<sub>E</sub>X then included in the HTML output as an image. This is used for math if `svg math` is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the `lateximage` a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 83.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `lwarpmk` to extract the `lateximage` from the page of the PDF file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `<span>` is created to hold both the HTML comment, which will have the `pdftotext` conversion, and also the link to the final `.svg` image.

A L<sup>A</sup>T<sub>E</sub>X label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

**HTML alt tag** The HTML `alt` tag is set to the L<sup>A</sup>T<sub>E</sub>X source for `svg math`, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the `alt` tag is set according to the package name.

When creating an `svg math` image, its HTML `alt` tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or

after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the `alt` tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This `alt` expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

For many packages, the output is placed inside a `lateximage` with an HTML `alt` tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

**svg image font size** For SVG display math and the `lateximage` environment, the size of the math and text used in the SVG image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

## 86.2 Support counters and macros

**for HTML output:** 12683 `\begin{warpHTML}`

`LWR@lateximagenumber` (*Ctr*) Sequence the images.

```
12684 \newcounter{LWR@lateximagenumber}
12685 \setcounter{LWR@lateximagenumber}{0}
```

`LWR@lateximagedepth` (*Ctr*) Do not create `\lateximage` inside of `\lateximage`.

```
12686 \newcounter{LWR@lateximagedepth}
12687 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
12688 \edef\LWR@hashmark{\string#} % for use in \write
12689 \edef\LWR@percent{\@percentchar} % for use in \write
```

`LWR@LIpage` (*Ctr*) Used to reference the PDF page number of a `lateximage` to be written into `<project>-images.txt`.

```
12690 \newcounter{LWR@LIpage}
```


```
12691 \end{warpHTML}
```



### 86.3 Font size

**for HTML & PRINT:** 12692 `\begin{warpall}`

`\LateximageFontSizeName` Declares how large to write text in `\lateximages`. The `.svg` file text size should blend well with the surrounding HTML text size.

 **no backslash** *Do not include the leading backslash in the name.*

```
12693 \newcommand*{\LateximageFontSizeName}{normalsize}
```

`\LateximageFontScale` Declares how large to scale inline SVG math images. The `.svg` file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
12694 \newcommand*{\LateximageFontScale}{1}
```

```
12695 \end{warpall}
```

### 86.4 Equation numbers

**for HTML output:** 12696 `\begin{warpHTML}`

`LWR@startingequation (Ctr)` For use with `lateximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
12697 \newcounter{LWR@startingequation}
12698
12699 \@ifundefined{chapter}
12700 {
12701 \renewcommand{\theLWR@startingequation}{%
12702 \arabic{LWR@startingequation}%
12703 }
12704 }
12705 {% chapter defined
12706 \renewcommand{\theLWR@startingequation}{%
12707 \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}{}%
12708 \arabic{LWR@startingequation}%
12709 }
12710 }
```

`LWR@isstartingequation (bool)` True for the first equation tag, false for later tags in the same environment.

```
12711 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
12712 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
12713 \newcommand*{\LWR@equationtag}{}
```

Only if `svg math`, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
12714 \AtBeginDocument{
12715
12716 \ifbool{mathjax}{}% not mathjax
```

`\LWR@remembertag`  $\langle tag \rangle$

For use inside the math environments while using `svg math`. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
12717 \NewDocumentCommand{\LWR@remembertag}{m}{%
12718 \ifbool{LWR@isstartingequation}%
12719 {%
12720 \global\boolfalse{LWR@isstartingequation}%
12721 \xdef\LWR@startingequationtag{#1}%
12722 }{%
12723 \xdef\LWR@equationtag{#1}%
12724 }%

12725 }% not mathjax
12726 }% AtBeginDocument
```

## 86.5 HTML alt tags

`\LWR@amsmathbody`  $\langle envname \rangle$  For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
12727 \newcommand*{\LWR@amsmathbody}[1]
12728 {%
12729 \textbackslash\{begin\}\{#1\} % extra space
12730 \LWR@HTMLsanitizeexpanded{\detokenize\expandafter{\the\envbody}}%
12731 \textbackslash\{end\}\{#1\}%
12732 }
```

`\LWR@amsmathbodynumbered`  $\langle envname \rangle$  For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.

```
12733 \newcommand*{\LWR@amsmathbodynumbered}[1]
12734 {%
12735 \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
12736 {(\LWR@equationtag)}%
12737 {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
12738 \LWR@amsmathbody{#1} % extra space
12739 }
```

## 86.6 lateximage environment

`\LWR@lateximage@oneimageb`  $\langle 1: alt text \rangle$   $\langle 2: filename \rangle$   $\langle 3: css style \rangle$   $\langle 4: aria role \rangle$  Creates the HTML image tag for the `lateximage`.

To allow sanitization of the `alt` tag, if the `alt` tag is detokenized then it must also be expanded before being used here.

```

12740 \newcommand{\LWR@lateximage@oneimageb}[4]{%
12741 \LWR@subinlineimage{#1}{lateximage}%
12742 {%
12743 \LWR@print@box{%
12744 \LWR@ImagesDirectory\OSPathSymbol%
12745 #2%
12746 }%
12747 }{svg}{#3}{#4}%
12748 }

```

```
\LWR@lateximage@oneimage {<1: alt text>} {<2: filename>} {<3: css style>} {<4: delimit?>} {<5: aria role>}
```

Creates an image for the `lateximage`, whose `alt` text depends on the circumstances.

To allow sanitization of the `alt` tag, if the `alt` tag is detokenized then it must also be expanded before being used here.

```

12749 \newcommand{\LWR@lateximage@oneimage}[5]{%
12750 \LWR@traceinfo{\LWR@lateximage@oneimage !#1!#2!#3!#4!#5!}%
12751 \ifdefvoid{\LWR@ThisAltText}{%
12752 \IfBooleanTF{#4}{%
12753 \LWR@lateximage@oneimageb{#1}{#2}{#3}{#5}%
12754 }{%
12755 \LWR@lateximage@oneimageb%
12756 {\AltTextOpen#1\AltTextClose}%
12757 {#2}{#3}{#5}%
12758 }%
12759 }{%
12760 \LWR@lateximage@oneimageb%
12761 {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
12762 {#2}{#3}{#5}%
12763 }%
12764 }

```

```
lateximage (env) * [<2: <alt> tag>] * ? [<5: add'l hashing>] [<6: css style>] (<7: aria role>)
```

Typesets the contents and then renders the result as an SVG file. Star #1 causes the image to be hashed for reuse. Star #3 causes the `alt` tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions. Question mark #4 does not detokenize the `alt` tag (for internal use). This allows the use of macros inside the `alt` tag.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated T<sub>E</sub>X expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is used in the additional hashing argument to ensure a unique image.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

\*\_html.aux (*file*) A new label is placed into the file \*\_html.aux:

```
\newlabel{LWRlateximage-<BaseJobname>-<number>}{<x>}{<y>}}
```

This is used to find the image in the PDF file, according to its name.

\*-images.txt (*file*) A list of images to generate is created in <jobname>-images.txt. Each line has three pipe-delimited fields, containing the PDF page number from <jobname>\_html.pdf, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```
12765 \catcode`\$=\active%
12766
12767 \NewDocumentEnvironment{lateximage}{s o s t? O{} O{} D(){}%
12768 {%
12769 \LWR@traceinfo{lateximage !#1!#2!#3!#4!#5!#6!}%
12770 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
12771 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested lateximages remain one large lateximage:

```
12772 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing lateximage, simply record one more level.  $\mathcal{A}\mathcal{M}\mathcal{S}$  packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level  $\text{\TeX}$  macros are used for tracking nested lateximages.

```
12773 {%
12774 % \addtocounter{LWR@lateximagedepth}{1}%
12775 % \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
12776 }%
```

Otherwise, this is the outer-most lateximage:

```
12777 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
12778 \LWR@traceinfo{lateximage: starting outer-most lateximage}%
12779 \setcounter{LWR@startingequation}{\value{equation}}%
12780 \addtocounter{LWR@startingequation}{1}%
12781 \booltrue{LWR@isstartingequation}%
12782 \let\LWR@startingequationtag\theLWR@startingequation%
```

The default equation tag, unless overwritten by `\tag`:

```
12783 \let\LWR@equationtag\theequation%
```

Starting a new lateximage:

```
12784 \addtocounter{LWR@lateximagenumber}{1}%
12785 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%
```

While inside a lateximage, locally do not use mathjax:

```
12786 \boolfalse{mathjax}%
```

Be sure that are doing a paragraph:

```
12787 \LWR@ensuredoingapar%
```

Inside the lateximage, temporarily prevent underfull hbox warnings.

```
12788 \hbadness=10000\relax%
```

Next file:

```
12789 \addtocounter{LWR@externalfilecnt}{1}%
12790 \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%
```

Figure out what the next page number will be. \setcounterpageref assigns LWR@Lpage to the page number for the reference LWR@lateximage-BaseJobname-XXX:

```
12791 \setcounterpageref{LWR@Lpage}{%
12792 LWR@lateximage-BaseJobname-\arabic{LWR@lateximagenumber}%
12793 }%
12794 \LWR@traceinfo{lateximage: LWR@Lpage is \arabic{LWR@Lpage}}%
```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```
12795 \LWR@htmltag{span\LWR@indentHTML%
12796 id=\textquotedbl{}%
12797 lateximage-BaseJobname-\arabic{LWR@lateximagenumber}%
12798 \textquotedbl\LWR@indentHTML
12799 class=\textquotedbl{}lateximagesource\textquotedbl\LWR@originewline
12800 }%
```

Write instructions to the <ImagesDirectory>.txt file:

```
12801 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
12802 \IfBooleanTF{#1}% starred
12803 {% hash
```

Compute and save the hashed file name for later use:

```
12804 \ifdefvoid{\LWR@ThisAltText}{%
12805 \IfBooleanTF{#3}{% no open/close tags?
12806 \IfBooleanTF{#4}{% '?': don't detokenize
12807 {% don't detokenize
12808 \edef\LWR@hashedname{%
12809 \LWR@mdfive{#2-!-#5}%
12810 }%
12811 }%
12812 }% do detokenize
12813 \edef\LWR@hashedname{%
12814 \LWR@mdfive{\detokenize\expandafter{#2-!-#5}%
12815 }%
```

```

12816 }%
12817 }{%
12818 \IfBooleanTF{#4}% '?' : don't detokenize
12819 {% don't detokenize
12820 \edef\LWR@hashedname{%
12821 \LWR@mdfive{\AltTextOpen#2\AltTextClose-!-#5}%
12822 }%
12823 }%
12824 {% do detokenize
12825 \edef\LWR@hashedname{%
12826 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#5}%
12827 }%
12828 }%
12829 }%
12830 }{%
12831 \edef\LWR@hashedname{%
12832 \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#5}%
12833 }%
12834 }%
12835 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

12836 \immediate\write\LWR@lateximagesfile{%
12837 |\arabic{LWR@Lpage}|true|\LWR@hashedname|%
12838 }%
12839 }% hash
12840 {% no hash

```

No hash, so write the page, no hashing, and the image number:

```

12841 \LWR@traceinfo{lateximage: hash false}%
12842 \immediate\write\LWR@lateximagesfile{%
12843 |\arabic{LWR@Lpage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}}|%
12844 }%
12845 }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

12846 \LWR@traceinfo{lateximage: about to create open comment}%
12847 \LWR@htmlopencomment%

```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an  $\mathcal{A}\mathcal{M}\mathcal{S}$   $\text{\textbackslash text}$ , since the outer-most level will never be in math mode.

```

12848 \addtocounter{LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

12849 \LWR@traceinfo{lateximage: about to create a new page}%
12850 \LWR@maybeoriginnewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

12851 \LWR@traceinfo{lateximage: about to create minipage}%
12852 \setcounter{LWR@mpfootnote@store}{\value{mpfootnote}}

```

```

12853 \ifdimless{\linewidth}{6in}{%
12854 \LWR@print@minipage{\linewidth}%
12855 }{%
12856 \LWR@print@minipage{6in}%
12857 }%

12858 \ifnumgreater{\value{LWR@minipage@depth}}{0}%
12859 {\setcounter{mpfootnote}{\value{LWR@mpfootnote@store}}}%
12860 {%
12861 \@nameuse{LWR@print@LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for `\hspace`, etc. inside a `lateximage`.

```

12862 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
12863 \LWR@restoreorigformatting%

```

If not inside a `minipage`, use full-page footnotes instead of `minipage` footnotes. These become HTML footnotes.

```

12864 \ifnumgreater{\value{LWR@minipage@depth}}{0}%
12865 {%
12866 {%
12867 \def\@mpfn{footnote}%
12868 \def\thempfn{\thefootnote}%
12869 \LetLtxMacro\@footnotetext\LWR@footnotetext%
12870 }%

```

Create the `LWRlateximage-jobname-<number>` label:

```

12871 \LWR@traceinfo{lateximage: about to create label
12872 LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12873 \LWR@orig@Label{LWRlateximage-\BaseJobname-\arabic{LWR@lateximagenumber}}%
12874 \LWR@traceinfo{lateximage: finished creating the label}%

```

Adjust the rule color to match HTML:

```

12875 \ifdefvoid{\LWR@ruleHTMLcolor}{}%
12876 \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
12877 }%

```

Enable print-mode math functions:

```

12878 \LetLtxMacro$\LWR@origdollar%
12879 \catcode`\$=3% math shift
12880 \LetLtxMacro\(\LWR@origopenparen%
12881 \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

12882 \ifbool{LWR@indisplaymathimage}{}% not in display math
12883 \LetLtxMacro[\LWR@origopenbracket%
12884 \LetLtxMacro\]\LWR@origclosebracket%
12885 \let\equation\LWR@orig@equation%
12886 \let\endequation\LWR@orig@endequation%
12887 \csletcs{equation*}{LWR@orig@equation*}%
12888 \csletcs{endequation*}{LWR@orig@endequation*}%
12889 }% not in display math

```

For chemformula:

```
12890 \LetLtxMacro\LWR@newsingledollar$%
12891 \LetLtxMacro\LWR@newsingledollar$% syntax highlighting
```

While inside a lateximage, do not use HTML tags for verbatim content, and do not sanitize HTML tags for <, >, &, etc.

```
12892 \boolfalse{LWR@verbtags}%
12893 \boolfalse{LWR@HTMLsanitize@tmpb@enable}%

12894 }% end of outer-most lateximage
12895 \LWR@traceinfo{lateximage: finished start of environment}%
12896 }% end of \begin{lateximage}
```

`\endlateximage` When the lateximage environment closes:

```
12897 {% start of \end{lateximage}
12898 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```
12899 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
12900 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level TeX macro due to  $\mathcal{M}\mathcal{S}$  `\text` change of `\addtocounter`.

```
12901 {%
12902 \LWR@traceinfo{lateximage: unnesting}%
12903 \global\advance\c@LWR@lateximagedepth -1\relax%
12904 }%
```

If this is the outer-most lateximage:

```
12905 {% end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```
12906 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
12907 \endLWR@print@minipage%
12908 \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```
12909 \LWR@print@vspace*{.5\baselineskip}%
12910 \LWR@htmlclosecomment%
12911 \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
12912 \LWR@traceinfo{about to LWR@lateximage@oneimage !#2!}%
```

Generate the HTML link. Due to the need to correctly expand the alt tag, choose which of eight methods to use depending on whether to hash, whether an alt tag



was passed, and whether to detokenize the alt tag. If detokenizing the alt tag, it must be expanded now so it can be sanitized later.

```

12913 \IfBooleanTF{#1}% starred?
12914 {% starred, hash
12915 \IfValueTF{#2}% alt argument
12916 {% alt argument given
12917 \IfBooleanTF{#4}% '?': don't detokenize
12918 {% don't detokenize
12919 \LWR@lateximage@oneimage{#2}%
12920 {\LWR@hashedname}{#6}{#3}{#7}%
12921 }% don't detokenize
12922 {% detokenize
12923 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize{#2}}%
12924 {\LWR@hashedname}{#6}{#3}{#7}%
12925 }% detokenize
12926 }% alt argument given
12927 {% alt argument not given
12928 \IfBooleanTF{#4}% '?': don't detokenize
12929 {% don't detokenize
12930 \LWR@lateximage@oneimage{\ImageAltText}%
12931 {\LWR@hashedname}{#6}{#3}{#7}%
12932 }% don't detokenize
12933 {% detokenize
12934 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize\expandafter{\ImageAltText}}%
12935 {\LWR@hashedname}{#6}{#3}{#7}%
12936 }% detokenize
12937 }% alt argument not given
12938 }% starred, hash
12939 {% not starred, no hash
12940 \IfValueTF{#2}% alt argument
12941 {% alt argument given
12942 \IfBooleanTF{#4}% '?': don't detokenize
12943 {% don't detokenize
12944 \LWR@lateximage@oneimage{#2}%
12945 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
12946 }% don't detokenize
12947 {% detokenize
12948 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize{#2}}%
12949 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
12950 }% detokenize
12951 }% alt argument given
12952 {% alt argument not given
12953 \IfBooleanTF{#4}% '?': don't detokenize
12954 {% don't detokenize
12955 \LWR@lateximage@oneimage{\ImageAltText}%
12956 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
12957 }% don't detokenize
12958 {% detokenize
12959 \expandafter\LWR@lateximage@oneimage\expandafter{\detokenize\expandafter{\ImageAltText}}%
12960 {\LWR@ImagesName\theLWR@externalfilecnt}{#6}{#3}{#7}%
12961 }% detokenize
12962 }% alt argument not given
12963 }% not starred, no hash

```

Be sure that are doing a paragraph:

```

12964 \LWR@ensuredoingapar%

```

Close the HTML span which has the *pdftotext* comment and also the link to the .svg image:

```
12965 \LWR@htmltag{/span}%
12966 \ifbool{HTMLDebugComments}{%
12967 \LWR@htmlcomment{End of lateximage}%
12968 }{}
```

Undo one lateximage level. This is not inside an  $\mathcal{AMS}$  \text, so regular \addtocounter may be used here.

```
12969 \addtocounter{LWR@lateximagedepth}{-1}%
```

Clear the single-use alt text:

```
12970 \gdef\LWR@ThisAltText{%
12971 }% end of outer-most lateximage
12972 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
12973 \LWR@traceinfo{lateximage: done}%
12974 }%
12975 \catcode`\$=3% math shift
12976 \end{warpHTML}
```

**for PRINT output:** 12977 \begin{warpprint}

lateximage (*enu*) \* [ $\langle$ alt tag $\rangle$ ] \* [ $\langle$ add'l hashing $\rangle$ ] [ $\langle$ css style $\rangle$ ]

Ignored in print mode.

```
12978 \NewDocumentEnvironment{lateximage}{s o s t? o o d()}
12979 {}{}
12980 \end{warpprint}
```

## 87 center, flushleft, flushright

**for HTML output:** 12981 \begin{warpHTML}

center (*enu*) Replace center functionality with css tags. In a  $\langle$ span $\rangle$ , these macros are nullified, but extra % are used to remove spurious spaces here as well.

```
12982 \newenvironment*{LWR@HTML@center}
12983 {%
12984 \LWR@forcenewpage%
12985 \ifbool{FormatWP}%
12986 {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}%
12987 {\BlockClass{center}}%
12988 }
12989 {\endBlockClass}
12990
12991 \LWR@formattedenv{center}
```

flushright (*enu*)

```

12992 \newenvironment*{LWR@HTML@flushright}
12993 {%
12994 \LWR@forcenewpage%
12995 \ifbool{FormatWP}%
12996 {\BlockClass[\LWR@print@mbbox{text-align:right}]{flushright}}%
12997 {\BlockClass{flushright}}%
12998 }
12999 {\endBlockClass}
13000
13001 \LWR@formattedenv{flushright}

```

### flushleft (*env*)

```

13002 \newenvironment*{LWR@HTML@flushleft}
13003 {%
13004 \LWR@forcenewpage%
13005 \ifbool{FormatWP}%
13006 {\BlockClass[\LWR@print@mbbox{text-align:left}]{flushleft}}%
13007 {\BlockClass{flushleft}}%
13008 }
13009 {\endBlockClass}
13010
13011 \LWR@formattedenv{flushleft}

```

`\centering`, `\raggedleft`, and `\raggedright` usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See `\LWR@floatalignment`.

### `\centering`

```

13012 \newcommand*{\LWR@HTML@centering}{%
13013 \ifbool{HTMLDebugComments}{%
13014 \LWR@htmlcomment{centering}%
13015 }{}%
13016 }
13017 \LWR@formatted{centering}

```

### `\raggedleft`

```

13018 \newcommand*{\LWR@HTML@raggedleft}{%
13019 \ifbool{HTMLDebugComments}{%
13020 \LWR@htmlcomment{raggedleft}%
13021 }{}%
13022 }
13023 \LWR@formatted{raggedleft}

```

### `\raggedright`

```

13024 \newcommand*{\LWR@HTML@raggedright}{%
13025 \ifbool{HTMLDebugComments}{%
13026 \LWR@htmlcomment{raggedright}%
13027 }{}%
13028 }
13029 \LWR@formatted{raggedright}

```

### `\leftline {<text>}`

```

13030 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}

\centerline {<text>}

13031 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}

\rightline {<text>}

13032 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}

13033 \end{warpHTML}

```

## 88 Preloaded packages

**for HTML output:** 13034 \begin{warpHTML}

If the given package was loaded before or by `lwarp`, load the `lwarp` version as well.

```

\LWR@PreloadedPackage {<packagename>}

13035 \newcommand*\LWR@PreloadedPackage}[1]{%
13036 \IfPackageLoadedTF{#1}%
13037 {%
13038 \AtBeginDocument{
13039 \LWR@origRequirePackage{lwarp-#1}%
13040 }
13041 }%
13042 {}%
13043 }

```

Undo `nameref` if already loaded, such as by `memoir`:

```
13044 \LWR@PreloadedPackage{nameref}
```

If `inputtrc` was loaded before `lwarp`, as is usually done, explicitly load the `lwarp` patches now:

```
13045 \LWR@PreloadedPackage{inputtrc}
```

If `textcomp` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
13046 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
13047 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `lwarp`, perhaps by `xunicode`, explicitly load the `lwarp` patches now:

```
13048 \LWR@PreloadedPackage{graphics}
13049 \LWR@PreloadedPackage{graphicx}
```

**tagpdf-base** may have been preloaded by pdfmanagement-testphase

```
13050 \LWR@PreloadedPackage{tagpdf-base}
```

**scalegnt** may have been preloaded by babel

```
13051 \LWR@PreloadedPackage{scalegnt}
```

**fontaxes** must be preloaded so that lwarp may patch it for HTML.

```
13052 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before lwarp:

```
13053 \LWR@PreloadedPackage{cmbright}
13054 \LWR@PreloadedPackage{fourier}
13055 \LWR@PreloadedPackage{kpfonts}
13056 \LWR@PreloadedPackage{kpfonts-otf}
13057 \LWR@PreloadedPackage{libertinust1math}
13058 \LWR@PreloadedPackage{pxfonts}
13059 \LWR@PreloadedPackage{txfonts}
13060 \LWR@PreloadedPackage{txgreek}
13061 \LWR@PreloadedPackage{newpxmath}
13062 \LWR@PreloadedPackage{newtxmath}
13063 \LWR@PreloadedPackage{newtxsf}
13064 \LWR@PreloadedPackage{mathalpha}
13065 \LWR@PreloadedPackage{unicode-math}
```

```
13066 \LWR@PreloadedPackage{realscripts}
```

**nfssex-cfr** may be preloaded by cfm-lm or related font packages.

```
13067 \LWR@PreloadedPackage{nfssex-cfr}
```

**ulem** may be preloaded by ctex, ctexart, and related classes.

```
13068 \LWR@PreloadedPackage{ulem}
```

```
13069 \LWR@PreloadedPackage{xetexko}
```

**geometry** is preloaded by lwarp, and perhaps by various classes.

```
13070 \LWR@PreloadedPackage{geometry}
```

**plext** is preloaded by some CJK classes.

```
13071 \LWR@PreloadedPackage{plext}
```

**stfloats** is preloaded by ltj\* classes.

```
13072 \LWR@PreloadedPackage{stfloats}
```

**lltjtext** is preloaded by ltj\* classes.

```
13073 \LWR@PreloadedPackage{lltjtext}
```

luatexko must be loaded before lwarp.

```
13074 \LWR@PreloadedPackage{luatexko}
```

```
13075 \end{warpHTML}
```

## 89 siunitx

siunitx (*Pkg*)

A few HTML unit equivalents are defined here.

siunitx is well supported by lwarp.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

`\cancel` is not currently supported for siunitx v3.

Negative values are not automatically colored.

⚠ **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

⚠ **drop-exponent**

⚠ **table-auto-round**

`table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the svg image.

**For HTML text mode:** lwarp uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

- ⚠ **v3 only!** Use this after the print unit has been defined. For `siunitx v3`, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TEX` boxes or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for `MATHJAX`:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```

**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

### ⚠ **MathJax**

#### Document modifications required for `MATHJAX`

- ⚠ `\sisetup`
- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with `MATHJAX`. The `MATHJAX` emulation also ignores most macro options.
- ⚠ **complex numbers**
- Complex numbers are displayed as entered, ignoring `output-complex-root`.
- custom units**
- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:
 

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_-\{\mathrm{h}\}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```
- ⚠ **unit spacing**
- Units work better using `~` between units instead of using periods.
- ⚠ `\square`, `\cubic`
- To square or cube compound units, enclose the following compound units in braces:
 

```
\cubic{\centi\meter}
```

 Single units do not require braces.
  - For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.
- ⚠ **Missing \$ inserted**
- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see **`MATHJAX` option**, section 8.7.5.

**for HTML output:** `13076 \begin{warpHTML}`

Options for `siunitx`:

```
13077 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
13078 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
13079 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
13080 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
13081 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}
13082
13083 \appto\LWR@restoreorigformatting{%
13084 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
13085 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
13086 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^\prime}}}%

```

```

13087 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^{\prime}\prime}}}%
13088 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
13089 }

13090 \end{warpHTML}

```

**for PRINT output:** The print version of `\HTMLDeclareSIUnit`.

```

13091 \begin{warpprint}
13092 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}{}
13093 \end{warpprint}

```

## 90 Graphics print-mode modifications

### 90.1 General limitations

file extensions

⚠ case sensitive

Per table 9, image filenames may be specified either with or without an extension. If an extension is given it will be used as-is, for either print or HTML output. If no extension is given, a list of possible extensions is tried, which depends on whether print or HTML is being generated. This allows a PDF file for print and a SVG file for HTML, for example. If no extension is given, the automatic search will only return lowercase extensions, even if the filename actually has an uppercase extension, and `lwarp` cannot get around this problem, so image file extensions must be lowercase to be seen by the HTML browser with `lwarp`. For example, name the image file `image.pdf` instead of `image.PDF`, but refer to it in the source as `image`, without an extension. For images which may be used as-is with either print or HTML, such as `JPG` or `PNG`, you may use a capitalized extension if it is specified in the source, such as `image.JPG`.

`\includegraphics` file formats

For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```

\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html

```

`pdftocairo` (*Prog*) To convert a PDF image to SVG, use the utility `pdftocairo`:

PDF to SVG

```
Enter ⇒ pdftocairo -svg filename.pdf
```

`lwarpmk pdftosvg` (*Prog*) For a large number of images, use `lwarpmk`:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of filenames)
```

`lwarpmk epstopdf` (*Prog*) For EPS images converted to PDF using the package `epstopdf`, use

`epstopdf` (*Prog*)

`epstopdf` package



Enter ⇒ `lwarpmk pdftosvg *.PDF`

to convert to SVG images.

**DVI L<sup>A</sup>T<sub>E</sub>X** When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter ⇒ `lwarpmk pdftosvg *.pdf` (or a list of filenames)

**PNG and JPG** For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

**GIF** GIF files may be used for HTML, but another format must also be provided for print output.

**file extension priorities** If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

**duplicate files**

⚠ **image not displayed**

A complication occurs if a file of the same name exists elsewhere in the T<sub>E</sub>X tree, such as a test image from some L<sup>A</sup>T<sub>E</sub>X package. T<sub>E</sub>X looks in the local document directory before considering the directories specified by `\graphicspath`, but the T<sub>E</sub>X tree is found as “local”, so any file in the tree is found before the directories in `\graphicspath`. To use such an image, it must be copied to the document’s directory to be used for HTML, and furthermore must be in the document’s base directory instead of an images subdirectory.

⚠ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`.

⚠ **viewport**

A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by `lwarp` — the entire image will be shown.

**units**

For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.

**options**

`\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus new `class` and `alt` keys. (`alt` has recently been incorporated into `graphicx` itself.)

**HTML class**

With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

**HTML alt tags**

Likewise, the `\includegraphics alt` key adds an HTML `alt` tag to an image, and is ignored for print output. If not assigned, each image is given an `alt` tag according to `\ImageAltText`.

⚠ **scale**

Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

**\rotatebox**

`\rotatebox` accepts the optional `origin` key.

- ⚠ **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.

## 90.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new class key:

```
13094 \begin{warpprint}
13095 \define@key{Gin}{class}{}

```

Print-mode additions for the `overpic` package. See section 467 for the HTML version.

```
13096 \AtBeginDocument{
13097 \IfPackageLoadedTF{overpic}{
13098 \newcommand*{\overpicfontsize}{12}
13099 \newcommand*{\overpicfontskip}{14}
13100 }{}
13101 }
13102 \end{warpprint}

```

## 91 xcolor boxes

`xcolor (Pkg)` A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode versions are also provided.

Print-mode versions of new `xcolor` definitions. These are defined inside `warpall` because they are also used for HTML while inside a `lateximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

**for HTML & PRINT:** 13103 `\begin{warpall}`

After `xparse` may have been loaded ...

```
13104 \AtBeginDocument{

```

... and *only* if `xcolor` was loaded:

```
13105 \IfPackageLoadedTF{xcolor}{
13106 \LWR@traceinfo{patching xcolor}

```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
13107 \LetLtxMacro\colorboxBlock\colorbox

```

The original definition is reused by the new versions:

```
13108 \LetLtxMacro\LWR@orig@print@fcolorbox\fcolorbox
```

```
\fcolorbox [<framemodel>] [<framecolor>] [<boxmodel>] [<boxcolor>] [<text>]
```

In print mode, `\fcolorbox` is modified to accept a background color of none.

(`\fcolorbox` is particular about its optional arguments, thus the elaborate combinations of `\ifthenelse`.)

```
13109 \newsavebox{\LWR@colorminipagebox}
```

```
13110
```

```
13111 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
```

```
13112 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
13113 \begin{lrbox}{\LWR@colorminipagebox}%
```

```
13114 #5%
```

```
13115 \end{lrbox}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
13116 \ifstrequal{#4}{none}%
```

```
13117 {% #4 none
```

```
13118 \LWR@traceinfo{background is none}%
```

```
13119 {% scope the \colorlet
```

```
13120 \colorlet{\LWR@currentcolor}{.}%
```

```
13121 \color{#2}%
```

```
13122 \fbox{%
```

```
13123 \color{\LWR@currentcolor}%
```

```
13124 \usebox{\LWR@colorminipagebox}%
```

```
13125 }% fbox
```

```
13126 }% colorlet
```

```
13127 }% #4 none
```

```
13128 {% #4 not none
```

```
13129 \LWR@traceinfo{background not none}%
```

```
13130 \IfValueTF{#1}%
```

```
13131 {%
```

```
13132 \IfValueTF{#3}%
```

```
13133 {\LWR@orig@print@fcolorbox[#1]{#2}[#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13134 {\LWR@orig@print@fcolorbox[#1]{#2}[#4]{\usebox{\LWR@colorminipagebox}}}%
```

```
13135 }%
```

```
13136 {% no value #1
```

```
13137 \IfValueTF{#3}%
```

```
13138 {\LWR@orig@print@fcolorbox[#2][#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13139 {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13140 }% no value #1
```

```
13141 }% #4 not none
```

```
13142 \LWR@traceinfo{\LWR@print@fcolorbox done}%
```

```
13143 }
```

```
13144 \renewrobustcmd*{\fcolorbox}{\LWR@print@fcolorbox}%
```

```
\fcolorboxBlock [\framemodel] {\framemodel} [\boxmodel] {\boxcolor} {\text}
```

In print mode, \fcolorboxBlock is the same as \fcolorbox.

```
13145 \newcommand*\LWR@print@fcolorboxBlock{\LWR@print@fcolorbox}
```

```
13146 \newrobustcmd*\fcolorboxBlock{\LWR@print@fcolorboxBlock}
```

```
fcolorminipage (env.) [\1:framemodel] {\2:framemodel} [\3:boxmodel] {\4:boxcolor} [\5:align]
[\6:height] [\7:inner-align] {\8:width}
```

In print mode, becomes a \fcolorbox containing a minipage:

```
13147 \NewDocumentEnvironment{fcolorminipage}{o m o m O{c} O{ } o m}
```

```
13148 {%
```

```
13149 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%
```

Pre-load the contents into an LR box so that they can be used inside a \fcolorbox:

```
13150 \begin{lrbox}{\LWR@colorminipagebox}%
```

If inner alignment is not given, use the outer alignment instead:

```
13151 \IfValueTF{#7}%
```

```
13152 {\begin{minipage}[#5][#6][#7]{#8}}%
```

```
13153 {\begin{minipage}[#5][#6][#5]{#8}}%
```

```
13154 }%
```

```
13155 {%
```

```
13156 \end{minipage}%
```

```
13157 \end{lrbox}%
```

```
13158 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a \fcolorbox.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
13159 \ifstrequal{#4}{none}%
```

```
13160 {% #4 none
```

```
13161 {% scope the \colorlet
```

```
13162 \colorlet{\LWR@currentcolor}{.}%
```

```
13163 \color{#2}%
```

```
13164 \fbox{%
```

```
13165 \color{\LWR@currentcolor}%
```

```
13166 \usebox{\LWR@colorminipagebox}%
```

```
13167 }% fbox
```

```
13168 }% colorlet
```

```
13169 }% #4 none
```

```
13170 {% #4 not none
```

```
13171 \IfValueTF{#1}%
```

```
13172 {%
```

```
13173 \IfValueTF{#3}%
```

```
13174 {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13175 {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
```

```
13176 }%
```

```
13177 {% no value #1
```

```
13178 \IfValueTF{#3}%
```

```

13179 {\LWR@orig@print@fcolorbox{#2}[#3]{#4}{\usebox{\LWR@colorminipagebox}}}%
13180 {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
13181 }% no value #1
13182 }% #4 not none
13183 \LWR@traceinfo{*** finished end fcolorminipage}%
13184 }

```

`xcolor` is known to have been loaded, and provided HTML versions of the following, and the print versions are provide above, so now they may be `\LW@formatted`.

```

13185 \LWR@formatted{colorbox}
13186 \LWR@formatted{colorboxBlock}
13187 \LWR@formatted{fcolorbox}
13188 \LWR@formatted{fcolorboxBlock}
13189 \LWR@formattedenv{fcolorminipage}

13190 \LWR@traceinfo{xcolor patches done}
13191 }{}% xcolor loaded
13192 }% AtBeginDocument

13193 \end{warppall}

```

## 92 chemmacros environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in print mode, and in the `chemmacros` code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

**for PRINT output:** 13194 `\begin{warpprint}`

```

13195 \AtBeginDocument{
13196 \IfPackageLoadedTF{chemmacros}{

```

Env `polymerdelims`

```

13197 \DeclareDocumentEnvironment{polymerdelims}{}
13198 {}{}

```

Env `redoxreaction`

`{\langle space above \rangle} {\langle space below \rangle}`

For print output, extra space is include above and below the image, and a `lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section [197.5](#).

```

13199 \DeclareDocumentEnvironment{redoxreaction}{m m}
13200 {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

```

```

13201 }{}% chemmacros
13202 }% AtBeginDocument

```

```

13203 \end{warpprint}

```

## 93 cleveref

**loading order** `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during HTML output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

**for HTML output:**

```
13204 \begin{warpHTML}
13205
13206 \AtEndPreamble{
13207 \RequirePackage{cleveref}
13208 }
13209
13210 \end{warpHTML}
```

## 94 Preexisting label and reference definitions

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or HTML output, and thus do not use the `\LWR@formatted` system.

**for HTML output:** Not using `\VerifyCommand` for `\label` because various packages change `\label`.

```
13211 \begin{warpHTML}
13212
13213 \VerifyCommand[lwarp][latex]{\label}
13214 {3FB4D89D15FDC24A8AA3A2C581E3C48D}
13215
13216 \LetLtxMacro\LWR@orig@label\label
13217 \LetLtxMacro\label\LWR@new@label
13218
13219 \AtBeginDocument{%
13220 \LetLtxMacro\LWR@orig@pageref\pageref%
13221 \LetLtxMacro\pageref\LWR@new@pageref%
13222 }
```

`\label` `\Detokenize \@currentname\label` to avoid bug if math is in the name. Uses `lwarp` labels instead of `\@currentHref`.

```
13223 \xpatchcmd{\LWR@orig@label}
13224 {\@currentlabelname}
13225 {\detokenize\expandafter{\@currentlabelname}}
13226 {}
13227 {}
13228 \PackageWarning{lwarp}{%
13229 Could not patch \string\label:\string\@currentlabelname.\MessageBreak
13230 This may cause an error with section names or float captions.\MessageBreak
```

```

13231 containing math, for example.\MessageBreak
13232 (Recent updates in the LaTeX kernel may make things work again%
13233 }
13234 }

13235 \end{warpHTML}

```

## 95 picture environment

`picture (env)` The `picture` environment is enclosed inside a `\lateximage`.

**for HTML output:** `13236 \begin{warpHTML}`

`picture (env)`

```


13237 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
13238
13239 \AfterEndEnvironment{picture}{\end{lateximage}}

13240 \end{warpHTML}

```


## 96 Minipages and Boxes


A CSS flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

 **inline** A line of text with an inline minipage or `\parbox` will have the minipage or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

**placement** minipages and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

**side-by-side** Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a `center` environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

 **minipage in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

 **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual  $6 \times 9$  inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

**if width is `\linewidth`** If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

**full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next

single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.

⚠ **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.

⚠ **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.

⚠ **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

**for HTML output:** 13241 `\begin{warpHTML}`

## 96.1 Computed lengths

`\LWR@minipagewidth (Len)` Used to convert the width into printable units.

```
13242 \newlength{\LWR@minipagewidth}
```

`\LWR@minipageheight (Len)` Used to convert the height into printable units.

```
13243 \newlength{\LWR@minipageheight}
```

## 96.2 Virtual page size

`LWR@virtualpagedepth (Ctr)` Used to only reset the line width at the outermost minipage.

```
13244 \newcounter{LWR@virtualpagedepth}
13245 \setcounter{LWR@virtualpagedepth}{0}
```

`LWR@setvirtualpage (env.)` \* [`<columns>`]

If not nesting a minipage, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new minipage.

The optional number of columns defaults to 1.

```
13246 \NewDocumentEnvironment{LWR@setvirtualpage}{s O{1}}{%
13247 \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
13248 \IfBooleanT{#1}{\LWR@maybeorignewpage}%
13249 \setlength{\linewidth}{6in/#2}%
13250 \setlength{\textwidth}{6in}%
13251 \setlength{\textheight}{9in}%
13252 }{%
13253 \addtocounter{LWR@virtualpagedepth}{1}%

```



```
13254 }
13255 {\addtocounter{LWR@virtualpagedePTH}{-1}}
```

### 96.3 Footnote handling

Also see section 62 for other forms of footnotes. Minipage footnotes are gathered in section 62.5, and then placed into the document in section 96.4.

### 96.4 Minipage handling

LWR@minipagefullwidth (*bool*) Should the next minipage have no HTML width?

```
13256 \newbool{LWR@minipagefullwidth}
13257 \boolfalse{LWR@minipagefullwidth}
```

LWR@forceminipagefullwidth (*bool*) Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as tabular or multicols, where the actual width depends on the browser width. Controlled by \useminipagewidths and \ignoreminipagewidths.

```
13258 \newbool{LWR@forceminipagefullwidth}
13259 \boolfalse{LWR@forceminipagefullwidth}
```

\minipagefullwidth Requests that the next minipage have no width tag in HTML:

**for HTML output:** 13260 \newcommand\*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

\UseMinipageWidths Locally requests that minipage widths be honored.

```
13261 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}
```

\IgnoreMinipageWidths Locally requests that minipage widths be ignored.

```
13262 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
13263 \end{warpHTML}
```

**for PRINT output:** 13264 \begin{warpprint}  
13265 \newcommand\*{\minipagefullwidth}{}  
13266 \newcommand\*{\UseMinipageWidths}{}  
13267 \newcommand\*{\IgnoreMinipageWidths}{}  
13268 \end{warpprint}

**for HTML output:** 13269 \begin{warpHTML}

LWR@minipagethispar (*bool*) Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
13270 \newbool{LWR@minipagethispar}
13271 \boolfalse{LWR@minipagethispar}
```

LWR@minipage@depth (*Ctrl*) Used to track whether to change footnote styles in a lateximage inside an HTML minipage.

```
13272 \newcounter{LWR@minipage@depth}
13273 \setcounter{LWR@minipage@depth}{0}
```

LWR@mpfootnote@store (*Ctrl*) Used to maintain minipage footnote number while nesting inside a lateximage.

```
13274 \newcounter{LWR@mpfootnote@store}
```

minipage (*env.*) [ $\langle$ vert position $\rangle$ ] [ $\langle$ height $\rangle$ ] [ $\langle$ inner vert position $\rangle$ ] [ $\langle$ width $\rangle$ ]

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using `\linewidth`, `\textwidth`, or `\textheight`, these are scaled proportionally to a 6×9 inch text area.

```
13275 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
13276 {%
13277 \LWR@traceinfo{minipage}%
```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
13278 \begin{LWR@setvirtualpage}*%
```

Save the requested width now that `\linewidth`, etc. are adjusted to virtual size.

```
13279 \setlength{\LWR@minipagewidth}{#4}%
13280 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
13281 \addtolength{\LWR@minipagewidth}{3em}% room for frames
13282 }{%
13283 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
13284 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
13285 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%
```

L<sup>A</sup>T<sub>E</sub>X wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```
13286 \ifbool{FormatWP}{\newline}{}%
13287 \LWR@stoppars%
```

If FormatWP, add a text frame:

```
13288 \ifbool{FormatWP}{%
13289
13290 \addtocounter{LWR@thisautoidWP}{1}%
13291 \LWR@htmltag%
13292 div id=\textquotedbl%
13293 \LWR@print@embox{autoidWP-\arabic{LWR@thisautoidWP}}%
13294 \textquotedbl\ % space
13295 class=\textquotedbl{}wminipage\textquotedbl%
13296 }%
```

```
13297
13298 }{}%
```

Create the <div> tag with optional alignment style:

```
13299 \LWR@traceinfo{minipage: creating div class}%
13300 \LWR@htmltag{div class=\textquotedbl{}minipage\textquotedbl\ style=\textquotedbl%
13301 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbbox{vertical-align:bottom} ; }{}%
13302 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbbox{vertical-align:middle} ; }{}%
13303 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbbox{vertical-align:top} ; }{}%
13304 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbbox{justify-content:flex-start} ; }{}%
13305 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbbox{justify-content:center} ; }{}%
13306 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbbox{justify-content:flex-end} ; }{}%
13307 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbbox{justify-content:space-between} ; }{}%
```

Print the width and optional height styles:

```
13308 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
13309 \ifbool{LWR@minipagefullwidth}%
13310 {\global\boolfalse{LWR@minipagefullwidth}}%
13311 {%
13312 \ifbool{LWR@forceminipagefullwidth}%
13313 {}%
13314 {%
13315 \ifdimequal{#4}{\linewidth}%
13316 {}%
13317 {width:\LWR@printlength{\LWR@minipagewidth} ; }%
13318 }%
13319 }%
13320 \LWR@traceinfo{minipage: about to print the height}%
13321 \ifblank{#2}{}{height:\LWR@printlength{\LWR@minipageheight} ; }%
13322 \textquotedbl%
13323 }%
```

Finish with an empty line to start the contents on a new line.

```
13324
13325 % The preceding empty line is required.
```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to `\linewidth`, etc. inside the virtual minipage being created here. `\LWR@minipagewidth` was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was `\linewidth`, which was changed to 6in above.

```
13326 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{}%
13327 \addtolength{\LWR@minipagewidth}{-3em}% undo frame padding
13328 }{}%
13329 \setlength{\linewidth}{\LWR@minipagewidth}%
```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```
13330 \LWR@print@raggedright%
```

```
13331 \LWR@newautopagelabel{page}%
```

## Set minipage footnotes:

```

13332 \def\@mpfn{mpfootnote}%
13333 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
13334 \let\@footnotetext\@mpfootnotetext%

```

## Track depth for lateximage footnote type:

```

13335 \addtocounter{LWR@minipage@depth}{1}%

```

## Resume paragraph tag handling for the contents of the minipage:

```

13336 \LWR@startpars%
13337 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
13338
13339 === begin minipage ===
13340
13341 }{%
13342 \LWR@traceinfo{minipage: finished starting the minipage}%
13343 }% finished \minipage
13344 {% \endminipage

```

## Print pending minipage footnotes:

```

13345 \LWR@printpendingmpfootnotes%

```

## End the environment with closing tag:

```

13346 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
13347
13348 === end minipage ===
13349
13350 }{%
13351 \LWR@stoppars%
13352
13353 \ifbool{FormatWP}{%
13354
13355 \LWR@htmlElementend{div}%
13356
13357 }{%

```

## Wrapup:

```

13358 \addtocounter{LWR@minipage@depth}{-1}%

13359 \LWR@htmlDivclassend{minipage}%
13360
13361 \end{LWR@setvirtualpage}%
13362 \LWR@startpars%
13363 \ifbool{FormatWP}{\newline}{%

```

## Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

13364 \global\booltrue{LWR@minipagethispar}%
13365 \LWR@traceinfo{LWR@minipage: done}%
13366 }
13367

```

```

13368 \NewDocumentEnvironment{LWR@HTML@minipage}{0{t} 0{ } 0{t} m}
13369 {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
13370 {\endLWR@HTML@sub@minipage}
13371
13372 \LWR@formattedenv{minipage}

```

## 96.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

```
\parbox [pos] [height] [inner-pos] {width} {text}
```

A parbox uses the minipage code:

```

13373 \NewDocumentCommand{\LWR@HTML@parbox}{0{t} 0{ } 0{t} m +m}
13374 {
13375 \LWR@traceinfo{parbox of width #4}%
13376 \begin{minipage}[#1][#2][#3]{#4}%
13377 #5
13378 \end{minipage}%
13379 }
13380
13381 \LWR@formatted{parbox}

```

\mbox {*text*}      Nullified for HTML.

```

13382 \newcommand*{\LWR@HTML@mbox}[1]{#1}
13383
13384 \LWR@formatted{mbox}

```

\LWR@makebox@paren {*width*}, {*height*}

Adds to the style in \LWR@temptwo.

```

13385 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
13386 \IfValueTF{#2}{%
13387 \setlength{\LWR@tempwidth}{#1\unitlength}%
13388 \setlength{\LWR@tempheight}{#2\unitlength}%
13389 \appto{\LWR@temptwo}{%
13390 \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
13391 \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
13392 }%
13393 }{%
13394 \PackageError{lwarp}%
13395 {(width,height) is missing a comma ',' character}%
13396 {\protect\makebox\space and \protect\framebox\space accept
13397 a size in the format (width,height).}%
13398 }%
13399 }

```

\LWR@makebox@align {*alignment character*}

Adds to the style in \LWR@temptwo.

```

13400 \newcommand*{\LWR@makebox@align}[1]{%
13401 \def\LWR@align{center}%

```

```

13402 \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
13403 \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
13404 \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
13405 \appto{\LWR@temptwo}{%
13406 \LWR@print@embox{text-align:\LWR@align} ; %
13407 }%
13408 }

```

`\makebox (<width,height>) [<width>] [<pos>] {<text>}`

```
13409 \NewDocumentCommand{\LWR@HTML@makebox}{>\SplitArgument{1}{,}}d() o o +m}{%
```

Build the style depending on arguments:

```

13410 \begin{LWR@setvirtualpage}%
13411 \def\LWR@temptwo{}%
13412 \IfValueTF{#1}%
13413 {% (width,height) ..
13414 \LWR@makebox@paren #1%
13415 \IfValueT{#2}%
13416 {% (width,height) [posn]
13417 \LWR@makebox@align{#2}%
13418 }%
13419 }%
13420 {% [width]
13421 \IfValueT{#2}% [width]
13422 {%
13423 \setlength{\LWR@tempwidth}{#2}%
13424 \ifdimgreater{\LWR@tempwidth}{0pt}{%
13425 \appto{\LWR@temptwo}{%
13426 width:\LWR@printlength{\LWR@tempwidth} ; % space
13427 }%
13428 }{}%
13429 }%
13430 }%
13431 \IfValueT{#3}%
13432 {% [width] [posn]
13433 \LWR@makebox@align{#3}%
13434 }%
13435 \InlineClass[%
13436 \LWR@print@embox{display:inline-block} ; %
13437 \LWR@temptwo%
13438]%
13439 {makebox}%
13440 {#4}%
13441 \end{LWR@setvirtualpage}%
13442 }
13443 \LWR@formatted{makebox}

```

`\framebox (<width,height>) [<width>] [<pos>] {<text>}`

```

13444 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
13445 \fbox{\makebox(#1)[#2][#3]{#4}}%
13446 }
13447
13448 \LWR@formatted{framebox}

```

`\LWR@forceminwidth {<legth>}`

Sets `\LWR@atleastonept` to be at least 1pt.

```

13449 \newlength{\LWR@atleastonept}
13450
13451 \newcommand*\LWR@forceminwidth}[1]{%
13452 \setlength{\LWR@atleastonept}{#1}%
13453 \ifthenelse{%
13454 \lengthtest{\LWR@atleastonept>0pt}\AND%
13455 \lengthtest{\LWR@atleastonept<1pt}}%
13456 }%
13457 {\setlength{\LWR@atleastonept}{1pt}}%
13458 {}%
13459 }

```

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```

13460 \newcommand*\LWR@fboxstyle}{%
13461 \LWR@findcurrenttextcolor%
13462 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
13463 padding:\LWR@printlength{\fboxsep} ; %
13464 color:\LWR@origpound\LWR@tempcolor%
13465 }

```

`\fbox`  $\langle text \rangle$

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```

13466 \newcommand{\LWR@HTML@fbox}[1]{%
13467 \LWR@traceinfo{HTML fbox}%
13468 \LWR@forceminwidth{\fboxrule}%
13469 \LWR@traceinfo{HTML fbox B}%
13470 \InlineClass[%
13471 \LWR@print@mbbox{display:inline-block} ; %
13472 \LWR@fboxstyle%
13473]{fbox}{#1}%
13474 \LWR@traceinfo{HTML fbox: done}%
13475 }

```

`xcolor` \lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```

13476 \AtBeginDocument{\LWR@formatted{fbox}}

```

`\fboxBlock`  $\langle text \rangle$  Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

```

for HTML & PRINT: 13477 \end{warpHTML}
13478
13479 \begin{warpall}
13480 \let\fboxBlock\fbox
13481 \end{warpall}
13482

```

```
13483 \begin{warpHTML}
```

**for HTML output:** Next, an HTML version:

```
13484 \newcommand{\LWR@HTML@fboxBlock}[1]{%
13485 \LWR@forceminwidth{\fboxrule}%
13486 \LWR@stoppars%
13487 \begin{BlockClass}[\LWR@fboxstyle]{fboxBlock}
13488 #1
13489 \end{BlockClass}
13490 \LWR@startpars%
13491 }
13492
13493 \LWR@formatted{fboxBlock}
13494
13495 \end{warpHTML}
```

`fminipage (enu)` [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML `<div>` around its contents.

**for HTML & PRINT:** Print version:

```
13496 \begin{warpall}
13497
13498 \newsavebox{\LWR@fminipagebox}
13499
13500 \NewDocumentEnvironment{fminipage}{0{t} o 0{t} m}
13501 {%
```

An outer minipage will be used for vertical alignment. An inner minipage will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```
13502 \IfValueTF{#3}%
13503 {\def\LWR@thisalign{#3}}
13504 {\def\LWR@thisalign{#1}}%
```

Form the outer minipage depending on whether a height was given. Make the outer minipage larger to compensate for the frame.

```
13505 \IfValueTF{#2}%
13506 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
13507 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
13508 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
13509 \IfValueTF{#2}%
13510 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
13511 {\minipage[#1]{#4}}%
13512 }
13513 {%
```

Close the inner minipage and the LR box with the contents:



```
13514 \endminipage%
13515 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
13516 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
13517 \endminipage%
13518 }
13519 \end{warpall}
```

HTML version:

**for HTML output:**

```
13520 \begin{warpHTML}
13521
13522 \NewDocumentEnvironment{LWR@HTML@fminipage}{0{t} o 0{t} m}
13523 {%
13524 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
```

Locally change to the virtual page size before processing the requested sizes:

```
13525 \begin{LWR@setvirtualpage}*%
13526 \setlength{\LWR@tempwidth}{#4}%
13527 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
13528 \LWR@forceminwidth{\fboxrule}%

13529 \LWR@stoppars%

13530 \begin{BlockClass}[%
13531 \LWR@fboxstyle ; %
13532 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
13533 \ifbool{LWR@minipagefullwidth}%
13534 {\global\boolfalse{LWR@minipagefullwidth}}%
13535 {%
13536 \ifbool{LWR@forceminipagefullwidth}%
13537 {}%
13538 {%
13539 \ifdimequal{\LWR@tempwidth}{\linewidth}%
13540 {}%
13541 {width:\LWR@printlength{\LWR@tempwidth} ; }%
13542 }%
13543 }%
13544]{fminipage}%
13545 }
13546 {%
13547 \end{BlockClass}%
13548 \end{LWR@setvirtualpage}%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
13549 \global\booltrue{LWR@minipagethispar}%
13550 \LWR@traceinfo{fminipage done}%
```

```

13551 }
13552
13553 \LWR@formattedenv{fminipage}

```

`\raisebox`  $\langle\textit{raiselen}\rangle$   $[\langle\textit{height}\rangle]$   $[\langle\textit{depth}\rangle]$   $\langle\textit{text}\rangle$


```


13554 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
13555 #4%
13556 }
13557
13558 \LWR@formatted{raisebox}

13559 \end{warpHTML}

```


## 97 Direct formatting


 **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

 **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the `listings` package is supported, and its `literate` option is used to automatically convert `&`, `<`, and `>` to proper HTML entities.

`minted` sanitizes HTML automatically by its `colorizing`, which splits the special characters from the rest of the tag.

 **verbatim** The `fancyvrb` and `fvextra` packages automatically sanitize HTML entities, but the core L<sup>A</sup>T<sub>E</sub>X `verbatim`-related environments do not, nor does the `verbatim` package, so care must be taken to avoid accidentally including valid HTML code inside these environments. It may be sufficient to add a space on either side of `&`, `<`, and `>`.

 **gobble** `fancyvrb` does not sanitize HTML when using the `gobble` option.

For high-level block and inline custom CSS classes, see section 54.10.

**for HTML & PRINT:** 13560 `\begin{warpall}`

`FixSmallCaps` (*bool*) User may set `FixSmallCaps` to `true` if small caps are being incorrectly rendered as all caps.

```

13561 \newbool{FixSmallCaps}
13562 \boolfalse{FixSmallCaps}

13563 \end{warpall}

```

**for HTML output:** 13564 `\begin{warpHTML}`

`\emph`  $\langle\textit{text}\rangle$

```

13565 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
13566 {%

```

```

13567 \LWR@HTML@itshape%
13568 \LWR@htmlspan{em}{#1}%
13569 }%
13570 }
13571
13572 \LWR@formatted{emph}

```

`\textmd`  $\langle text \rangle$

```

13573 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
13574 {%
13575 \LWR@HTML@mdseries%
13576 \InlineClass(font-weight:normal){textmd}{#1}%
13577 }%
13578 }
13579
13580 \LWR@formatted{textmd}

```

`\textbf`  $\langle text \rangle$

```

13581 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
13582 {%
13583 \LWR@HTML@bfseries%
13584 \LWR@htmlspan{b}{#1}%
13585 }%
13586 }
13587
13588 \LWR@formatted{textbf}

```

`\texteb`  $\langle text \rangle$  From `nfssect-cfr`.

```

13589 \AtBeginDocument{
13590 \IfPackageLoadedTF{nfssect-cfr}{
13591 \providerobustcmd{\texteb}[1]{
13592 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
13593 {%
13594 \LWR@HTML@ebweight%
13595 \InlineClass{texteb}{#1}%
13596 }%
13597 }
13598 \LWR@formatted{texteb}
13599 }
13600 {% if not loaded
13601 \providerobustcmd{\texteb}[1]{
13602 }
13603 }

```

`\textlg`  $\langle text \rangle$  From `nfssect-cfr`.

```

13604 \AtBeginDocument{
13605 \IfPackageLoadedTF{nfssect-cfr}{
13606 \providerobustcmd{\textlg}[1]{
13607 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
13608 {%
13609 \LWR@HTML@lgweight%
13610 \InlineClass{textlg}{#1}%
13611 }%

```

```
13612 }
13613
13614 \LWR@formatted{textlg}
13615 }{% if not loaded
13616 \providerobustcmd{\textlg}[1]{
13617 }
13618 }
```

`\textrm {<text>}`

```
13619 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
13620 {%
13621 \LWR@HTML@rmfamily%
13622 \InlineClass(font-family:serif){textrm}{#1}%
13623 }%
13624 }
13625
13626 \LWR@formatted{textrm}
```

`\textsf {<text>}`

```
13627 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
13628 {%
13629 \LWR@HTML@sffamily%
13630 \InlineClass(font-family:sans){textsf}{#1}%
13631 }%
13632 }
13633
13634 \LWR@formatted{textsf}
```

`\texttt {<text>}`

```
13635 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
13636 {%
13637 \LWR@HTML@ttfamily%
13638 \LWR@htmlspan{kbd}{#1}%
13639 }%
13640 }
13641
13642 \LWR@formatted{texttt}
```

`\textup {<text>}`

```
13643 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
13644 {%
13645 \LWR@HTML@upshape%
13646 \InlineClass(font-style:normal){textup}{#1}%
13647 }%
13648 }
13649
13650 \LWR@formatted{textup}
```

`\textit {<text>}`

```
13651 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
13652 {%
```

```

13653 \LWR@HTML@itshape%
13654 \LWR@htmlspan{i}{#1}%
13655 }%
13656 }
13657
13658 \LWR@formatted{textit}

```

`\textsc {<text>}`

```

13659 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
13660 {%
13661 \LWR@HTML@scshape%
13662 \InlineClass{textsc}{#1}%
13663 }%
13664 }
13665
13666 \LWR@formatted{textsc}

```

`\textulc {<text>}` From fontaxes.

```

13667 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
13668 {%
13669 \LWR@HTML@ulcshape%
13670 \InlineClass{textulc}{#1}%
13671 }%
13672 }
13673
13674 \LWR@formatted{textulc}

```

`\textsi {<text>}`

```

13675 \AtBeginDocument{
13676 \ifundefined{textsi}{
13677 \LetLtxMacro\LWR@print@textsi\LWR@print@textsc
13678 }{ }
13679
13680 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
13681 {%
13682 \LWR@HTML@sishape%
13683 \textsc{\textit{#1}}%
13684 \InlineClass(
13685 font-style: italic;
13686 font-variant: small-caps ;
13687 font-variant-numeric: oldstyle-nums ;
13688){textsi}{#1}%
13689 }%
13690 }
13691
13692 \LWR@formatted{textsi}
13693 }

```

`\textsl {<text>}`

```

13694 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
13695 {%
13696 \slshape%
13697 \InlineClass(font-style:oblique){textsl}{#1}%

```

```

13698 }%
13699 }
13700
13701 \LWR@formatted{textsl}

```

`\textssc {<text>}`

```

13702 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
13703 \LWR@formatted{textssc}

```

`\textnormal {<text>}`

```

13704 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{%
13705 \LWR@HTML@mdseries%
13706 \LWR@HTML@rmfamily%
13707 \LWR@HTML@upshape%
13708 \LWR@HTML@ulcshape%
13709 \InlineClass(%
13710 font-weight: normal;
13711 font-family: serif;
13712 font-style: normal;
13713 font-variant: normal;
13714 font-variant-numeric: normal ;
13715){textnormal}{#1}%
13716 }
13717
13718 \LWR@formatted{textnormal}

```

```

13719 \FilenameNullify{%
13720 \LetLtxMacro\emph\@firstofone%
13721 \LetLtxMacro\textmd\@firstofone%
13722 \LetLtxMacro\textbf\@firstofone%
13723 \LetLtxMacro\texteb\@firstofone%
13724 \LetLtxMacro\textlg\@firstofone%
13725 \LetLtxMacro\textrm\@firstofone%
13726 \LetLtxMacro\textsf\@firstofone%
13727 \LetLtxMacro\texttt\@firstofone%
13728 \LetLtxMacro\textup\@firstofone%
13729 \LetLtxMacro\textit\@firstofone%
13730 \LetLtxMacro\textsc\@firstofone%
13731 \LetLtxMacro\textulc\@firstofone%
13732 \LetLtxMacro\textsi\@firstofone%
13733 \LetLtxMacro\textsl\@firstofone%
13734 \LetLtxMacro\textssc\@firstofone%
13735 \LetLtxMacro\textnormal\@firstofone%
13736 }

```

Remembers the current font family, series, and shape. fontaxes support is integrated here.

```

13737 \newcommand*{\LWR@f@family}{rm}
13738 \newcommand*{\LWR@f@series}{md}
13739 \newcommand*{\LWR@f@shape}{up}
13740 \newcommand*{\LWR@f@shapecaps}{ulc}

```

`\LWR@textcurrentfont {<text>}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```

13741 \newcounter{LWR@textcurrentfontdepth}
13742 \setcounter{LWR@textcurrentfontdepth}{0}
13743
13744 \newcommand*{\LWR@textcurrentfont}[1]{%
13745 \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
13746 {%
13747 \addtocounter{LWR@textcurrentfontdepth}{1}%
13748 #1%
13749 \addtocounter{LWR@textcurrentfontdepth}{-1}%
13750 }%
13751 {%
13752 \addtocounter{LWR@textcurrentfontdepth}{1}%
13753 \ifboolexpr{%
13754 test {\ifdefstring{\LWR@f@family}{rm}} and
13755 test {\ifdefstring{\LWR@f@series}{md}} and
13756 test {\ifdefstring{\LWR@f@shape}{up}} and
13757 test {\ifdefstring{\LWR@f@shapecaps}{ulc}}
13758 }%
13759 {\InlineClass{textnormal}{#1}}%
13760 {%
13761 \InlineClass{%
13762 text\LWR@f@family\LWR@orignobreakspace{%
13763 text\LWR@f@series\LWR@orignobreakspace{%
13764 text\LWR@f@shape\LWR@orignobreakspace{%
13765 text\LWR@f@shapecaps%
13766 }%
13767 }#1}%
13768 }%
13769 \addtocounter{LWR@textcurrentfontdepth}{-1}%
13770 }%
13771 }

```

`LWR@blocktextcurrentfont` (*env*) Prints the contents with the current font choices.

```

13772 \newenvironment*{LWR@blocktextcurrentfont}{%
13773 \LWR@stoppars%
13774 \BlockClass{%
13775 text\LWR@f@family\LWR@orignobreakspace{%
13776 text\LWR@f@series\LWR@orignobreakspace{%
13777 text\LWR@f@shape\LWR@orignobreakspace{%
13778 text\LWR@f@shapecaps%
13779 }%
13780 }{\endBlockClass\LWR@startpars}

```

`\mdseries`

```

13781 \newrobustcmd*{\LWR@HTML@mdseries}{%
13782 \LWR@print@mdseries%
13783 \renewcommand*{\LWR@f@series}{md}%
13784 }
13785 \LWR@formatted{mdseries}

```

`\bfseries`

```
13786 \newrobustcmd*{\LWR@HTML@bfseries}{%
13787 \LWR@print@bfseries%
13788 \renewcommand*{\LWR@f@series}{bf}%
13789 }
13790 \LWR@formatted{bfseries}
```

#### \ebweight From nfssect-cfr.

```
13791 \AtBeginDocument{
13792 \IfPackageLoadedTF{nfssect-cfr}{
13793 \providerobustcmd{\ebweight}{}
13794 \newrobustcmd*{\LWR@HTML@ebweight}{%
13795 \LWR@print@ebweight%
13796 \renewcommand*{\LWR@f@series}{eb}%
13797 }
13798 \LWR@formatted{ebweight}
13799 }{}
13800 }
```

#### \lgweight From nfssect-cfr.

```
13801 \AtBeginDocument{
13802 \IfPackageLoadedTF{nfssect-cfr}{
13803 \providerobustcmd{\lgweight}{}
13804 \newrobustcmd*{\LWR@HTML@lgweight}{%
13805 \LWR@print@lgweight%
13806 \renewcommand*{\LWR@f@series}{lg}%
13807 }
13808 \LWR@formatted{lgweight}
13809 }{}
13810 }
```

#### \rmfamily

```
13811 \newrobustcmd*{\LWR@HTML@rmfamily}{%
13812 \LWR@print@rmfamily%
13813 \renewcommand*{\LWR@f@family}{rm}%
13814 }
13815 \LWR@formatted{rmfamily}
```

#### \sffamily

```
13816 \newrobustcmd*{\LWR@HTML@sffamily}{%
13817 \LWR@print@sffamily%
13818 \renewcommand*{\LWR@f@family}{sf}%
13819 }
13820 \LWR@formatted{sffamily}
```

#### \ttfamily

```
13821 \newrobustcmd*{\LWR@HTML@ttfamily}{%
13822 \LWR@print@ttfamily%
13823 \renewcommand*{\LWR@f@family}{tt}%
13824 }
13825 \LWR@formatted{ttfamily}
```



The following use `\AtBeginDocument` due to the L<sup>A</sup>T<sub>E</sub>X core `\reinstall@nfss@defs`, which redefines these `\AtBeginDocument`. See **texdoc source2e**.

`\upshape`

```
13826 \newrobustcmd*{\LWR@HTML@upshape}{%
13827 \LWR@print@upshape%
13828 \renewcommand*{\LWR@f@shape}{up}%
13829 }
13830 \AtBeginDocument{\LWR@formatted{upshape}}
```

`\itshape`

```
13831 \newrobustcmd*{\LWR@HTML@itshape}{%
13832 \LWR@print@itshape%
13833 \renewcommand*{\LWR@f@shape}{it}%
13834 }
13835 \AtBeginDocument{\LWR@formatted{itshape}}
```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```
13836 \newrobustcmd*{\LWR@HTML@scshape}{%
13837 \ifbool{FixSmallCaps}{}{%
13838 \LWR@print@scshape%
13839 }%
13840 \renewcommand*{\LWR@f@shapecaps}{sc}%
13841 }
13842 \AtBeginDocument{\LWR@formatted{scshape}}
```

`\ulcshape` From fontaxes.

```
13843 \@ifundefined{ulcshape}{
13844 \LetLtxMacro\ulcshape\upshape
13845 }{}
13846 \newrobustcmd*{\LWR@HTML@ulcshape}{%
13847 \LWR@print@ulcshape%
13848 \renewcommand*{\LWR@f@shapecaps}{ulc}%
13849 }
13850 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

`\sishape`

```
13851 \@ifundefined{sishape}{
13852 \LetLtxMacro\sishape\scshape
13853 }{}
13854 \newrobustcmd*{\LWR@HTML@sishape}{%
13855 \ifbool{FixSmallCaps}{}{%
13856 \LWR@print@sishape%
13857 }%
13858 \renewcommand*{\LWR@f@shape}{it}
13859 \renewcommand*{\LWR@f@shapecaps}{sc}%
13860 }
13861 \AtBeginDocument{\LWR@formatted{sishape}}
```

`\slshape`

```

13862 \newrobustcmd*{\LWR@HTML@slshape}{%
13863 \LWR@print@slshape%
13864 \renewcommand*{\LWR@f@shape}{sl}%
13865 }
13866 \AtBeginDocument{\LWR@formatted{slshape}}

```

`\sscshape`

```

13867 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@sscshape}
13868 \AtBeginDocument{\LWR@formatted{sscshape}}

```

`\normalfont`

```

13869 \newrobustcmd*{\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
13870 \LWR@formatted{normalfont}

```

```

13871 \FilenameNullify{%
13872 \LetLtxMacro\rmfamily\@empty%
13873 \LetLtxMacro\sffamily\@empty%
13874 \LetLtxMacro\ttfamily\@empty%
13875 \LetLtxMacro\bfseries\@empty%
13876 \LetLtxMacro\ebweight\@empty%
13877 \LetLtxMacro\lgweight\@empty%
13878 \LetLtxMacro\mdseries\@empty%
13879 \LetLtxMacro\upshape\@empty%
13880 \LetLtxMacro\slshape\@empty%
13881 \LetLtxMacro\sishape\@empty%
13882 \LetLtxMacro\sscshape\@empty%
13883 \LetLtxMacro\itshape\@empty%
13884 \LetLtxMacro\ulcshape\@empty%
13885 \LetLtxMacro\sscshape\@empty%
13886 \LetLtxMacro\normalfont\@empty%
13887 }

```

`\sp {<text>}`

For siunitx-v2. Must work in math mode.

```
13888 \renewcommand{\sp}[1]{\text{^{#1}}}
```

`\sb {<text>}`

For siunitx-v2. Must work in math mode.

```
13889 \renewcommand{\sb}[1]{\text{_{#1}}}
```

`\textsuperscript {<text>}`

```

13890 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13891 \LWR@formatted{textsuperscript}

```

`\@textsuperscript {<text>}`

```

13892 \newcommand{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
13893 \LWR@formatted{@textsuperscript}

```

`\textsubscript`  $\langle text \rangle$

```
13894 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13895 \LWR@formatted{textsubscript}
```

`\@textsubscript`  $\langle text \rangle$

```
13896 \newcommand{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
13897 \LWR@formatted{@textsubscript}
```

`\up`  $\langle text \rangle$  Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13898 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup`  $\langle text \rangle$  Prints superscript.

Supports `fntcount` package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
13899 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline`  $\langle text \rangle$

```
13900 \renewcommand{\underline}[1]{%
13901 \InlineClass%
13902 (text-decoration:underline; text-decoration-skip: auto)%
13903 {underline}{#1}%
13904 }
```

`\LWR@overline`  $\langle text \rangle$

```
13905 \newcommand{\LWR@overline}[1]{%
13906 \InlineClass%
13907 (text-decoration:overline; text-decoration-skip: auto)%
13908 {overline}{#1}%
13909 }
```

`\LWR@currenttextcolor` The color to use for text and `\rule`, defaulting to black:

```
13910 \newcommand*{\LWR@currenttextcolor}{black}
```

`\LWR@tempcolor` The color converted to HTML colorspace.

`\LWR@tempcolortwo`

```
13911 \newcommand*{\LWR@tempcolor}{}
13912 \newcommand*{\LWR@tempcolortwo}{}

```

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```

13913 \newcommand*\LWR@findcurrenttextcolor}{%
13914 \renewcommand{\LWR@tempcolor}{000000}%
13915 }

```

`\LWR@textcurrentcolor`  $\langle text \rangle$  Like `\textcolor` but uses the current `\color` instead.

```

13916 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
13917 \renewcommand*\LWR@currenttextcolor}{black}%
13918 #1%
13919 }

```

```

13920 \end{warppHTML}

```

**for PRINT output:** 13921 `\begin{warpprint}`

`\LWR@textcurrentfont`  $\langle text \rangle$

Prints the text with the current font choices.

```

13922 \newcommand*\LWR@textcurrentfont}[1]{#1}

```

`LWR@blocktextcurrentfont` (*env*) Prints the contents with the current font choices.

```

13923 \newenvironment*\LWR@blocktextcurrentfont}{ }{ }

```

`\FilenameNullify`  $\langle macros\ to\ nullify \rangle$

```

13924 \newcommand*\FilenameNullify[1]{ }

```

```

13925 \end{warpprint}

```

## 98 Skips, spaces, font sizes

**for HTML output:** 13926 `\begin{warppHTML}`

`LWR@HTMLsanitize@nobreakspace` Used to disable the `nbsp` entity inside verbatims `<pre>` sections, but not inside (*bool*) inline verbatims where spacing must be preserved by `<nbsp>`.

(`\fvextra` used ~ which showed as `<nbsp>`.)

```

13927 \newbool{\LWR@HTMLsanitize@nobreakspace}
13928 \booltrue{\LWR@HTMLsanitize@nobreakspace}

```

`\`, and `\thinspace` may be redefined by other packages, so are redefined `\AtBeginDocument` here.

Direct-formatting space commands become HTML entities:

```

13929 \AtBeginDocument{%
13930 %
13931 \renewrobustcmd*\,}{\HTMLUnicode{202f}}% HTML thin non-breakable space, not using LWR@formatted
13932 %

```

```

13933 \newrobustcmd*{\LWR@HTML@thinspace}{\HTMLUnicode{202f}}% HTML thin non-breakable space
13934 \LWR@formatted{thinspace}
13935 %
13936 \newrobustcmd*{\LWR@HTML@negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
13937 \LWR@formatted{negthinspace}

```

Cannot use \LWR@formatted for ~ or \nobreakspace.

```

13938 \renewrobustcmd*{~}{%
13939 \ifbool{LWR@HTML@sanitize@nobreakspace}%
13940 {\leavevmode\nobreak\HTMLentity{nbsp}}%
13941 {\LWR@originobreakspace}%
13942 }
13943
13944 \LetLtxMacro\nobreakspace~

```

\?-\nobreakspace seems to be necessary for packages such as ctexbook, where this is used at the end of the document.

```

13945 \expandafter\LetLtxMacro\csname ?-\string\nobreakspace\endcsname~

13946 \newrobustcmd*{\LWR@HTML@textellipsis}{\HTMLUnicode{2026}}
13947 \LWR@formatted{textellipsis}
13948 %
13949 \newrobustcmd*{\LWR@HTML@vdots}{\HTMLUnicode{22EE}}
13950 \LWR@formatted{vdots}
13951 %
13952 }% AtBeginDocument

```

Direct-formatting font sizes are remembered for future use:

```

13953 \newcommand*{\LWR@font@size}{normalsize}
13954
13955 \newrobustcmd*{\LWR@HTML@normalsize}{\renewcommand*{\LWR@font@size}{normalsize}}
13956 \LWR@formatted{normalsize}
13957
13958 \newrobustcmd*{\LWR@HTML@small}{\renewcommand*{\LWR@font@size}{small}}
13959 \LWR@formatted{small}
13960
13961 \newrobustcmd*{\LWR@HTML@footnotesize}{\renewcommand*{\LWR@font@size}{footnotesize}}
13962 \LWR@formatted{footnotesize}
13963
13964 \newrobustcmd*{\LWR@HTML@scriptsize}{\renewcommand*{\LWR@font@size}{scriptsize}}
13965 \LWR@formatted{scriptsize}
13966
13967 \newrobustcmd*{\LWR@HTML@tiny}{\renewcommand*{\LWR@font@size}{tiny}}
13968 \LWR@formatted{tiny}
13969
13970 \newrobustcmd*{\LWR@HTML@large}{\renewcommand*{\LWR@font@size}{large}}
13971 \LWR@formatted{large}
13972
13973 \newrobustcmd*{\LWR@HTML@Large}{\renewcommand*{\LWR@font@size}{Large}}
13974 \LWR@formatted{Large}
13975
13976 \newrobustcmd*{\LWR@HTML@LARGE}{\renewcommand*{\LWR@font@size}{LARGE}}
13977 \LWR@formatted{LARGE}
13978
13979 \newrobustcmd*{\LWR@HTML@huge}{\renewcommand*{\LWR@font@size}{huge}}
13980 \LWR@formatted{huge}

```

```

13981
13982 \newrobustcmd*{\LWR@HTML@Huge}{\renewcommand*{\LWR@font@size}{Huge}}
13983 \LWR@formatted{Huge}

```

```

13984 \DeclareDocumentCommand{\onecolumn}{}{}
13985
13986 \DeclareDocumentCommand{\twocolumn}{0{}}{
13987
13988 #1
13989
13990 }

```

### \hfill

```

13991 \newcommand*{\LWR@HTML@hfill}{\quad}
13992 \LWR@formatted{hfill}

```

### \hrulefill

```

13993 \newcommand*{\LWR@HTML@hrulefill}{%
13994 \ifbool{\LWR@doingapar}%
13995 {\rule{1in}{1pt}}%
13996 {%
13997 \LWR@findcurrenttextcolor%
13998 \ifdefstring{\LWR@tempcolor}{000000}%
13999 {%
14000 \begin{BlockClass}{hrule}%
14001 \end{BlockClass}%
14002 }%
14003 }%
14004 \begin{BlockClass}[%
14005 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
14006]{hrule}%
14007 \end{BlockClass}%
14008 }%
14009 }%
14010 }%
14011 \LWR@formatted{hrulefill}

```

### \dotfill

```

14012 \newcommand*{\LWR@HTML@dotfill}{\dots}
14013 \LWR@formatted{dotfill}

```

\newpage Not \LWR@foramttd since cannot be used inside a lateximage anyhow.

```

14014 \renewcommand*{\newpage}{
14015
14016 }

```

\newline Uses the HTML <br /> element.

```

14017 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
14018 \LetLtxMacro\newline\LWR@newlinebr

```

\\ Redefined to \LWR@endofline or \LWR@tabularendofline.

`\LWR@endofline * [len]`

`\` is assigned to `\LWR@endofline` at `\LWR@LwarpStart`.

Inside `tabular`, `\` is temporarily changed to `\LWR@tabularendofline`.

```
14019 \LetLtxMacro\LWR@origendofline\
14020 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}
14021 {%
14022 \newline%

14023 \setlength{\LWR@templengthone}{#2}%
14024 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
14025 }
```

`\LWR@minipagestartpars` Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since `HTML` does not allow a `<div>` to be inside a `p`, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, `lwarp` correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, it is desirable to maintain this space if possible. `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, and `\qqquad` until the end of the paragraph, when the closing `p` tag is created.

`\hspace`  
`\enskip`  
`\quad`  
`\qqquad`

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the `HTML` paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qqquad`'s `HTML` output.

```
14026 \newcommand*{\LWR@minipagestartpars}{%
14027 \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
14028 }
```

`\LWR@minipagestoppars` Placed just after `\hspace`, `\quad`, or `\qqquad`'s `HTML` output.

```
14029 \newcommand*{\LWR@minipagestoppars}{%
14030 \ifbool{LWR@minipagethispar}{\LWR@stoppars}{}%
14031 }
```

`\quad` Handles special minipage & horizontal space interactions. Uses `2003 EM SPACE` to pass validation.

```
14032 \newrobustcmd*{\LWR@HTML@quad}{%
14033 \LWR@minipagestoppars%
14034 \HTMLunicode{2003}%
14035 \LWR@minipagestartpars%
14036 }
14037 \LWR@formatted{quad}
```

`\qqquad` Handles special minipage & horizontal space interactions.

```
14038 \newrobustcmd*{\LWR@HTML@qquad}{\quad\quad}
14039 \LWR@formatted{qquad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
14040 \newrobustcmd*{\LWR@HTML@enskip}{%
14041 \LWR@minipagestoppars%
14042 \HTMLunicode{2002}%
14043 \LWR@minipagestartpars%
14044 }
14045 \LWR@formatted{enskip}
```

`\LWR@tempwidth` (*Len*) Used to compute span width, height, raise for `\hspace` and `\rule`:

```
\LWR@tempheight (Len)
14046 \newlength{\LWR@tempwidth}
\LWR@tempraise (Len)
14047 \newlength{\LWR@tempheight}
14048 \newlength{\LWR@tempraise}
```

`\hspace * {<length>} * {<length>}`

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\qquad`.

```
14049 \NewDocumentCommand{\LWR@HTML@hspace}{s m}{%
14050 \setlength{\LWR@tempwidth}{#2}%
```

If `\fill`, change to `\qquad`:

```
14051 \ifnum\gluestretchorder\LWR@tempwidth>0%
14052 \setlength{\LWR@tempwidth}{2em}%
14053 \fi%
```

Only if the width is greater than zero:

```
14054 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
14055 \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
14056 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
14057 {%
14058 \HTMLunicode{2009}% thin breakable space
14059 }%
```

Print the span with the converted width. Not rounded.

```
14060 {%
14061 \LWR@htmltagc{%
14062 span style=\textquotedbl{}width:\LWR@printlength{\LWR@tempwidth}; % extra space
14063 display:inline-block\textquotedbl%
14064 }%
```



If formatting for a word processor, approximate with a number of `\quads`, in case a span of a given width is not supported:

```

14065 \ifbool{FormatWP}{%
14066 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
14067 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
14068 \quad%
14069 \addtolength{\LWR@templengthone}{-1em}%
14070 }%
14071 }%

```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```

14072 {\LWR@htmlcomment{}}%

```

Close the span:

```

14073 \LWR@htmltag{/span}%
14074 }%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

14075 \LWR@minipagestartpars%
14076 }{}% width greater than 0
14077 }%
14078 \LWR@formatted{hspace}

```

`\LWR@vspace * {<length>}` Nullified vspace.

```

14079 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
14080
14081 \LWR@formatted{vspace}

```

`\linebreak [<num>]` Inserts an HTML br tag.

```

14082 \renewcommand*{\linebreak}[1][\newline}

```

`\nolinebreak [<num>]`

```

14083 \renewcommand*{\nolinebreak}[1][{}

```

`\pagebreak [<num>]` Starts a new paragraph.

```

14084 \renewcommand*{\pagebreak}[1][{}
14085
14086 }

```

`\nopagebreak [<num>]`

```

14087 \renewcommand*{\nopagebreak}[1][{}

```

`\enlargethispage * {<len>}`

```

14088 \RenewDocumentCommand{\enlargethispage}{s m}{}

```

```

\clearpage
\cleardoublepage
14089 \renewcommand*\clearpage{}
14090 \renewcommand*\cleardoublepage{}

```

```
\rule [raise] [width] [height]
```

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

`\fill` is zero-width, so `\hspace{\fill}` is ignored.

```
14091 \newcommand*\LWR@HTML@rule}[3][[]]{%
```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```
14092 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
14093 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
```

```
14094 {}% zero- width
```

```
14095 {% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```

14096 \ifthenelse{%
14097 \lengthtest{\LWR@tempwidth>0pt}\AND%
14098 \lengthtest{\LWR@tempwidth<1pt}}%
14099 }%
14100 {\setlength{\LWR@tempwidth}{1pt}}%
14101 }%

```

Likewise with height:

```

14102 \setlength{\LWR@tempheight}{#3}%
14103 \ifthenelse{%
14104 \lengthtest{\LWR@tempheight>0pt}\AND%
14105 \lengthtest{\LWR@tempheight<1pt}}%
14106 }%
14107 {\setlength{\LWR@tempheight}{1pt}}%
14108 }%

```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
14109 \LWR@minipagestoppar%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L<sup>A</sup>T<sub>E</sub>X code.

```

14110 \LWR@findcurrenttextcolor%
14111 \LWR@htmltagc{%
14112 span\LWR@indentHTML%
14113 style=\textquotedbl%

```

The HTML background color is used to draw the filled rule according to the L<sup>A</sup>T<sub>E</sub>X foreground color set by `\textcolor`.

```
14114 \ifbool{FormatWP}{background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
14115 width:\LWR@printlength{\LWR@tempwidth} ; %
14116 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a CSS transform. The \*2 raise multiplier is to approximately match HTML output's X height. Conversion to a L<sup>A</sup>T<sub>E</sub>X length allows a typical L<sup>A</sup>T<sub>E</sub>X expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L<sup>A</sup>T<sub>E</sub>X length limits the allowable syntax. To do: A superior method would compute a ratio of L<sup>A</sup>T<sub>E</sub>X ex height, then print that to HTML with an ex unit.

```
14117 \ifblank{#1}%
14118 {}%
14119 {%
14120 \setlength{\LWR@tempraise}{0pt-#1}%
14121 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
14122 \LWR@indentHTML%
14123 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14124 \LWR@indentHTML%
14125 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14126 \LWR@indentHTML%
14127 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
14128 \LWR@indentHTML%
14129 }%
```

Display inline-block to place the span inline with the text:

```
14130 display:inline-block;\textquotedbl\LWR@orignewline%
14131 }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
14132 \ifbool{FormatWP}{%
14133 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
14134 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
14135 _{}%
14136 \addtolength{\LWR@templengthone}{-1em}%
14137 }%
14138 }%
```

If NOT formatting for a word processor, add a comment to avoid an empty `<span>`:

```
14139 {\LWR@htmlcomment{}}%
```

Close the span:

```
14140 \LWR@htmltagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
14141 \LWR@minipagestartpars%
14142 }% non-zero width
14143 }
14144
14145 \LWR@formatted{rule}

14146 \end{warpHTML}
```

## 99 \phantomsection

**for HTML output:** 14147 \begin{warpHTML}

\LWR@phantomsection Emulate the `hyperref \phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```
14148 \newrobustcmd*{\LWR@phantomsection}{%
14149 \begingroup%
14150 \boolfalse{LWR@forcinghtmltoc}%
14151 \section*{}}%
14152 \endgroup%
14153 }

14154 \end{warpHTML}
```

## 100 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by `\LWR@formatted`.

For CSS conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the `metafont` package documentation.

```
for HTML & PRINT: 14155 \begin{warpall}
14156 \newbool{LWR@warnXe}
14157 \boolfalse{LWR@warnXe}
14158
14159 \newrobustcmd*{\Xe}
14160 {%
14161 X\hspace{-.1667em}\raisebox{-.5ex}{E}%
14162 \global\booltrue{LWR@warnXe}%
14163 }
14164
14165 \AtBeginDocument{
14166 \IfPackageLoadedTF{graphics}{
14167 \IfPackageLoadedTF{metaLogo}{}{}
```

```

14168 \renewrobustcmd*{\Xe}
14169 {\X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}}
14170 }
14171 }{}
14172 }
14173
14174 \AtEndDocument{
14175 \ifbool{LWR@warnXe}{
14176 \PackageNoteNoLine{lwarp}{Load graphicx or graphics
14177 for improved XeTeX logo}
14178 }{}
14179 }
14180
14181 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{-.125em}\TeX}}
14182 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{-.125em}\LaTeX}}
14183 \providerobustcmd*{\AmS}{%
14184 \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
14185 \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
14186 }
14187 \newrobustcmd*{\LyX}{\textsf{LyX}}
14188 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
14189 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
14190 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
14191 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
14192 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{t}}}
14193 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
14194 \end{warpall}

```

**for HTML output:** 14195 \begin{warpHTML}

The print-mode versions of the following may be changed by metalogo, so their print formatting is recorded \AtBeginDocument.

\TeX T<sub>E</sub>X

latexlogo is a css class used to properly typeset the E and A in L<sup>A</sup>T<sub>E</sub>X and friends.

latexlogofont is a css class used to select the font for the rest of the logo in L<sup>A</sup>T<sub>E</sub>X, LuaT<sub>E</sub>X, ConT<sub>E</sub>Xt, etc.

```

14196 \newrobustcmd*{\LWR@HTML@TeX}
14197 {%
14198 \InlineClass{latexlogofont}%
14199 {%
14200 \InlineClass{latexlogo}%
14201 {%
14202 T%
14203 \InlineClass{latexlogosub}{e}%
14204 X%
14205 }%
14206 }%
14207 }
14208 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

\LaTeX L<sup>A</sup>T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>

\LaTeXe

```

14209 \newrobustcmd*{\LWR@HTML@LaTeX}
14210 {%

```

```

14211 \InlineClass{latexlogofont}%
14212 {%
14213 \InlineClass{latexlogo}%
14214 {%
14215 L%
14216 \InlineClass{latexlogosup}{a}%
14217 T%
14218 \InlineClass{latexlogosub}{e}%
14219 X%
14220 }%
14221 }%
14222 }
14223
14224 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
14225
14226
14227 \newrobustcmd*{\LWR@HTML@LaTeXe}
14228 {%
14229 \LaTeX%
14230 \InlineClass{latexlogofont}{%
14231 \InlineClass{latexlogotwoe}{%
14232 2%
14233 \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
14234 }%
14235 }%
14236 }
14237 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

### \LuaTeX LuaTeX, LuaL<sup>A</sup>TeX

#### \LuaLaTeX

```

14238 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
14239 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
14240
14241 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
14242 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

### \XeTeX X<sub>q</sub>TeX, X<sub>q</sub>L<sup>A</sup>TeX

#### \XeLaTeX

xetexlogo is a css class which aligns the backwards E in X<sub>q</sub>TeX and spaces T<sub>E</sub>X appropriately.

xelatexlogo is a css class which aligns the backwards E in X<sub>q</sub>L<sup>A</sup>TeX and spaces L<sup>A</sup>TeX appropriately.

```

14243 \newrobustcmd*{\LWR@HTML@Xe}
14244 {%
14245 X%
14246 \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
14247 }
14248 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
14249
14250 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{\Xe}\TeX}
14251 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
14252
14253 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
14254 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

`\ConTeXt ConTeXt`

```

14255 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
14256 \InlineClass{latexlogofont}{Con}\TeX}%
14257 \InlineClass{latexlogofont}{t}%
14258 }
14259 \LWR@formatted{ConTeXt}

```

`\BibTeX BIBTEX, MakeIndex``\MakeIndex`

```

14260 \newrobustcmd*{\LWR@HTML@BibTeX}
14261 {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
14262 \LWR@formatted{BibTeX}
14263
14264 \newrobustcmd*{\LWR@HTML@MakeIndex}
14265 {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
14266 \LWR@formatted{MakeIndex}

```

`\AmS AMS`

`amslogo` is a css class used for the *AMS* logo.

```

14267 \AtBeginDocument{%
14268 \newrobustcmd*{\LWR@HTML@AmS}
14269 {%
14270 \InlineClass{amslogo}{%
14271 \textit{%
14272 A%
14273 \InlineClass{latexlogosub}{M}%
14274 S%
14275 }%
14276 }%
14277 }%
14278 \LWR@formatted{AmS}
14279 }

```

`\MiKTeX MiKTeX`

```

14280 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
14281 \LWR@formatted{MiKTeX}

```

`\LyX LyX`

`lyxlogo` is a css class used for the *LyX* logo.

```

14282 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
14283 \LWR@formatted{LyX}

14284 \end{warpHTML}

```

## 101 Starting and stopping lwarp

for HTML output: `14285 \begin{warpHTML}`

`\LWR@LwarpStart` Automatically sets up the HTML-related actions for the start and end of the document.  
`\LWR@LwarpEnd`

```
14286 \AfterEndPreamble{\LWR@LwarpStart}
14287 \AtEndDocument{\LWR@LwarpEnd}
14288 \DeclareHookRule{enddocument}{lwarp}{after}{legacy}

14289 \end{warpHTML}
```

## 102 Loading array

`array` is required for `lwarp`'s column parsing. It and its patches are now loaded.

**for HTML output:**

```
14290 \begin{warpHTML}
14291 \RequirePackage{array}
```

The following are compared with the tabular preamble > to add CSS classes to adjust tabular cells. Defined here now that `\arraybackslash` is defined after `array` is loaded.

```
14292 \edef\LWR@detect@centeringarraybackslash{\centering\arraybackslash}
14293 \edef\LWR@detect@raggedrightarraybackslash{\raggedright\arraybackslash}
14294 \edef\LWR@detect@raggedleftarraybackslash{\raggedleft\arraybackslash}
14295 \def\LWR@detect@itshape{\itshape}
14296 \def\LWR@detect@bfseries{\bfseries}
14297 \def\LWR@detect@bfit{\bfseries\itshape}
14298 \end{warpHTML}
```

## 103 Loading everyshi patches

`everyshi` is emulated by the  $\text{\LaTeX}$  core, so its patches are loaded here. `\AtBeginDocument` is used in case an older version of  $\text{\LaTeX}$  is used.

**for HTML output:**

```
14299 \begin{warpHTML}
14300 \AtBeginDocument{
14301 \IfPackageLoadedTF{everyshi}{
14302 \RequirePackage{lwarp-everyshi}
14303 }{}
14304 }
14305 \end{warpHTML}
```

## 104 Loading textcomp patches

`textcomp` has now been integrated into the  $\text{\LaTeX}$  core, so its patches are loaded now.

**for HTML output:**

```
14306 \begin{warpHTML}
14307 \RequirePackage{lwarp-textcomp}
14308 \end{warpHTML}
```



## 105 Loading amsmath, amsthm patches, centernot

amsmath, amsthm, and centernot may have been preloaded, such as by newtx, so their patches are loaded now.

```

for HTML output: 14309 \begin{warpHTML}
14310 \IfPackageLoadedTF{amsthm}{
14311 \RequirePackage{lwarp-amsthm}
14312 }{}

14313 \IfPackageLoadedTF{amsmath}{
14314 \RequirePackage{lwarp-amsmath}
14315 }{}

```

amsthm may load centernot, so centernot must be checked second.

```

14316 \IfPackageLoadedTF{centernot}{
14317 \RequirePackage{lwarp-centernot}
14318 }{}
14319 \end{warpHTML}

```

## 106 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

```

for HTML output: 14320 \begin{warpHTML}

14321 \IfClassLoadedTF{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
14322 \IfClassLoadedTF{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}
14323 \IfClassLoadedTF{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

14324 \end{warpHTML}

```

## 107 Loading MEMOIR class patches

Load patches to memoir.

```

for PRINT output: 14325 \begin{warpprint}
14326 \IfClassLoadedTF{memoir}{\LWR@origRequirePackage{xcolor}}{}
14327 \end{warpprint}

```

```

for HTML output: 14328 \begin{warpHTML}
14329 \IfClassLoadedTF{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
14330 \end{warpHTML}

```

## 108 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

```

for HTML output: 14331 \begin{warpHTML}

```

```
14332 \newcommand*\LWR@patchujtclasses}{
```

uj/t does not use \partname

```
14333 \def\@partnameformat{}

14334 \def\@partcntformat##1{%
14335 \prepartname%
14336 \csname the##1\endcsname%
14337 \postpartname%
14338 \quad%
14339 }
14340 \@ifundefined{chapter}{}{
14341 \def\@chapcntformat##1{%
14342 \prechaptername%
14343 \csname the##1\endcsname%
14344 \postchaptername%
14345 \quad%
14346 }
14347 }
14348 \renewcommand*\LWR@printchaptername}{}
```

Use decimal points instead of centered dots:

```
14349 \renewcommand{\thepart}{\@Roman\c@part}
14350 \@ifundefined{chapter}{
14351 \renewcommand{\thesection}{\@arabic\c@section}
14352 }{
14353 \renewcommand{\thechapter}{\@arabic\c@chapter}
14354 \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
14355 }
14356 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
14357 \renewcommand{\thesubsubsection}{%
14358 \thesubsection.\@arabic\c@subsubsection}
14359 \renewcommand{\theparagraph}{%
14360 \thesubsubsection.\@arabic\c@paragraph}
14361 \renewcommand{\thesubparagraph}{%
14362 \theparagraph.\@arabic\c@subparagraph}
14363 \@ifundefined{chapter}{
14364 \renewcommand{\thefigure}{\@arabic\c@figure}
14365 \renewcommand{\thetable}{\@arabic\c@table}
14366 }{
14367 \renewcommand{\thefigure}{%
14368 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
14369 \renewcommand{\thetable}{%
14370 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
14371 }
14372 }
14373
14374 \IfClassLoadedTF{ujarticle}{\LWR@patchujtclasses}{}
14375 \IfClassLoadedTF{ujbook}{\LWR@patchujtclasses}{}
14376 \IfClassLoadedTF{ujreport}{\LWR@patchujtclasses}{}
14377 \IfClassLoadedTF{utarticle}{\LWR@patchujtclasses}{}
14378 \IfClassLoadedTF{utbook}{\LWR@patchujtclasses}{}
14379 \IfClassLoadedTF{utreport}{\LWR@patchujtclasses}{}
14380 \IfClassLoadedTF{ltjarticle}{\LWR@patchujtclasses}{}
14381 \IfClassLoadedTF{ltjbook}{\LWR@patchujtclasses}{}
14382 \IfClassLoadedTF{ltjreport}{\LWR@patchujtclasses}{}
14383 \IfClassLoadedTF{ltjsarticle}{\LWR@patchujtclasses}{}

```

```

14384 \IfClassLoadedTF{ltjsbook}{\LWR@patchujtclasses}{}
14385 \IfClassLoadedTF{ltjsreport}{\LWR@patchujtclasses}{}
14386 \IfClassLoadedTF{ltjskiyou}{\LWR@patchujtclasses}{}
14387 \IfClassLoadedTF{ltjspf}{\LWR@patchujtclasses}{}
14388 \IfClassLoadedTF{ltjtarticle}{\LWR@patchujtclasses}{}
14389 \IfClassLoadedTF{ltjtbook}{\LWR@patchujtclasses}{}
14390 \IfClassLoadedTF{ltjtreport}{\LWR@patchujtclasses}{}

14391 \end{warpHTML}

```

## 109 CT<sub>E</sub>X patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All CT<sub>E</sub>X classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch CT<sub>E</sub>X.

**for HTML output:** 14392 \begin{warpHTML}

\AtBeginDocument in case the user set `FileSectionNames` in the preamble.

```

14393 \AtBeginDocument{
14394 \IfPackageLoadedTF{ctexpatch}{%
14395 \def\@partcntformat#1{%
14396 \LWR@isolate{\CTEX@partname}~%
14397 \CTEX@part@aftername%
14398 }%
14399
14400 \def\@partnameformat{}
14401
14402 \def\@chapcntformat#1{%
14403 \LWR@isolate{\CTEX@chaptername}~%
14404 \CTEX@chapter@aftername%
14405 }%
14406
14407 \renewcommand*\LWR@printchaptername{}
14408 }{}
14409 }

14410 \end{warpHTML}

```

## 110 kotexutf patches

Patch for `kotexutf`, which is loaded before `lwarp`.

`kotexutf`'s `\@setref` was conflicting with `lwarp`'s cross references.

**for HTML output:** 14411 \begin{warpHTML}

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

14412 \AtBeginDocument{
14413 \IfPackageLoadedTF{kotexutf}{%

```

```

14414 \def\LWR@kotexutf@setref#1#2#3{%
14415 \@setref@dhucs@orig{#1}{#2}{#3}%
14416 \ifx#1\relax\else
14417 \bgroup
14418 \dhucs@make@CJKchar@null
14419 \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
14420 \egroup
14421 \fi%
14422 }%
14423
14424 \ifdefequal{\@setref}{\LWR@kotexutf@setref}{
14425 \let\@setref\@setref@dhucs@orig
14426 }{}
14427 }{}
14428 }

14429 \end{warpHTML}

```

## 111 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not `\PackageWarnings` because there may not be a problem.)

lwarp uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . __hook begindocument
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

```

for HTML output: 14430 \begin{warpHTML}
14431 \AtBeginDocument{
14432
14433 \IfPackageLoadedTF{polyglossia}{
14434 \PackageNoteNoLine{lwarp}
14435 {%
14436 Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
14437 See the cleveref documentation regarding\MessageBreak
14438 polyglossia support. Some languages are not supported.\MessageBreak
14439 --- \MessageBreak
14440 If the error\MessageBreak
14441 \space\space Undefined control sequence ...
14442 \protect__hook begindocument\MessageBreak
14443 occurs here, use the polyglossia macro:\MessageBreak

```

```

14444 \space\space\protect\setmainlanguage\protect{...\protect}
14445 }
14446 }{
14447 \IfPackageLoadedTF{babel}{
14448 \PackageNoteNoLine{lwarp}
14449 {%
14450 Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
14451 See the cleveref documentation regarding\MessageBreak
14452 babel support. Some languages are not supported%
14453 }
14454 }{ }
14455 }
14456
14457 }
14458 \end{warpHTML}

```

## 112 MATHJAX warnings

`\LWR@mathjaxwarn {<packagename>} {<More text.>}`

Issue a warning that MATHJAX is emulated. To be done `\AtBeginDocument`.

```

14459 \newcommand*{\LWR@mathjaxwarn}[2]{%
14460 \IfPackageLoadedTF{lwarp-#1}{%
14461 \ifblank{#2}{%
14462 \PackageWarningNoLine{lwarp}
14463 {%
14464 Lwarp provides emulation for MathJax when used\MessageBreak
14465 with the #1 package%
14466 }
14467 }{%
14468 \PackageWarningNoLine{lwarp}
14469 {%
14470 Lwarp provides emulation for MathJax when used\MessageBreak
14471 with the #1 package.\MessageBreak
14472 #2%
14473 }
14474 }%
14475 }{ }%
14476 }
14477
14478 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}
14479 %
14480 % Issue a warning that \MathJax\ is not supported.
14481 % To be done \cs{AtBeginDocument}.
14482 %
14483 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \MathJax.}
14484 % \changes{v0.895}{2021/01/08}{Improved \MathJax\ warning.}
14485 % \begin{macrocode}
14486 \newcommand*{\LWR@nomathjaxwarn}[2]{%
14487 \IfPackageLoadedTF{lwarp-#1}{%
14488 \ifblank{#2}{%
14489 \PackageWarningNoLine{lwarp}
14490 {%
14491 Lwarp does not provide MathJax support for #1.\MessageBreak
14492 Use SVG math by removing the Lwarp mathjax option%
14493 }

```

```

14494 }{%
14495 \PackageWarningNoLine{lwarp}
14496 {%
14497 Lwarp does not provide MathJax support for #1.\MessageBreak
14498 #2%
14499 }
14500 }%
14501 }{%
14502 }

```

`\LWR@forceSVGmessage {<packagename>}`

```

14503 \newcommand*{\LWR@forceSVGmessage}[1]{%
14504 SVG math output may be enabled for select math\MessageBreak
14505 expressions to preserve #1 visual\MessageBreak
14506 features for those particular expressions.\MessageBreak
14507 Before the chosen inline math, use \protect\inlinemathother\MessageBreak
14508 to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
14509 afterward to resume using MathJax math.\MessageBreak
14510 Before display math, use \protect\displaymathother\MessageBreak
14511 to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
14512 after to resume using MathJax for the following math.\MessageBreak
14513 Or, use SVG math for all expressions by removing\MessageBreak
14514 the mathjax option for the lwarp package%
14515 }

```

If MATHJAX is being used, issue a warning for certain packages.

```

14516 \AtBeginDocument{
14517 \ifbool{mathjax}{
14518 \LWR@nomathjaxwarn{aligned-overset}{}
14519 \LWR@nomathjaxwarn{amscdx}{\LWR@forceSVGmessage{amscdx}}
14520 \LWR@mathjaxwarn{arydshln}
14521 {In a math array, do not use the optional argument\MessageBreak
14522 for \protect\cdashline.\space\space
14523 Furthermore, \protect\cline\space is not\MessageBreak
14524 supported by MathJax}
14525 \LWR@nomathjaxwarn{autoaligne}{}
14526 \LWR@mathjaxwarn{autonum}
14527 {MathJax does not support equation+.\MessageBreak
14528 You may use the warpprint and warpHTML\MessageBreak
14529 environments to isolate the package load\MessageBreak
14530 and the equation+ environments}
14531 \LWR@mathjaxwarn{bigdelim}
14532 {Delimiters appear only of the first line}
14533 \LWR@nomathjaxwarn{boldtensors}{}
14534 \LWR@mathjaxwarn{booktabs}
14535 {\protect\cmidrule\space is not displayed}
14536 \LWR@mathjaxwarn{breqn}
14537 {Each environment becomes an SVG image}
14538 \LWR@mathjaxwarn{colortbl}
14539 {Colors are ignored in MathJax.\MessageBreak
14540 (Text mode tabular does support colortbl.)\MessageBreak
14541 \LWR@forceSVGmessage{colortbl}}
14542 \LWR@mathjaxwarn{delarray}{\LWR@forceSVGmessage{delarray}}
14543 \LWR@nomathjaxwarn{gauss}{\LWR@forceSVGmessage{gauss}}
14544 \LWR@mathjaxwarn{hhline}
14545 {A simple \protect\hline\space is used}
14546 \LWR@mathjaxwarn{isomath}

```

```

14547 {Some of the symbol font macros such as \protect\mathsfbf{it}\MessageBreak
14548 do not use a sans font because MathJax does not yet\MessageBreak
14549 have sans Greek. Tensors may look like vectors%
14550 }
14551 \LWR@nomathjaxwarn{jkmath}{\LWR@forceSVGmessage{jkmath}}
14552 \LWR@mathjaxwarn{libertinust1math}
14553 {Some of the symbol font macros such as \protect\mathsfbf{it}\MessageBreak
14554 do not use a sans font because MathJax does not yet\MessageBreak
14555 have sans Greek. Tensors may look like vectors%
14556 }
14557 \LWR@mathjaxwarn{mathtools}
14558 {See the Lwarp manual regarding the disallowspaces\MessageBreak
14559 and showonlyrefs options, the alignat environment,\MessageBreak
14560 \protect\DeclarePairedDelimiter\space and related,\MessageBreak
14561 and \cs{MakeAboxedCommand}%
14562 }
14563 \LWR@mathjaxwarn{mathspec}
14564 {Double quotes are removed, even inside \protect\text}
14565 \LWR@mathjaxwarn{mismath}
14566 {MathJax does not support \cs{enumber}, \cs{inumber},\MessageBreak
14567 \protect\jnumber, \protect\pinumber, \protect\MathUp, \protect\MathIt,\MessageBreak
14568 \protect\MathNumbers, or \protect\MathNormal.\MessageBreak
14569 \protect\itpi\space is made available as a clone of \protect\pi.\MessageBreak
14570 Tensors are not sans serif%
14571 }
14572 \LWR@mathjaxwarn{multirow}
14573 {Multirow works as expected in text mode, but\MessageBreak
14574 limited emulation is provided for MathJax math.\MessageBreak
14575 \protect\multirow\space ignores all arguments except\MessageBreak
14576 the text}
14577 \LWR@mathjaxwarn{nicematrix}
14578 {Keys/values are ignored in MathJax.\MessageBreak
14579 \protect\Cdots, etc. do not span multiple cells.\MessageBreak
14580 AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
14581 \protect\CodeBefore, \protect\Body, and \protect\CodeAfter\MessageBreak
14582 \space\space also are not supported for MathJax.\MessageBreak
14583 \LWR@forceSVGmessage{nicematrix}%
14584 }
14585 \LWR@nomathjaxwarn{pb-diagram}{\LWR@forceSVGmessage{pb-diagram}}
14586 % \LWR@mathjaxwarn{physics}
14587 % {The third-party extension is not used.\MessageBreak
14588 % {The MathJax v3 extension is used.\MessageBreak
14589 % See the Lwarp manual for details}
14590 \LWR@mathjaxwarn{siunitx}
14591 {Place \protect\sisetup\space before \protect\begin{document}.\MessageBreak
14592 Many optional arguments are ignored}
14593 \LWR@nomathjaxwarn{tensind}{}
14594 \LWR@mathjaxwarn{unicode-math}
14595 {Do not use embedded Unicode characters.\MessageBreak
14596 (Not all characters are encoded correctly.)\MessageBreak
14597 Some symbol fonts are not supported by MathJax,\MessageBreak
14598 and are only approximated.\MessageBreak
14599 Greek macros such as \protect\alpha\space respond to the math-style\MessageBreak
14600 option. Latin symbols does not, per MathJax\MessageBreak
14601 limitations, unless placed inside \protect\symbit\space or similar}
14602 \LWR@nomathjaxwarn{unitsdef}{}
14603 \LWR@mathjaxwarn{witharrows}
14604 {Arrows can only point to the next line.\MessageBreak
14605 Text is only placed on a single line}
14606 \LWR@nomathjaxwarn{xy}

```

```
14607 {In text, xy works as-is. SVG images will be generated.\MessageBreak
14608 \LWR@forceSVGmessage{xy}}
14609 }{}
14610 }
```

## 113 Temporary patches

These are temporary fixes for issues which probably soon will be fixed by others, outside of lwarp.



---

 File 2 **lwarp-2in1.sty**
§ 114 Package **2in1**

2in1 (*Pkg*) 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

File 3 **lwarp-2up.sty**§ 115 Package **2up**

2up (*Pkg*) 2up is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```

2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\twoupwrites{}

```

---

File 4 **lwarp-a4.sty**§ 116 Package **a4**

a4 (*Pkg*) a4 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```
2 \newcommand*\WideMargins{}
```

---

File 5 **lwarp-a4wide.sty**§ 117 Package **a4wide**

a4wide (*Pkg*) a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

File 6 **lwarp-a5comb.sty**§ 118 Package **a5comb**


`a5comb (Pkg)` `a5comb` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{a5comb}`

File 7 **lwarp-abstract.sty**§ 119 Package **abstract**

*(Emulates or patches code by PETER WILSON.)*

`abstract (Pkg)` `abstract` is supported and patched by `lwarp`.

 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

**for HTML output:** `memoir` provides an abstract environment even though it is not an article or report class. Meanwhile, `lwarp` loads `book` to emulate `memoir`, but `book` does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

```
1 \ProvideDocumentEnvironment{abstract}{}{}{}
```

Accept all options for `lwarp-abstract`:

```
2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]
```

```
3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsrunintitle}{%
12 \hspace*{\abstitlekip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }
```

```
17 \IfClassLoadedTF{memoir}
18 {
19 \renewenvironment{abstract}{%
```

```

20% % \titlepage
21% \null\vfil
22% \@beginparpenalty\@lowpenalty
23 \setup@bstract
24 \if@bsrunin
25 \else
26% \if@bsstyle
27% \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28% \else
29 \ifnumber@bs
30 \num@bs
31 \else
32 \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
34% \endparpenalty\@M
35 \end\absnamepos%
36 \vspace{\abstitlekip}%
37 \fi
38% \fi
39% \vspace{\abstitlekip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}%\vfil\null%\endtitlepage
44 }
45 }{% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48% \titlepage
49 \null\vfil
50 \@beginparpenalty\@lowpenalty
51 \if@bsrunin
52 \else
53 \if@bsstyle
54 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 \else
56 \ifnumber@bs
57 \num@bs
58 \else
59 \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
61 \endparpenalty\@M
62 \end\absnamepos%
63%% \vspace{\abstitlekip}%
64 \fi
65 \fi
66 \vspace{\abstitlekip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs

```

```

80 \num@bs
81 \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85%% \vspace{\abstitleskip}%
86 \fi
87 \fi
88 \vspace{\abstitleskip}%
89 \fi
90 \put@bsintoc%
91 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92 {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

File 8 **lwarp-academicons.sty**

§ 120 Package **academicons**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

academicons (*Pkg*) academicons is patched for use by lwarp.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{academicons}[2018/06/27]
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@academicons@orig@AI\AI
5
6 \newcommand*{\LWR@academicons@symbol}[1]{%
7 \begin{lateximage}*[academicon][academicons#1]%
8 \begingroup%
9 \LWR@academicons@orig@AI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16 \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21 \begin{lateximage}*[#1 icon]?[academicons#1]%
22 \AI\csname aiicon@#1\endcsname%
23 \end{lateximage}%
24 }

```

File 9 **lwarp-accents.sty**§ 121 Package **accents***(Emulates or patches code by JAVIER BEZOS.)*accents (*Pkg*) accents is used as-is for SVG math, and is emulated for MATHJAX.**for HTML output:** 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}

```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for `\underaccent`, the originals are remembered here, then they are temporarily redefined and used inside `\underaccent`, then restored to their originals. `\LARGE` gives a reasonable size, and `\raise` is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}
16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20 \%
21 \renewcommand{\grave}[1]{\LARGE\LWRgrave{##1}}}%
22 \renewcommand{\acute}[1]{\LARGE\LWRacute{##1}}}%
23 \renewcommand{\check}[1]{\LARGE\LWRcheck{##1}}}%
24 \renewcommand{\breve}[1]{\LARGE\LWRbreve{##1}}}%
25 \renewcommand{\bar}[1]{\LARGE\LWRbar{##1}}}%
26 \renewcommand{\hat}[1]{\LARGE\LWRhat{##1}}}%
27 \renewcommand{\dot}[1]{\LARGE\LWRdot{##1}}}%
28 \renewcommand{\tilde}[1]{\LARGE\LWRtilde{##1}}}%
29 \renewcommand{\ddot}[1]{\LARGE\LWRddot{##1}}}%
30 \renewcommand{\vec}[1]{\LARGE\LWRvec{##1}}}%
31 \renewcommand{\widetilde}[1]{\LARGE\LWRwidetilde{\hphantom{#2}}}%
32 \underset{\raise 2pt {#1}}{#2}%
33 \let\grave\LWRgrave%
34 \let\acute\LWRacute%
35 \let\check\LWRcheck%
36 \let\breve\LWRbreve%
37 \let\bar\LWRbar%

```

```

38 \let\hat\LWRhat%
39 \let\dot\LWRdot%
40 \let\tilde\LWRtilde%
41 \let\ddot\LWRddot%
42 \let\vec\LWRvec%
43 \let\widetilde\LWRwidetilde%
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{\hphantom{#1}}}}{#1}%
49 }}
50 \end{warpMathJax}

```

---

File 10 **lwarp-accessibility.sty**

§ 122 Package **accessibility**

accessibility (*Pkg*) accessibility is emulated.

**for HTML output:** Discard all options for lwarp-accessibility:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\textbf{#1}}

For MATHJAX:

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{}}
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

---

File 11 **lwarp-accsupp.sty**

§ 123 Package **accsupp**

accsupp (*Pkg*) accsupp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```

2 \newcommand*\BeginAccSupp[1]{}
3 \newcommand*\EndAccSupp[1]{}

For MATHJAX:


4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{} }
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{} }
7 \end{warpMathJax}

```

File 12 **lwarp-acro.sty**§ 124 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

acro (*Pkg*) acro is patched for use by lwarp.

 **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

`\DeclareAcronym` is used in the preamble, where `lwarp` has not yet made the dollar active, so temporarily enable `lwarp` math catcode just for this definition:

```
2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5 \acro_declare_acronym:nn {#1} {#2}
6 \catcode`\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{*}{
11 \catcode`\$=\active% lwarp
12 \LWR@DeclareAcronym
13 }
```

Replace dot fill with simple dots:

```
14 \ExplSyntaxOn
15 \cs_new_protected:Npn \LWR@HTML@acro_dot_fill: { \dots\space }
16 \LWR@formatted{acro_dot_fill:}
17 \ExplSyntaxOff
```

Modified to activate the current font:

```
18 \ExplSyntaxOn
19 \IfPackageAtLeastTF{acro}{2020/04/29}%
20 { }% v3 or later
21 { }% before v3
22 \IfPackageAtLeastTF{acro}{2019/09/23}%
23 { }% v2.10 or later
24 \cs_gset_protected:Npn __acro_typeset:nn #1#2
25 {
26 \mode_if_horizontal:F { \leavevmode }
27 \group_begin:
28 \use:x
29 {
30 \bool_if:cTF {l__acro_custom_#1_format_bool}
31 { \exp_not:v {l__acro_custom_#1_format_tl} }
32 { \exp_not:v {l__acro_#1_format_tl} }
33 { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
34 }
35 \group_end:
```

```

36 }
37
38 \cs_gset_protected:Npn __acro_ending_format:nn #1#2
39 {
40 \bool_if:NTF \l__acro_include_endings_format_bool
41 {
42 \str_case:nn {#1}
43 {
44 {long}
45 {
46 \bool_if:NTF \l__acro_custom_long_format_bool
47 { \l__acro_custom_long_format_tl }
48 {
49 \bool_if:NTF \l__acro_first_instance_bool
50 { \l__acro_first_long_format_tl }
51 { \l__acro_long_format_tl }
52 }
53 }
54 }
55 {short}
56 {
57 \bool_if:NTF \l__acro_custom_short_format_bool
58 { \l__acro_custom_short_format_tl }
59 { \l__acro_short_format_tl }
60 }
61 {alt}
62 {
63 \bool_if:NTF \l__acro_custom_alt_format_bool
64 { \l__acro_custom_alt_format_tl }
65 { \l__acro_alt_format_tl }
66 }
67 }
68 { \use:n }
69 {\exp_not:N\LWR@textcurrentfont{#2}}% lwarp
70 }
71 }% v2.10 or later
72 {% before v2.10
73 \cs_gset_protected:Npn \acro_write_short:nn #1#2
74 {
75 \mode_if_horizontal:F { \leavevmode }
76 \group_begin:
77 \bool_if:NTF \l__acro_custom_format_bool
78 { \l__acro_custom_format_tl }
79 { \l__acro_short_format_tl }
80 {\LWR@textcurrentfont{#2}}% lwarp
81 \group_end:
82 }
83
84 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
85 {
86 \mode_if_horizontal:F { \leavevmode }
87 \group_begin:
88 \bool_if:NTF \l__acro_custom_format_bool
89 { \l__acro_custom_format_tl }
90 { \l__acro_alt_format_tl }
91 {\LWR@textcurrentfont{#2}}% lwarp
92 \group_end:
93 }
94
95 \cs_gset_protected:Npn \acro_write_long:nn #1#2

```



```

96 {
97 \mode_if_horizontal:F { \leavevmode }
98 \group_begin:
99 \bool_if:NTF \l__acro_custom_long_format_bool
100 { \l__acro_custom_long_format_tl }
101 { \use:n }
102 {
103 \use:x
104 {
105 \exp_not:n {#1}
106 {
107 \bool_if:NTF \l__acro_first_upper_bool
108 { \exp_not:N __acro_first_upper_case:n { \exp_not:n {
109 \LWR@textcurrentfont{#2}% lwarp
110 } } }
111 { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
112 }
113 }
114 }
115 \group_end:
116 }
117 }% before v2.10
118 }% before v3
119 \ExplSyntaxOff

```


---

File 13 **lwarp-acronym.sty**

§ 125 Package **acronym**

*(Emulates or patches code by TOBIAS OETIKER.)*

acronym (*Pkg*) acronym is patched for use by lwarp.

 **multiply-defined labels** \acresetall does not work with cleveref, causing multiply-defined labels. lwarp patches acronym for HTML, but not for print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acronym}[2020/04/17]

Simplifies for HTML. Unable to use \VerifyCommand here due to \csname being used.

```

2 \expandafter\def\csname AC@\AC@prefix{ }\acro\endcsname#1[#2]#3{%
3 \ifAC@noList%
4 \else%
5 \ifnum%
6 \ifAC@printonlyused 1%
7 \else\ifAC@printonlyreused 1%
8 \else 0\fi\fi%
9 =1\relax%
10 \ifnum%
11 \ifAC@printonlyused%
12 \expandafter\ifx\csname acused@#1@once\endcsname\AC@used 1 \else 0 \fi%
13 \else\ifAC@printonlyreused%
14 \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used 1 \else 0 \fi%
15 \else 0 \fi\fi%
16 =1\relax%
17 \item[\protect\AC@hypertarget{#1}]{%

```

```

18 \AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}%
19]\AC@hyperref[acro:#1]{#3}%
20 \ifAC@withpage%
21 \expandafter\ifx\csname r@acro:#1\endcsname\relax%
22 \PackageInfo{acronym}{%
23 Acronym #1 used in text but not spelled out in
24 full in text}%
25 \else%
26 \nobreak\leaders\hbox{%
27 $\m@th\mkern\@dotsep mu\hbox{.}\mkern\@dotsep mu$%
28 }\hfill%
29 \nobreak\hb@xt@\@pnumwidth{%
30 \hfil\normalfont\normalcolor
31 \quad --- % lwarp
32 \AC@pageref{acro:#1}%
33 }%
34 \fi%
35 \fi\}%
36 \fi%
37 \else%
38 \item[\protect\AC@hypertarget{#1}{\AC@hyperref[acro:#1]{\aclabelfont{#2}\hfill}}]%
39 \AC@hyperref[acro:#1]{#3}%
40 \fi%
41 \fi%
42 \begingroup
43 \def\acroextra##1{%
44 \@bsphack
45 \ifAC@printonlyreused%
46 \protected@write\@auxout{}{%
47 \string\newacro{#1}%
48 \expandafter\ifx\csname acused@#1@twice\endcsname\AC@used%
49 \string\AC@hyperlink{#1}{#2}%
50 \else%
51 {#2}%
52 \fi%
53 }{#3}%
54 }%
55 \else%
56 \protected@write\@auxout{}{%
57 \string\newacro{#1}[\string\AC@hyperlink{#1}{#2}]{#3}%
58 }%
59 \fi%
60 \esphack
61 \endgroup
62 \ignorespaces}

```

Uses `\textit` instead of `\itshape`:

```

63 \renewcommand{\acfia}[1]{%
64 {\textit{\AC@acl{#1}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}

```

Removes the mbox to allow math inside:

```

65 \VerifyCommand[lwarp][acronym]{\AC@acs}{E2119484F7CD2A5D4B064390C6BB806F}
66
67 \renewcommand*\AC@acs[1]{%
68 \mbox{
69 \expandafter\AC@get\csname fn@#1\endcsname\@firstoftwo{#1}}
70 % }

```

Fix for acronym labels in the captions of floats.

```

71 \renewcommand{\@starttoc}[1]{%
72 \LWR@htmlElementclass{nav}{#1}
73 \LetLtxMacro\@verridelabel\@gobble
74 \LWR@orig@starttoc{#1}
75 \LWR@htmlElementclassend{nav}{#1}
76 }

```

Modified for cleveref and lwarp:

```

77 \VerifyCommand[lwarp][acronym]{\AC@und@newl@bel}{661CF70DCB3E1AA8871B26E785BE7C86}
78
79 \renewcommand*\AC@und@newl@bel[3]{%
80 \@ifundefined{#1#3}%
81 {%
82 \global\expandafter\let\csname#2#3\endcsname\@nnil
83 \global\expandafter\let\csname#2#3@lwarp\endcsname\@nnil% lwarp
84 \global\expandafter\let\csname#2#3@cref\endcsname\@nnil% lwarp
85 }%
86 {%
87 \global\expandafter\let\csname#1#3\endcsname\relax
88 \global\expandafter\let\csname#1#3@lwarp\endcsname\relax% lwarp
89 \global\expandafter\let\csname#1#3@cref\endcsname\relax% lwarp
90 }%
91 }%

```

Improve paragraph handling:

```

92 \BeforeBeginEnvironment{acronym}{\LWR@stoppars}
93 \AfterEndEnvironment{acronym}{\LWR@startpars}

```

Create hyperlinks, even though hyperref is only emulated:

```

94 \AtBeginDocument{
95 \LetLtxMacro\AC@hyperlink\hyperlink
96 \LetLtxMacro\AC@hyperref\hyperref
97 \newcommand*\AC@raisedhypertarget[2]{%
98 \Hy@raisedlink{%
99 \hypertarget{#1}}}%
100 }%
101 #2}%
102 \LetLtxMacro\AC@hypertarget\AC@raisedhypertarget
103 \def\AC@phantomsection{%
104 \Hy@GlobalStepCount\Hy@linkcounter
105 \edef\@currentHref{section*.\the \Hy@linkcounter}%
106 \Hy@raisedlink{%
107 \hyper@anchorstart{\@currentHref}\hyper@anchorend
108 }%
109 \phantomsection%
110 }%
111 }
112
113 \appto\LWR@restoreorigformatting{%
114 \LetLtxMacro\AC@hyperlink\@secondoftwo%
115 \LetLtxMacro\AC@hyperref\LWR@nullify@hyperref%
116 }

```

File 14 **lwarp-adjmulticol.sty**§ 126 Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

adjmulticol (*Pkg*) adjmulticol is emulated.

Emulation similar to multicols is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, lwarp allows a variable number of columns up to three.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols \* {<numcols>} {<left margin>} {<right margin>}

3 \NewDocumentEnvironment{adjmulticols}{s m m m}

4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3}%

6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{ }%

7 \setlength{\LWR@templengthtwo}{#4}

8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{ }%

If one column is specified, use a <div> of class singlecolumn, else use multicols:

9 \newcommand\*\LWR@mccolstype{multicols}%

10 \ifnumcomp{#2}{=}{1}{\renewcommand\*\LWR@mccolstype{singlecolumn}}{ }%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%

13 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %

14 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}%

15 ]{\LWR@mccolstype}%

16 }

17 {\endBlockClass}

File 15 **lwarp-addlines.sty**§ 127 Package **addlines**

(Emulates or patches code by WILL ROBERTSON.)

`addlines (Pkg)` `addlines` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{}
4 \let\addline\addlines
5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{}
7 \let\removeline\removelines
8 \newcommand\squeezepage[1][0]{}

```

---

File 16 **lwarp-afterpage.sty**

§ 128 Package **afterpage**

*(Emulates or patches code by DAVID CARLISLE.)*

`afterpage (Pkg)` `afterpage` is emulated.

**for HTML output:** Discard all options for `lwarp-afterpage`:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]

2 \newcommand{\afterpage}[1]{#1}

```

---

File 17 **lwarp-algorithm2e.sty**

§ 129 Package **algorithm2e**

*(Emulates or patches code by CHRISTOPHE FIORIO.)*

`algorithm2e (Pkg)` `algorithm2e` is patched for use by `lwarp`.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]

```

For the list-of entries:

```

2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}

```

Select the `lwarp` float style according to the `algorithm2e` style:

```

3 \newcommand*\LWR@floatstyle@algocf{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*\LWR@floatstyle@algocf}{boxed}
7 }{}
8

```

```

9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*\LWR@floatstyle@algocf}{boxruled}
11 }{}
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*\LWR@floatstyle@algocf}{plain}
15 }{}

```

Paragraph handling to allow line numbers under certain conditions:

```

16 \renewcommand{\algocf@everypar}{%
17 \ifbool{LWR@algocf@dopars}{%
18 \ifbool{LWR@doingstartpars}{%
19 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
20 }{}%
21 }{}%

```

`algorithm2e` uses `\everypar`, so the open paragraph tag is generated here instead of `\LWR@openparagraph`:

```

22 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
23
24 \algocf@everyparn\algocf@everyparhanging%
25 }{}%
26 }{}%
27 }

```

lwarp caption handling:

```

28 \renewcommand{\algocf@makecaption}[2]{%
29 \LWR@HTML@caption@begin{algocf}%
30 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
31 \LWR@HTML@caption@end%
32 }

```

Print any caption where it is declared:

```

33 \renewcommand{\algocf@makecaption@plain}[2]{%
34 \LWR@HTML@caption@begin{algocf}%
35 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
36 \LWR@HTML@caption@end%
37 }
38
39 \renewcommand{\algocf@makecaption@boxed}[2]{%
40 \LWR@HTML@caption@begin{algocf}%
41 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
42 \LWR@HTML@caption@end%
43 }
44
45 \renewcommand{\algocf@makecaption@ruled}[2]{%
46 \LWR@HTML@caption@begin{algocf}%
47 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
48 \LWR@HTML@caption@end%
49 }

```

Turn off line numbering while making the caption:

```

50 \long\def\algocf@latexcaption#1[#2]#3{% original definition of caption
51 \boolfalse{LWR@algocf@dopars}% lwarp
52 \par%
53 \addcontentsline{\csname ext@#1\endcsname}{#1}%
54 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
55 \begingroup%
56 \@parboxrestore%
57 \if@minipage%
58 \setminipage%
59 \fi%
60 \normalsize%
61 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par%
62 \endgroup%
63 \booltrue{LWR@algocf@dopars}% lwarp
64 }

```

Line numbers are printed in a `<span>` of class `alg2elinenum`:

```

65 \renewcommand{\algocf@printnl}[1]{%
66 \InlineClass{alg2elinenum}{\NlSty{#1}}~%
67 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the figure option was used.

```

68 \preto\@algocf@init{%
69 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
70 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

71 \renewcommand{\@algocf@start}{%
72 \let\@mathsemicolon=\; \def\;{\ifmmode\@mathsemicolon\else\@endalgoln\fi}%
73 % \raggedright%
74 \ALFnt{}%
75 \booltrue{LWR@algocf@dopars}% lwarp
76 }
77
78 \renewcommand{\@algocf@finish}{%
79 \boolfalse{LWR@algocf@dopars}% lwarp
80 \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%
81 \let\;=\@mathsemicolon%
82 \let\]=\@mathdisplay%
83 }

```

Use an HTML break:

```

84 \renewcommand{\BlankLine}{%
85 \LWR@stoppars%
86 \LWR@htmltagc{br /}%
87 \LWR@startpars%
88 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

89 \renewcommand{\SetKwInOut}[2]{%
90 \algocf@newcommand{#1}[1]{%
91 \ifthenelse{\boolean{algocf@hanginginout}}%

```

```

92 {\relax}%
93 {\algocf@seteveryparhanging{\relax}}%
94 \ifthenelse{\boolean{algocf@inoutnumbered}}%
95 {\relax}%
96 {\algocf@seteveryparnl{\relax}}%
97 {%
98 \KwSty{#2\algocf@typo:}%
99 ~##1\par%
100 }%
101 \algocf@linesnumbered% reset the numbering of the lines
102 \ifthenelse{\boolean{algocf@hanginginout}}%
103 {\relax}%
104 {\algocf@reseteveryparhanging}%
105 }%
106 }%
107
108 \renewcommand{\ResetInOut}[1]{%

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

109 \renewcommand{\algocf@vline}[1]{%
110 \boolfalse{LWR@algocf@dopars}%
111 \begin{BlockClass}{alg2evline}
112 \booltrue{LWR@algocf@dopars}%
113 #1
114 \boolfalse{LWR@algocf@dopars}%
115 \end{BlockClass}
116 \booltrue{LWR@algocf@dopars}%
117 }

118 \renewcommand{\algocf@vsline}[1]{%
119 \boolfalse{LWR@algocf@dopars}%
120 \begin{BlockClass}{alg2evsline}
121 \booltrue{LWR@algocf@dopars}%
122 #1
123 \boolfalse{LWR@algocf@dopars}%
124 \end{BlockClass}
125 \booltrue{LWR@algocf@dopars}%
126 }

127 \renewcommand{\algocf@noline}[1]{%
128 \boolfalse{LWR@algocf@dopars}%
129 \begin{BlockClass}{alg2enoline}
130 \booltrue{LWR@algocf@dopars}%
131 #1
132 \boolfalse{LWR@algocf@dopars}%
133 \end{BlockClass}
134 \booltrue{LWR@algocf@dopars}%
135 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

136 \LetLtxMacro\algocf@Here\algocf
137 \LetLtxMacro\endalgocf@Here\endalgocf

```



File 18 **lwarp-algorithmicx.sty**§ 130 Package **algorithmicx**

(Emulates or patches code by SZÁSZ JÁNOS.)

algorithmicx (*Pkg*) algorithmicx is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the algorithmic environment, level indenting is converted to a `<span>` of the required length, and comments are placed inside a `<span>` which is floated right.

 **package conflicts** If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 647.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity}{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9 span style=\textquotedbl{}%
10 width:\LWR@printlength{\ALG@thistlm}; display:inline-block;%
11 \textquotedbl%
12 }%
13 \ifbool{FormatWP}{%
14 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
15 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
16 \quad%
17 \addtolength{\LWR@templengthone}{-1em}%
18 }%
19 }{%
20 \LWR@htmltagc{/span}%
21 }%
22
23 \let\LWR@origComment\Comment%
24
25 \renewcommand{\Comment}[1]{%
26 \InlineClass{floatright}{\LWR@origComment{#1}}%
27 }%
28 }
29
30 \renewcommand\algorithmiccomment[1]{%
31 \hfill\HTMLUnicode{25B7} #1% white right triangle
32 }%

```

File 19 **lwarp-alltt.sty**§ 131 Package **alltt**

(Emulates or patches code by JOHANNES BRAAMS.)

`alltt` (*Pkg*) `alltt` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {}%
8 {%
9 \LWR@forcenewpage
```

Vertical spacing changes if inside a list.

```

10 \LWR@atbeginverbatim{alltt}%
11 }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
16 {}%
17 {%
```

Vertical spacing changes if inside a list.

```

18 \LWR@afterendverbatim%
19 }%
20 }
21
22 }
```


---

File 20 **lwarp-amscdx.sty**

§ 132 Package **amscdx**

(Emulates or patches code by MARTIN VERMEER.)

`amscdx` (*Pkg*) `amscdx` is used as-is for SVG math.

 **MATHJAX** For MATHJAX, a warning notes that the CD environment must be enclosed between `\displaymathother` and `\displaymathnormal`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{amscdx}[2019/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \renewenvironment{CD}
5 {\text{(Use \unicode{x005C}displaymathother before the CD enviroment.) \quad}}
6 {\quad \text{(Use \unicode{x005C}displaymathnormal after the CD enviroment.)}}
7 }
8
9 \CustomizeMathJax{\newcommand{\CDFattrue}}{}
10 \CustomizeMathJax{\newcommand{\CDFatfalse}}{}
11 \CustomizeMathJax{\newcommand{\CDashtrue}}{}
12 \CustomizeMathJax{\newcommand{\CDashfalse}}{}}
```

```
13 \CustomizeMathJax{\newcommand{\CDlor}[1]{} }
14 \end{warpMathJax}
```

---

File 21 **lwarp-amsmath.sty**

§ 133 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

amsmath (*Pkg*) amsmath is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

\dotso

An HTML text-mode version.

```
2 \newcommand*\LWR@HTML@dotso{\textellipsis\ }
3 \LWR@formatted{dotso}
```

Patches to allow \eqref inside a caption:

```
4 \def\maketag@@@#1{\text{#1}}
5 \def\tagform@#1{\maketag@@@{\ignorespaces#1\unskip}}
```

Patches for  $\mathcal{M}\mathcal{S}$  math \tag macro to remember the first tag:

```
6 \ifbool{mathjax}{ }{% not mathjax
7
8 \VerifyCommand[lwarp][amsmath]{\make@df@tag@@}{A5AA7B9CD20DC2C73B1D19D582C44A8E}
9 \VerifyCommand[lwarp][amsmath]{\make@df@tag@@@}{670399C01F88B0E9B0874E9B129FA404}
10
11 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
12 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
13
14 \renewcommand*\make@df@tag@@[1]{%
15 \LWR@remembertag{#1}%
16 \LWR@origmake@df@tag@@{#1}%
17 }
18
19 \renewcommand*\make@df@tag@@@[1]{%
20 \LWR@remembertag{#1}%
21 \LWR@origmake@df@tag@@@{#1}%
22 }
23
24 }% not mathjax
```

For nesting  $\mathcal{M}\mathcal{S}$  environments:

```
25 \newcounter{LWR@amsmathdepth}
26 \setcounter{LWR@amsmathdepth}{0}
```

The following  $\mathcal{M}\mathcal{S}$  environments are patched in-place:

`LWR@maxfields@` (*Ctr*) A copy of maxfields@ as it was passed. This is used to generate the mandatory argument for alignat and alignat\* when using MATHJAX.

```

27 \newcounter{LWR@maxfields@}
28
29 \VerifyCommand[lwarp][amsmath]{\start@align}{D39AF6A45F9E97A21F17EADB4D21D218}
30
31 \xpatchcmd{\start@align}
32 {\maxfields@#3\relax}
33 {%
34 \maxfields@#3\relax%
35 \setcounter{LWR@maxfields@}{#3}%
36 }
37 {}
38 {\LWR@patcherror{amsmath}{start@align}}

```

`\LWR@amsmathenv@@before`

\*  $\langle environment name \rangle$   
 \* if the environment was starred.  
 Embeds the environment inside a lateximage.

```

39 \NewDocumentCommand{\LWR@amsmathenv@@before}{s m}{%
40 \IfBooleanTF{#1}{
41 \begin{BlockClass}{displaymath}
42 }{
43 \begin{BlockClass}{displaymathnumbered}
44 }
45 \LWR@newautoidanchor%
46 \booltrue{LWR@indisplaymathimage}%
47 \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*?%
48 \LWR@applyxfakebold%
49 }

```

`\LWR@amsmathenv@before`

\*  $\langle environment name \rangle$   
 \* if the environment was starred.  
 Embeds the environment with MATHJAX or a lateximage.

```

50 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
51 \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
52 \LWR@stoppars%
53 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
54 {
55 \LWR@syncmathjax
56 \boolfalse{LWR@amsmultline}
57 \ifstrequal{#2}{multline}{\booltrue{LWR@amsmultline}}{}
58 \ifstrequal{#2}{multline*}{\booltrue{LWR@amsmultline}}{}

```



autonum's "+" environments are not supported by MATHJAX.

```

59 \LWR@beginhideamsmath
60 }
61 {
62 \IfBooleanTF{#1}{
63 \LWR@amsmathenv@@before*{#2}
64 }{
65 \LWR@amsmathenv@before{#2}
66 }
67 }
68 }{}
69 \addtocounter{LWR@amsmathdepth}{1}
70 }

```

`\LWR@amsmathenv@after`

Embeds the environment inside a `lateximage`.

```
71 \newcommand*\LWR@amsmathenv@after{%
72 \end{lateximage}\end{BlockClass}\LWR@startpars%
73 }
```

`\LWR@amsmathenv@after`

\* `{(environment name)}`

\* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with `MATHJAX` or a `lateximage`.

```
74 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
75 \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
76 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
77 {
78 \LWR@endhideamsmath
79 \boolfalse{LWR@amsmultiline}
80 \LWR@addmathjax{#2}{\the@envbody}%
81 }
82 {\LWR@amsmathenv@after}
```

Clear the single-use alt text:

```
83 \gdef\LWR@ThisAltText{%
84 }{}
85 \addtocounter{LWR@amsmathdepth}{-1}
86 }
```

`multiline (env)`

```
87 \BeforeBeginEnvironment{multiline}{\LWR@amsmathenv@before{multiline}}
88
89 \AfterEndEnvironment{multiline}{\LWR@amsmathenv@after{multiline}}
```

`multiline* (env)`

```
90 \BeforeBeginEnvironment{multiline*}{\LWR@amsmathenv@before*{multiline*}}
91
92 \AfterEndEnvironment{multiline*}{\LWR@amsmathenv@after*{multiline*}}
93
```

`gather (env)`

```
94 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
95
96 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}
```

`gather* (env)`

```
97 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
98
99 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}
```

`align (env)`

```

100 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
101
102 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}

```

*align\** (*env.*)

```

103 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
104
105 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}

```

*flalign* (*env.*)

```

106 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
107
108 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}

```

*flalign\** (*env.*)

```

109 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
110
111 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}

```

*alignat* (*env.*)

```

112 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
113
114 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}

```

*alignat\** (*env.*)

```

115 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
116
117 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}

```

```

118 \AtBeginEnvironment{subequations}{
119 \renewcommand*\theMathJaxsubequations}{1}
120 \renewcommand*\theMathJaxsection}{\theparentequation}
121 \renewcommand*\theMathJaxequation}{\arabic{equation}}
122 }

```

**For MATHJAX:**

```

123 \begin{warpMathJax}
124 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{#1}\notag \\\}}
125 \CustomizeMathJax{\let\Hat\hat}
126 \CustomizeMathJax{\let\Check\check}
127 \CustomizeMathJax{\let\Tilde\tilde}
128 \CustomizeMathJax{\let\Acute\acute}
129 \CustomizeMathJax{\let\Grave\grave}
130 \CustomizeMathJax{\let\Dot\dot}
131 \CustomizeMathJax{\let\Ddot\ddot}
132 \CustomizeMathJax{\let\Breve\breve}
133 \CustomizeMathJax{\let\Bar\bar}
134 \CustomizeMathJax{\let\Vec\vec}
135 \end{warpMathJax}

```

File 22 **lwarp-amsthm.sty**§ 134 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP — AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amsclass.dtx`, and printed in `amsclass.pdf`.

`amsthm` (*Pkg*) `amsthm` is patched for use by `lwarp`.

---

Table 19: `amsthm` package — css styling of theorems and proofs

**Theorem:** `<div>` of class `amsthmbody<theoremstyle>`

**Theorem Name:** `<span>` of class `amsthmname<theoremstyle>`

**Theorem Number:** `<span>` of class `amsthmnumber<theoremstyle>`

**Theorem Note:** `<span>` of class `amsthmnote<theoremstyle>`

**Proof:** `<div>` of class `amsthmproof`

**Proof Name:** `<span>` of class `amsthmproofname`

where `<theoremstyle>` is `plain`, `definition`, etc.

---

for HTML output:

`amsthm` must be loaded before `mdframed`:

```

1 \IfPackageLoadedTF{mdframed}{
2 \PackageError{lwarp}
3 {%
4 Package mdframed must be loaded after package amsthm.\MessageBreak
5 Enter 'H' for solutions%
6 }
7 {%
8 Move ``\protect\usepackage{amsthm}'' before
9 ``\protect\usepackage{mdframed}''.\MessageBreak
10 Package amsthm may be loaded by something else,\MessageBreak
11 which must also be moved before mdframed.%
12 }
13 }
14 {\relax}

```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}
16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]

```

Storage for the style being used for new theorems:

```

17 \newcommand{\LWR@newtheoremstyle}{plain}

```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19 \ifundefined{th@#1}{%
20 \PackageWarning{amsthm}{Unknown theoremstyle `#1'}%
21 \thm@style{plain}%
22 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
23 }{%
24 \thm@style{#1}%
25 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26 }%
27 }

```

Patched to remember the style for this theorem type:

```

28 \VerifyCommand[lwarp][amsthm]{\@xnthm}{21F7FB3FB6FB0C1A0F2EECD66EE87A60}
29
30 \def\@xnthm#1#2{%
31 \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
32 \let\@tempa\relax
33 \@xp\@ifdefinable\csname #2\endcsname{%
34 \global\@xp\let\csname end#2\endcsname\@endtheorem
35 \ifx *#1% unnumbered, need to get one more mandatory arg
36 \edef\@tempa##1{%
37 \gdef\@xp\@nx\csname#2\endcsname{%
38 \@nx\@thm{\@xp\@nx\csname th@the\thm@style\endcsname}%
39 }{##1}}%
40 \else % numbered theorem, need to check for optional arg
41 \def\@tempa{\@oparg{\@ynthm{#2}}[1]}%
42 \fi
43 \AtBeginEnvironment{#2}{%
44 \edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#2}}% lwarp
45 }% lwarp
46 }%
47 \@tempa%
48 }

```

Patched to enclose with css:

```

49 \newcommand{\LWR@haveamsthmname}{
50 \renewcommand{\thmname}[1]{%
51 \InlineClass{amsthmname\LWR@thismstyle}{##1}%
52 }
53 }
54
55 \newcommand{\LWR@haveamsthmnumber}{
56 \renewcommand{\thmnumber}[1]{%
57 \InlineClass{amsthmnumber\LWR@thismstyle}{##1}%
58 }
59 }
60
61 \newcommand{\LWR@haveamsthmnote}{
62 \renewcommand{\thmnote}[1]{%
63 \InlineClass{amsthmnote\LWR@thismstyle}{##1}%
64 }
65 }
66
67 \LWR@haveamsthmname
68 \LWR@haveamsthmnumber
69 \LWR@haveamsthmnote

```



Patched for css. Not using `\VerifyCommand` because the existing definition depends on other packages. The following is from `amsthm`'s own definition.

```

70 \def\@begintheorem#1#2[#3]{%
71 \GetTitleString{#3}% lwarp
72 \let\@currentlabelname\GetTitleStringResult% lwarp
73 \item[%
74 \LWR@newautopagelabel{page}\LWR@orignewline%
75 % \deferred@thm@head{
76 % \the\thm@headfont \thm@indent
77 % \@ifempty{#1}{\let\thmname@gobble}\LWR@haveamsthmname}% lwarp
78 % \@ifempty{#2}{\let\thmnumber@gobble}\LWR@haveamsthmnumber}% lwarp
79 % \@ifempty{#3}{\let\thmnote@gobble}\LWR@haveamsthmnote}% lwarp
80 % \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
81 % \the\thm@headpunct % space
82 % \thmheadnl % possibly a newline.
83 % \hskip\thm@headsep
84 % }%
85 % }%
86 \ignorespaces}

```

Patched for css:

```

87 \TestVerifyCommands
88
89 \IfVerifyCommand[lwarp][amsthm]{\@thm}
90 {2624BDB5B96C45756978B3D393430088}% amsthm definition
91 {}{}
92
93 \IfVerifyCommand[lwarp][amsthm]{\@thm}
94 {92CB17837FB4FDD879B327DA0E9D8059}% amsthm definition modified by lwarp
95 {}{}
96
97 \IfVerifyCommandPassed
98 {}
99 {\VERCMDWarning{lwarp}{amsthm}{\@thm}}
100
101 \def\@thm#1#2#3{%
102 \ifhmode\unskip\unskip\par\fi
103 \normalfont
104 \LWR@forcenewpage% lwarp
105
106 \LWR@printpendingfootnotes% lwarp
107
108 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
109 \trivlist
110 \let\thmheadnl\relax
111 \let\thm@swap@gobble
112 \thm@notefont{\fontseries\mdefault\upshape}%
113 \thm@headpunct{.}% add period after heading
114 \thm@headsep 5\p@ plus\p@ minus\p@\relax
115 \thm@space@setup
116 #1% style overrides
117 \@topsep \thm@preskip % used by thm head

```

```

116 \@topsepadd \thm@postskip % used by \@endparenv
117 \def\@tempa{#2}\ifx\@empty\@tempa
118 \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}{}%
119 \else
120 \refstepcounter{#2}%
121 \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}{}%
122 \fi
123 \@tempa%
124 }

```

`cleveref` patches `\@thm` to do `\cref@thmoptarg` if an optional argument is given.  
`lwarp` then patches `\cref@thmoptarg` `\AtBeginDocument`.

```

125 \AtBeginDocument{%
126 %
127 \VerifyCommand[lwarp][amsthm]{\cref@thmoptarg}{64B912D4D903D245FD05837C5838C9EC}
128 %
129 \def\cref@thmoptarg[#1]#2#3#4{%
130 \ifhmode\unskip\unskip\par\fi%
131 \normalfont%
132 \LWR@forcenewpage% lwarp

133 \LWR@printpendingfootnotes% lwarp

134 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
135 \trivlist%
136 \let\thmheadn\relax%
137 \let\thm@swap\@gobble%
138 \thm@notefont{\fontseries\mddefault\upshape}%
139 \thm@headpunct{.}% add period after heading
140 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
141 \thm@space@setup%
142 #2% style overrides
143 \@topsep \thm@preskip % used by thm head
144 \@topsepadd \thm@postskip % used by \@endparenv
145 \def\@tempa{#3}\ifx\@empty\@tempa%
146 \def\@tempa{\@oparg{\@begintheorem{#4}{}}{}}{}%
147 \else%
148 \refstepcounter[#1]{#3}% <<< cleveref modification
149 \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}{}}{}%
150 \fi%
151 \@tempa
152 }%
153 }% AtBeginDocument
154
155 \def\@endtheorem{%
156 \endtrivlist%

157 \LWR@printpendingfootnotes% lwarp

158 \endBlockClass%
159 \@endpfalse%
160 }

```

**Proof QED symbol:**

```

161 \AtBeginDocument{
162 \ifundefined{LWR@orig@openbox}{

```

```

163 \LetLtxMacro\LWR@orig@openbox\openbox
164 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
165 \LetLtxMacro\LWR@orig@Box\Box
166
167 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
168 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
169 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
170
171 \appto\LWR@restoreorigformatting{%
172 \LetLtxMacro\openbox\LWR@orig@openbox%
173 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
174 \LetLtxMacro\Box\LWR@orig@Box%
175 }% appto
176 }{}% @ifundefined
177 }% AtBeginDocument

```

Patched to add a `<span>`:

```

178 \DeclareRobustCommand{\qed}{%
179 \ifmmode \mathqed
180 \else
181 \leavevmode\unskip\penalty9999 \hbox{} \nobreak \hfill
182 \quad \hbox{\qedsymbol}%
183 \InlineClass{theoremendmark}{\qedsymbol}% lwarp
184 \fi
185 }

```

Patched for css:

```

186 \renewenvironment{proof}[1][\proofname]{\par
187 \LWR@forcenewpage% lwarp

188 \LWR@printpendingfootnotes% lwarp

189 \BlockClass{amsthmproof}% lwarp
190 \LWR@newautopagelabel{page}%
191 \pushQED{\qed}%
192 \normalfont \topsep6\p@\@plus6\p@\relax
193 \trivlist
194 \item[
195 \InlineClass{amsthmproofname}{#1\@addpunct{.}}]\ignorespaces% changes
196]{%
197 \popQED\endtrivlist%

198 \LWR@printpendingfootnotes% lwarp

199 \endBlockClass% lwarp
200 \@endpefalse
201 }

```

---

File 23 **lwarp-anonchap.sty**

§ 135 Package **anonchap**

(Emulates or patches code by PETER WILSON.)

anonchap (*Pkg*) anonchap is emulated.

tocloft (*Pkg*) If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its titles option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

△ **tocloft & other packages**

The code is shared by tocbibind.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

2 \newcommand{\simplechapter}[1][\@empty]{%
3 \def\@chapcntformat##1{%
4 #1~\csname the##1\endcsname\simplechapterdelim\quad%
5 }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@secntformat%
10 }
```

---

File 24 **lwarp-anysize.sty**

§ 136 Package **anysize**

(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)

anysize (*Pkg*) anytime is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]

2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}
```

---

File 25 **lwarp-appendix.sty**

§ 137 Package **appendix**

(Emulates or patches code by PETER WILSON.)

appendix (*Pkg*) appendix is patched for use by lwarp.

△ **incorrect toc link** During HTML conversion, the option toc without the option page results in a toc link to whichever section was before the appendices environment. It is recommended to use both toc and also page at the same time.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

2 \renewcommand*{\@chap@pppage}{%
3 \part*{\appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
```

---

```

7 }
8
9 \renewcommand*{\@sec@pppage}{%
10 \part*{\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }

```

---

File 26 **lwarp-apxproof.sty**

§ 138 Package **apxproof**

*(Emulates or patches code by PIERRE SENELLART.)*

apxproof (*Pkg*) apxproof is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{apxproof}[2022/10/14]

2 \VerifyCommand[lwarp][apxproof]{\FVB@exp@VerbatimOut}{ADA4853FD25696EB39CD005CF44C7B5C}
3
4 \xpatchcmd{\FVB@exp@VerbatimOut}
5 {\FV@Scan}
6 {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
7 {}
8 {\LWR@patcherror{apxproof}{FVB@exp@VerbatimOut}}

```

---

File 27 **lwarp-ar.sty**

§ 139 Package **ar**

*(Emulates or patches code by AGOSTINO DE MARCO.)*

ar (*Pkg*) ar is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ar}[2012/01/23]

Measure and print the width of the supplied glyph.

```

```

2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5 \setlength{\LWR@ar@width}{\widthof{#1}}%
6 width:%
7 \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }

```

The HTML version of \AR:

```

9 \newrobustcmd*{\LWR@HTML@AR}{%

```

Start a hashed lateximage, additionally hashed by the font series, with a width depending on the given glyph:

```

10 \begin{lateximage}*[\AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%

```

For text mode, set the font series according to the HTML font series:

```
11 \ifmmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{lateximage}*[AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}
```

```
22 \newrobustcmd*{\LWR@HTML@ARss}{%
23 \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24 \ifmmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}
```

```
29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}
```

```
35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36 \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
37 \LWR@print@ARtt%
38 \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}
```

For MATHJAX:

```
41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A\!\!R}}}
43 \CustomizeMathJax{\newcommand{\ARb}{\boldsymbol{A\!\!R}}}
44 \end{warpMathJax}
```

File 28 **lwarp-arabicfront.sty**§ 140 Package **arabicfront**

arabicfront (*Pkg*) arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

File 29 **lwarp-array.sty**§ 141 Package **array**

array (*Pkg*) array is used as-is for print output, and emulated for HTML.

plarray and plectarray do not affect \firsthline or \lasthline, and so are not affected by the following.

**for HTML output:** If array is not yet loaded, remove the default nullfied macros:

```
1 \IfPackageLoadedTF{array}{}{%
2 \let\firsthline\relax
3 \let\lasthline\relax
4 }
5
6 \LWR@ProvidesPackagePass{array}[2018/12/30]
```

Provide simplified column types for HTML:

```
7 \HTMLnewcolumnntype{w}[2]{#1}
8 \HTMLnewcolumnntype{W}[2]{#1}
```

More HTML versions:

```
9 \newcommand*\LWR@HTML@firsthline{\LWR@HTMLhline}%
10 \LWR@expandableformatted{firsthline}
11
12 \newcommand*\LWR@HTML@lasthline{\LWR@HTMLhline}%
13 \LWR@expandableformatted{lasthline}
```

```
14 \let\tabularnewline\
15 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
16 \LWR@formatted{tabularnewline}
```

For MATHJAX:

```
17 \CustomizeMathJax{
18 \newcommand{\multicolumn}[3]{#3}% only uses one cell
19 }
```

File 30 **lwarp-arydshln.sty**§ 142 Package **arydshln**

(Emulates or patches code by HIROSHI NAKASHIMA.)

`arydshln` (*Pkg*) `arydshln` heavily patches tabular code, so the actual package is not used. `arydshln` is emulated for `HTML` tabular, and reverts to solid rules for `SVG` math array and tabular in a `lateximage`.

`css` is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For `MATHJAX`, limited emulation is provided for math mode.

**for HTML output:** `array` is required to allow `\newcolumn` below.

```
1 \RequirePackage{array}
2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*\ADLdrawingmode[1]{}
16 \newcommand*\ADLnoshorthanded{}
17 \newcommand*\dashgapcolor[2][{}]{
18 \newcommand*\nodashgapcolor}
```

In a `lateximage`, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumnntype{:}{|}%
21 \newcolumnntype{;}[1]{|}%
22 \LetLtxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the `lwarp` core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a `lateximage`:

```
24 \def\hdashline{
```



```

25 % \adl@hdashline\adl@ihdashline
26 \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0=^}\fi
29 % \ifadl@zwhrule \vskip-\arrayrulewidth
30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \@height \arrayrulewidth% lwarp
33 % \fi
34 \@ifnextchar[%]
35 % {#1}%
36 % {#1[%
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 %]}}
40 % \def\adl@ihdashline[#1/#2]{\ifnum0=^{\fi}%
41 % \multispan{\adl@columns}\unskip \adl@hline\z@[#1/#2]%
42 % \noalign{\ifnum0=^}\fi
43 % \futurelet\@tempa\adl@xhline}
44 \def\adl@inactivehdl[#1/#2]{
45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 % \hrule\@height\arrayrulewidth
47 % \futurelet\@tempa\adl@xhline}
48 \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 \ifx\@tempa\hdashline \adl@ixhline\fi
50 \ifnum0=^{\fi}}
51 \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 % \global\advance\adl@totalheight\@tempcnta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcnta);}
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcnta);}
59 }
60
61 \def\cdashline#1{\noalign{\ifnum0=^}\fi
62 \@ifnextchar[%]
63 % {\adl@cdline[#1]}%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]}%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 }
68
69 \def\adl@inactivecdl[#1-#2][#3]{\ifnum0=^{\fi}\cline{#1-#2}}

70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firsthdashline}[1][\hdashline]}
72 \CustomizeMathJax{\let\lasthdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

---

File 31 **lwarp-asymptote.sty**

§ 143 Package **asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)

asymptote (*Pkg*) asymptote is patched for use by lwarp.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex
```

```
lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1
```

```
lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]
2 \BeforeBeginEnvironment{asy}{%
3 \begin{lateximage}[-asymptote-~\PackageDiagramAltText]?%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \VerifyCommand[lwarp][asymptote]{\asyinclude}{A4F9DF668FC457768E7DFB83FAF7B343}
8
9 \xpatchcmd{\asyinclude}
10 {\begingroup}
11 {\begin{lateximage}[-asymptote-~\PackageDiagramAltText]?}
12 {}
13 {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
14
15 \xpatchcmd{\asyinclude}
16 {\endgroup}
17 {\end{lateximage}}
18 {}
19 {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

---

File 32 **lwarp-atbegshi.sty**

§ 144 Package **atbegshi**

*(Emulates or patches code by HEIKO OBERDIEK.)*

atbegshi (*Pkg*) atbegshi is ignored.

**for HTML output:** Discard all options for lwarp-atbegshi:

```
1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]
2 \let\AtBeginShipout\relax
3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
```

```

6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*\AtBeginShipoutNext}[1]{}
16 \newcommand*\AtBeginShipoutFirst}[1]{}
17 \newcommand*\AtBeginShipoutDiscard{}
18 \newcommand*\AtBeginShipoutInit{}
19 \newcommand*\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}

```

---

### File 33 **lwarp-attachfile.sty**

#### § 145 Package **attachfile**

*(Emulates or patches code by SCOTT PAKIN.)*

attachfile (*Pkg*) attachfile is patched for use by lwarp.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*LWR@attachfile@icon}
3 {
4 \begin{lateximage}*%
5 [-attachfile-]%
6 [%
7 \detokenize\expandafter{\atfi@icon@icon}-%
8 \detokenize\expandafter{\atfi@color@rgb}%
9]%
10 }
11 {
12 \end{lateximage}
13 }

```

Each icon is enclosed inside a LWR@attachfile@icon environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19

```

```

20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29 \def\LWR@attachfile@appearance{#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32 \LWR@href@partsanitized{#1}{\LWR@attachfile@appearance}%
33 }

```

---

#### File 34 **lwarp-attachfile2.sty**

### § 146 Package **attachfile2**

*(Emulates or patches code by HEIKO OBERDIEK.)*

`attachfile2` (*Pkg*) `attachfile2` is patched for use by `lwarp`.



Metadata is ignored for now.

**for HTML output:** `1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]`

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5 \def\LWR@attachfiletwo@color{#1}% lwarp
6 \HyColor@AttachfileColor{#1}%
7 \atfi@color@tex\atfi@color@inline\atfi@color@annot
8 {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{LWR@attachfile@icon}
11 {
12 \begin{lateximage}*%
13 [-attachfile-]%
14 [%
15 \detokenize\expandafter{\atfi@icon@icon}-%
16 \detokenize\expandafter{\LWR@attachfiletwo@color}%

```

```

17]%
18 }
19 {
20 \end{lateximage}
21 }

```

Each icon is enclosed inside a `LWR@attachfile@icon` environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

33 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}
35
36 \def\atfi@set@appearance@icon{%
37 \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41 \def\LWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44 \LWR@href@partsanitized{#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \VerifyCommand[lwarp][attachfile2]{\notextattachfile}{CE78259EFC576D4A15920EADF824D7EF}
47
48 \DeclareRobustCommand{\notextattachfile}[2][]{%
49 \begingroup
50 \atfi@setup{#1}%
51 \ifatfi@print
52 \leavevmode
53 \begingroup
54 \HyColor@UseColor\atfi@color@tex
55 \LWR@textcurrentcolor{#2}% lwarp
56 % \strut
57 \endgroup
58 % \else
59 % \sbox\ltx@zero{#2\strut}%
60 % \makebox[\wd0]{}%

```

```
61 \fi
62 \endgroup
63 }
```

Modified to draw the icon:

```
64 \VerifyCommand[lwarp][attachfile2]{\noattachfile}{CE78259EFC576D4A15920EADF824D7EF}
65
66 \DeclareRobustCommand{\noattachfile}[1][\]{%
67 \begingroup
68 \atfi@setup{#1}%
69 \atfi@set@appearance@icon
70 \ifatfi@print
71 \LWR@attachfile@appearance% lwarp
72% \expandafter
73% \atfi@refxform\csname atfi@appobj@atfi@icon@icon\endcsname
74% \else
75% \makebox[\atfi@appearancewidth]{}%
76 \fi
77 \endgroup
78 }
```

---

File 35 **lwarp-authblk.sty**

§ 147 Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

`authblk (Pkg)` `authblk` is patched for HTML.

**package support** `lwarp` supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

 **load order**

**\published and \subtitle** If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 71.8.

*(Emulates or patches code by PATRICK W. DALY.)*

**for HTML output:** Require that `authblk` be loaded before `titling`:

```
1 \IfPackageLoadedTF{titling}{
2 \PackageError{lwarp-authblk}
3 {Package authblk must be loaded before titling}
4 {%
5 Titling appends authblk's author macro,
6 so authblk must be loaded first.%
7 }
8 }
9 {\relax}
```

Load `authblk`:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```
11 \LetLtxMacro\LWRAB@affil\affil
```

```

12
13 \renewcommand{\affil}[2][]{%
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }

```

Create an HTML break for an `\authorcr`:

```

16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}

```

---

### File 36 **lwarp-autobreak.sty**

## § 148 Package **autobreak**

*(Emulates or patches code by TAKAHIRO UEDA.)*

`autobreak (Pkg)` `autobreak` is used as-is for SVG math, and nullified for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]

For MATHJAX. The modified `align` environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)

```

2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@oldstart@align
5 \let\endalign\@autobreak@oldendalign
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}}
10 \end{warpMathJax}


```

---

### File 37 **lwarp-autonum.sty**

## § 149 Package **autonum**

`autonum (Pkg)` `autonum` is ignored.

 **numbering, +** All equations are numbered in HTML output. MATHJAX does not support the “+” environments.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{autonum}[2015/01/18]

```

2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@before{gather+}}
11

```

```

12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}

20 \newenvironment{flalign+}{\flalign}{\endflalign}
21
22 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flalign+}}
23
24 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
25
26
27 \newenvironment{align+}{\align}{\endalign}
28
29 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{aline+}}
30
31 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
32
33
34 \newenvironment{alignat+}{\alignat}{\endalignat}
35
36 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alineat+}}
37
38 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}
39
40
41 \newenvironment{split+}{\split}{\endsplit}

```

---

File 38 **lwarp-awesomebox.sty**

§ 150 Package **awesomebox**

*(Emulates or patches code by ÉTIENNE DEPARIS.)*

awesomebox (*Pkg*) **awesomebox** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

2 \newcommand*{\LWR@awesomebox@boxborders}{}%
3 \newcommand*{\LWR@awesomebox@contentsborders}{}%
4
5 \newcommand*{\LWR@awesomebox@ruleborders}{%
6 border-top: 1px solid black ;
7 border-bottom: 1px solid black%
8 }
9
10 % \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { O{abvrulecolor} O{} o m m m +m }{%
12 \begin{awesomeblock}[#1][#2][#3][#4][#5][#6]
13 #7
14 \end{awesomeblock}
15 }

```



```

16
17% \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}
18% <contents>
19% \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ O{abvrulecolor} O{ o m m m }
21 {%
22 \LWR@forceminwidth{#4}%
23 \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24 \renewcommand*\LWR@awesomebox@boxborders}{}%
25 \renewcommand*\LWR@awesomebox@contentsborders}{}%
26 \ifdefstrequal{\abShortLine}{#2}{%
27 \renewcommand*\LWR@awesomebox@contentsborders}{\LWR@awesomebox@ruleborders}%
28 }{}%
29 \ifdefstrequal{\abLongLine}{#2}{%
30 \renewcommand*\LWR@awesomebox@boxborders}{\LWR@awesomebox@ruleborders}%
31 }{}%
32 \begin{BlockClass}\LWR@awesomebox@boxborders]{awesomebox}
33 \begin{BlockClass}[%
34 margin-left: 2\% ;
35 vertical-align: top
36]{minipage}
37 \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}[%
40 width:75\% ;
41 vertical-align: top ;
42 padding-left: 1em ;
43 \LWR@awesomebox@contentsborders ;
44 border-left: \LWR@printlength{\LWR@atleastonept} %
45 solid \LWR@origpound\LWR@tempcolor%
46]{minipage}
47 \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50 \end{BlockClass}
51 \end{BlockClass}
52 }

```

---

File 39 **lwarp-axessibility.sty**

§ 151 Package **axessibility**

axessibility (*Pkg*) axessibility is ignored.

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package `axessibility'.}%
2 \ProvidesPackage{lwarp-axessibility}% no date is declared by the original
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}{
7 \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}{
11 \tagpdfopttrue
12 }
13

```

```

14 \ProcessOptions\relax
15
16 \iftagpdfopt
17 \RequirePackage{tagpdf}
18 \else
19 \RequirePackage{accsupp}
20 \fi

21 \long\def\wrap#1{}
22 \long\def\wrapml#1{}
23 \long\def\wrapmlstar#1{}
24 \long\def\wrapmlalt#1{}

```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{} }
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{} }
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{} }
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{} }
30 \end{warpMathJax}

```

---

File 40 **lwarp-axodraw2.sty**

§ 152 Package **axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

axodraw2 (*Pkg*) axodraw2 is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]

2 \BeforeBeginEnvironment{axopicture}{%
3 \begin{lateximage}[-axopicture-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}

```

---

File 41 **lwarp-backnaur.sty**

§ 153 Package **backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

backnaur (*Pkg*) backnaur is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]

2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnfnpn}[1]{\langle \text{\texttrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\; \mid \;}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\;}}
8 \IfPackageLoadedWithOptionsTF{backnaur}{perp}{
9 \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11 \IfPackageLoadedWithOptionsTF{backnaur}{epsilon}{
12 \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13 }{
14 \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15 }
16 }
17 \IfPackageLoadedWithOptionsTF{backnaur}{tsrm}{
18 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{#1}}}
19 }{
20 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{#1}}}}
21 }
22 \CustomizeMathJax{\newcommand{\bnftd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfsk}{\dots}}
24 \IfPackageLoadedWithOptionsTF{backnaur}{altpo}{
25 \CustomizeMathJax{\newcommand{\bnfpo}{::=}}
26 }{
27 \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfnpn{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfnpn{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmoreenn}{\LWRbnfmoreyn}}}
33 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{& & #1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmoreenn}[1]{\nonumber & & #1}}
35 \end{warpMathJax}

```

---

## File 42 **lwarp-backref.sty**

### § 154 Package **backref**

*(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

backref (*Pkg*) **backref** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{backref}[2023-11-26]

Force the hyperref option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{\LWR@refwithsection{#3}}
5
6 \let\backrefxxx\hyper@section@backref
7
8 \VerifyCommand[lwarp][backref]{\Hy@backout}
9 {277444C1A7F4620D9563D82EFD29877E}
10
11 \xpatchcmd{\Hy@backout}
12 {\@currentHref}%
13 {\BaseJobname-autopage-\arabic{\LWR@previousautopagelabel}}

```

```

14 {}
15 {\LWR@patcherror{backref}{Hy@backout}}

```

---

File 43 **lwarp-balance.sty**

§ 155 Package **balance**

*(Emulates or patches code by PATRICK W. DALY.)*

balance (*Pkg*) **balance** is ignored.

**for HTML output:** Discard all options for lwarp-balance:

```

1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

---

File 44 **lwarp-bbding.sty**

§ 156 Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

bbding (*Pkg*) **bbding** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLUnicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027} {270F}}

```

|                                                                          |         |
|--------------------------------------------------------------------------|---------|
| 28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030}}             | {270F}} |
| 29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031}}          | {2710}} |
| 30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032}}           | {2710}} |
| 31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033}}        | {270E}} |
| 32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034}}         | {270E}} |
| 33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035}}               | {2711}} |
| 34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036}}                | {2711}} |
| 35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037}}          | {2712}} |
| 36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040}}           | {2712}} |
| 37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041}}              | {2713}} |
| 38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042}}          | {2714}} |
| 39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043}}                 | {2715}} |
| 40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044}}             | {2716}} |
| 41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045}}            | {2717}} |
| 42 \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}}            | {2719}} |
| 43 \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}}                   | {271A}} |
| 44 \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}}         | {271C}} |
| 45 \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}}     | {271B}} |
| 46 \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}}                  | {271D}} |
| 47 \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}}        | {271E}} |
| 48 \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}}           | {271F}} |
| 49 \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}}       | {271F}} |
| 50 \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}}           | {2720}} |
| 51 \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}}         | {2721}} |
| 52 \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}}              | {2721}} |
| 53 \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}}           | {2722}} |
| 54 \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}}               | {2723}} |
| 55 \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}}           | {2724}} |
| 56 \newcommand{\LWR@HTML@CrossClowerTips}{\LWR@bbdingsymbol{064}}        | {2725}} |
| 57 \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}}               | {2726}} |
| 58 \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}}           | {2727}} |
| 59 \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}}          | {2729}} |
| 60 \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}}               | {2605}} |
| 61 \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}}           | {2729}} |
| 62 \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}}    | {272A}} |
| 63 \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}}     | {272B}} |
| 64 \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}}     | {272C}} |
| 65 \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}}        | {272D}} |
| 66 \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}}   | {272E}} |
| 67 \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}}         | {272F}} |
| 68 \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}}         | {2730}} |
| 69 \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}}           | {2731}} |
| 70 \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}}     | {2732}} |
| 71 \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}}           | {273B}} |
| 72 \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}} | {273C}} |
| 73 \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}}         | {2733}} |
| 74 \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}}        | {2735}} |
| 75 \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}}                | {2736}} |
| 76 \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}}              | {2737}} |
| 77 \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}}          | {2738}} |
| 78 \newcommand{\LWR@HTML@TwelveStar}{\LWR@bbdingsymbol{112}}             | {2739}} |
| 79 \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}}       | {273A}} |
| 80 \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}}  | {273B}} |
| 81 \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}}    | {273C}} |
| 82 \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}}               | {273D}} |
| 83 \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}}     | {273E}} |
| 84 \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}}        | {273F}} |
| 85 \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}}   | {2740}} |
| 86 \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}}         | {2740}} |
| 87 \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}}       | {2741}} |

|     |                                                    |                          |         |
|-----|----------------------------------------------------|--------------------------|---------|
| 88  | \newcommand{\LWR@HTML@SunshineOpenCircled}         | {\LWR@bbdingsymbol{124}} | {2742}} |
| 89  | \newcommand{\LWR@HTML@SixFlowerAltPetal}           | {\LWR@bbdingsymbol{125}} | {2743}} |
| 90  | \newcommand{\LWR@HTML@FourClowerOpen}              | {\LWR@bbdingsymbol{126}} | {273F}} |
| 91  | \newcommand{\LWR@HTML@FourClowerSolid}             | {\LWR@bbdingsymbol{127}} | {273F}} |
| 92  | \newcommand{\LWR@HTML@AsteriskRoundedEnds}         | {\LWR@bbdingsymbol{130}} | {2749}} |
| 93  | \newcommand{\LWR@HTML@EightFlowerPetalRemoved}     | {\LWR@bbdingsymbol{131}} | {274A}} |
| 94  | \newcommand{\LWR@HTML@EightAsterisk}               | {\LWR@bbdingsymbol{132}} | {274B}} |
| 95  | \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}   | {\LWR@bbdingsymbol{133}} | {2740}} |
| 96  | \newcommand{\LWR@HTML@SparkleBold}                 | {\LWR@bbdingsymbol{134}} | {2748}} |
| 97  | \newcommand{\LWR@HTML@Sparkle}                     | {\LWR@bbdingsymbol{135}} | {2747}} |
| 98  | \newcommand{\LWR@HTML@SnowflakeChevron}            | {\LWR@bbdingsymbol{136}} | {2744}} |
| 99  | \newcommand{\LWR@HTML@SnowflakeChevronBold}        | {\LWR@bbdingsymbol{137}} | {2746}} |
| 100 | \newcommand{\LWR@HTML@Snowflake}                   | {\LWR@bbdingsymbol{140}} | {2744}} |
| 101 | \newcommand{\LWR@HTML@CircleSolid}                 | {\LWR@bbdingsymbol{141}} | {25CF}} |
| 102 | \newcommand{\LWR@HTML@Ellipse}                     | {\LWR@bbdingsymbol{142}} | {274D}} |
| 103 | \newcommand{\LWR@HTML@EllipseSolid}                | {\LWR@bbdingsymbol{143}} | {25CF}} |
| 104 | \newcommand{\LWR@HTML@CircleShadow}                | {\LWR@bbdingsymbol{144}} | {274D}} |
| 105 | \newcommand{\LWR@HTML@EllipseShadow}               | {\LWR@bbdingsymbol{145}} | {274D}} |
| 106 | \newcommand{\LWR@HTML@Square}                      | {\LWR@bbdingsymbol{146}} | {25A1}} |
| 107 | \newcommand{\LWR@HTML@SquareSolid}                 | {\LWR@bbdingsymbol{147}} | {25A0}} |
| 108 | \newcommand{\LWR@HTML@SquareShadowBottomRight}     | {\LWR@bbdingsymbol{150}} | {2751}} |
| 109 | \newcommand{\LWR@HTML@SquareShadowTopRight}        | {\LWR@bbdingsymbol{151}} | {2752}} |
| 110 | \newcommand{\LWR@HTML@SquareShadowTopLeft}         | {\LWR@bbdingsymbol{152}} | {2752}} |
| 111 | \newcommand{\LWR@HTML@SquareCastShadowBottomRight} | {\LWR@bbdingsymbol{153}} | {2751}} |
| 112 | \newcommand{\LWR@HTML@SquareCastShadowTopRight}    | {\LWR@bbdingsymbol{154}} | {2752}} |
| 113 | \newcommand{\LWR@HTML@SquareCastShadowTopLeft}     | {\LWR@bbdingsymbol{155}} | {2752}} |
| 114 | \newcommand{\LWR@HTML@TriangleUp}                  | {\LWR@bbdingsymbol{156}} | {25B2}} |
| 115 | \newcommand{\LWR@HTML@TriangleDown}                | {\LWR@bbdingsymbol{157}} | {25BC}} |
| 116 | \newcommand{\LWR@HTML@DiamondSolid}                | {\LWR@bbdingsymbol{160}} | {25C6}} |
| 117 | \newcommand{\LWR@HTML@OrnamentDiamondSolid}        | {\LWR@bbdingsymbol{161}} | {2756}} |
| 118 | \newcommand{\LWR@HTML@HalfCircleRight}             | {\LWR@bbdingsymbol{162}} | {25D7}} |
| 119 | \newcommand{\LWR@HTML@HalfCircleLeft}              | {\LWR@bbdingsymbol{163}} | {25D6}} |
| 120 | \newcommand{\LWR@HTML@RectangleThin}               | {\LWR@bbdingsymbol{164}} | {2758}} |
| 121 | \newcommand{\LWR@HTML@Rectangle}                   | {\LWR@bbdingsymbol{165}} | {2759}} |
| 122 | \newcommand{\LWR@HTML@RectangleBold}               | {\LWR@bbdingsymbol{166}} | {275A}} |
| 123 | \newcommand{\LWR@HTML@ArrowBoldRightStrobe}        | {\LWR@bbdingsymbol{167}} | {27A0}} |
| 124 | \newcommand{\LWR@HTML@ArrowBoldUpRight}            | {\LWR@bbdingsymbol{170}} | {27A6}} |
| 125 | \newcommand{\LWR@HTML@ArrowBoldDownRight}          | {\LWR@bbdingsymbol{171}} | {27A5}} |
| 126 | \newcommand{\LWR@HTML@ArrowBoldRightShort}         | {\LWR@bbdingsymbol{172}} | {27A7}} |
| 127 | \newcommand{\LWR@HTML@ArrowBoldRightCircled}       | {\LWR@bbdingsymbol{173}} | {27B2}} |
| 128 |                                                    |                          |         |
| 129 |                                                    |                          |         |
| 130 | \LWR@formatted{ScissorRightBrokenBottom}           |                          |         |
| 131 | \LWR@formatted{ScissorRight}                       |                          |         |
| 132 | \LWR@formatted{ScissorRightBrokenTop}              |                          |         |
| 133 | \LWR@formatted{ScissorLeftBrokenBottom}            |                          |         |
| 134 | \LWR@formatted{ScissorLeft}                        |                          |         |
| 135 | \LWR@formatted{ScissorLeftBrokenTop}               |                          |         |
| 136 | \LWR@formatted{ScissorHollowRight}                 |                          |         |
| 137 | \LWR@formatted{ScissorHollowLeft}                  |                          |         |
| 138 | \LWR@formatted{Phone}                              |                          |         |
| 139 | \LWR@formatted{PhoneHandset}                       |                          |         |
| 140 | \LWR@formatted{Tape}                               |                          |         |
| 141 | \LWR@formatted{Plane}                              |                          |         |
| 142 | \LWR@formatted{Envelope}                           |                          |         |
| 143 | \LWR@formatted{HandCuffRight}                      |                          |         |
| 144 | \LWR@formatted{HandCuffLeft}                       |                          |         |
| 145 | \LWR@formatted{HandCuffRightUp}                    |                          |         |
| 146 | \LWR@formatted{HandCuffLeftUp}                     |                          |         |
| 147 | \LWR@formatted{HandRight}                          |                          |         |

148 \LWR@formatted{HandLeft}  
149 \LWR@formatted{HandRightUp}  
150 \LWR@formatted{HandLeftUp}  
151 \LWR@formatted{Peace}  
152 \LWR@formatted{HandPencilLeft}  
153 \LWR@formatted{PencilRight}  
154 \LWR@formatted{PencilLeft}  
155 \LWR@formatted{PencilRightUp}  
156 \LWR@formatted{PencilLeftUp}  
157 \LWR@formatted{PencilRightDown}  
158 \LWR@formatted{PencilLeftDown}  
159 \LWR@formatted{NibRight}  
160 \LWR@formatted{NibLeft}  
161 \LWR@formatted{NibSolidRight}  
162 \LWR@formatted{NibSolidLeft}  
163 \LWR@formatted{Checkmark}  
164 \LWR@formatted{CheckmarkBold}  
165 \LWR@formatted{XSolid}  
166 \LWR@formatted{XSolidBold}  
167 \LWR@formatted{XSolidBrush}  
168 \LWR@formatted{PlusOutline}  
169 \LWR@formatted{Plus}  
170 \LWR@formatted{PlusCenterOpen}  
171 \LWR@formatted{PlusThinCenterOpen}  
172 \LWR@formatted{Cross}  
173 \LWR@formatted{CrossOpenShadow}  
174 \LWR@formatted{CrossOutline}  
175 \LWR@formatted{CrossBoldOutline}  
176 \LWR@formatted{CrossMaltese}  
177 \LWR@formatted{DavidStarSolid}  
178 \LWR@formatted{DavidStar}  
179 \LWR@formatted{FourAsterisk}  
180 \LWR@formatted{JackStar}  
181 \LWR@formatted{JackStarBold}  
182 \LWR@formatted{CrossCLowerTips}  
183 \LWR@formatted{FourStar}  
184 \LWR@formatted{FourStarOpen}  
185 \LWR@formatted{FiveStarLines}  
186 \LWR@formatted{FiveStar}  
187 \LWR@formatted{FiveStarOpen}  
188 \LWR@formatted{FiveStarOpenCircled}  
189 \LWR@formatted{FiveStarCenterOpen}  
190 \LWR@formatted{FiveStarOpenDotted}  
191 \LWR@formatted{FiveStarOutline}  
192 \LWR@formatted{FiveStarOutlineHeavy}  
193 \LWR@formatted{FiveStarConvex}  
194 \LWR@formatted{FiveStarShadow}  
195 \LWR@formatted{AsteriskBold}  
196 \LWR@formatted{AsteriskCenterOpen}  
197 \LWR@formatted{AsteriskThin}  
198 \LWR@formatted{AsteriskThinCenterOpen}  
199 \LWR@formatted{EightStarTaper}  
200 \LWR@formatted{EightStarConvex}  
201 \LWR@formatted{SixStar}  
202 \LWR@formatted{EightStar}  
203 \LWR@formatted{EightStarBold}  
204 \LWR@formatted{TwelveStar}  
205 \LWR@formatted{SixteenStarLight}  
206 \LWR@formatted{SixFlowerPetalRemoved}  
207 \LWR@formatted{SixFlowerOpenCenter}

```

208 \LWR@formatted{Asterisk}
209 \LWR@formatted{SixFlowerAlternate}
210 \LWR@formatted{FiveFlowerPetal}
211 \LWR@formatted{SixFlowerPetalDotted}
212 \LWR@formatted{FiveFlowerOpen}
213 \LWR@formatted{EightFlowerPetal}
214 \LWR@formatted{SunshineOpenCircled}
215 \LWR@formatted{SixFlowerAltPetal}
216 \LWR@formatted{FourClowerOpen}
217 \LWR@formatted{FourClowerSolid}
218 \LWR@formatted{AsteriskRoundedEnds}
219 \LWR@formatted{EightFlowerPetalRemoved}
220 \LWR@formatted{EightAsterisk}
221 \LWR@formatted{SixFlowerRemovedOpenPetal}
222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}

```

---

#### File 45 **lwarp-beamerarticle.sty**

### § 157 Package **beamerarticle**

*(Emulates or patches code by TILL TANTAU, VEDRAN MILETIĆ, LOUIS STUART, JOSEPH WRIGHT.)*

beamerarticle (*Pkg*) **beamerarticle** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{beamerarticle}[2021/05/26]



```

2 \renewcommand<>{\textcolor}{\only#1{\beameroriginal{\textcolor}}}
3
4 \AtBeginDocument{
5
6 \renewcommand<>{\LWR@listitem}{%
7 \only#1{%
8 \beameroriginal{\LWR@listitem}%
9 }%
10 }
11
12 \renewcommand<>{\LWR@itemizeitem}{%
13 \only#1{%
14 \beameroriginal{\LWR@itemizeitem}%
15 }%
16 }
17
18 \renewcommand<>{\LWR@descitem}{%
19 \only#1{%
20 \beameroriginal{\LWR@descitem}%
21 }%
22 }
23
24 \renewcommand<>{\abstract}{%
25 \only#1{%
26 \beameroriginal{\abstract}%
27 }%
28 }
29
30 \renewcommand<>{\LWR@includegraphicsb}{%
31 \only#1{%
32 \beameroriginal{\LWR@includegraphicsb}%
33 }%
34 }
35
36 \xpretocmd\frame
37 {
38 \LWR@forcenewpage
39 \BlockClass{beamerframe}%
40 }
41 {}
42 {\LWR@patcherror{beamerarticle}{frame}}
43
44 \xapptocmd\beamer@endframe
45 {\endBlockClass}
46 {}
47 {\LWR@patcherror{beamerarticle}{beamer@endframe}}

```

An example in the beamer docs for `\includegraphics` shows the use of `\llap` in a frame.

```

48 \xpretocmd\beamer@article@startframe
49 {\LWR@nulllistfills}
50 {}
51 {\LWR@patcherror{beamerarticle}{beamer@article@startframe}}
52
53 }% AtBeginDocument
54
55 \let\beamer@tmpop@frametitle@default\relax
56 \defbeamer@template<article>*<frametitle>{\default}{%
57 \paragraph*{\insertframetitle}\ \par%

```

```

58 \ifdefempty{\insertframesubtitle}{}{%
59 \noindent\emph{\insertframesubtitle}\par%
60 }%
61 }
62
63
64 \NewDocumentCommand{\LWR@beamer@itemize}{o}{%
65 \LWR@itemizestart\LWR@origitemize%
66 }%
67 \NewDocumentCommand{\LWR@beamer@description}{o o}{%
68 \LWR@descriptionstart\LWR@origdescription%
69 }%
70
71 \xapptocmd{\LWR@patchlists}
72 {%
73 \LetLtxMacro\itemize\LWR@beamer@itemize%
74 \LetLtxMacro\description\LWR@beamer@description%
75 }
76 {}
77 {\LWR@patcherror{beamerarticle}{\LWR@patchlists}}
78
79
80 \LetLtxMacro\maketitle\LWR@maketitle
81
82 \renewcommand{\subtitle}[2][{}]{
83 \gdef\@subtitle{#2}
84 \def\insertsubtitle{#2}
85 }

```

Add subtitle if not already present:

```

86 \AtBeginDocument{
87 \IfPackageLoadedTF{lwarp-scrextend}
88 {}% komascript already has subtitle
89 {% not komascript
90 \xpatchcmd{\@maketitle}
91 {%
92 \LWR@htmltag{\LWR@tagtitleend}%
93 \LWR@startpars%
94 }%
95 {%
96 \LWR@htmltag{\LWR@tagtitleend}%
97 \ifdefvoid{\@subtitle}{}{%
98 \begin{BlockClass}{subtitle}%
99 \@subtitle%
100 \end{BlockClass}%
101 }%
102 \LWR@startpars%
103 }%
104 {}
105 {\LWR@patcherror{beamerarticle}{\@maketitle}}
106 }% not komascript
107 }
108
109 \RequirePackage{fancyvrb}
110 \DefineVerbatimEnvironment{semiverbatim}{Verbatim}{commandchars=\\\{\}}

```

File 46 **lwarp-biblatex.sty**

§ 158 Package **biblatex**

*(Emulates or patches code by PHILIPP LEHMAN.)*

`biblatex` (*Pkg*) When `biblatex` is used, modifications from `newfloat` may have to be undone.

for HTML output:

1. `lwarp` uses `newfloat`.
2. For classes with chapters which `newfloat` does not know about, such as C<sub>T</sub>E<sub>X</sub>-related classes, `newfloat` may modify `\addtocontents`.
3. `biblatex`, though, wants to patch `\addtocontents`, which causes an error if `\addtocontents` has been changed.
4. Therefore, `\addtocontents` is restored to its original here, since `biblatex` is about to be loaded.
5. This means that the `newfloat`'s `chapterlistsgaps` option may no longer work.

```
1 \ifdef{\newfloat@addtocontents@ORI}{
2 \let\addtocontents\newfloat@addtocontents@ORI
3 }{}
```

`hyperref` emulation is loaded `\AtBeginDocument` to avoid an options clash.

```
4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use `hyperref` is recreated here, because `hyperref` is emulated.

```
7 \AfterPreamble{
```

Not using `\VerifyCommand` because this may be defined several ways.

```
8 \let\blx@anchors\@empty
9 \protected\def\blx@anchor{%
10 \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
11 {}
12 {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
13 \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}
14
15 \protected\def\blx@imc@bibhyperref{%
16 \@ifnextchar[%
17 {\blx@bibhyperref}
18 {\blx@bibhyperref[\abx@field@entrykey]}}%
19
20 \long\def\blx@bibhyperref[#1]#2{%
21 % \blx@sfsave
22 \hyperlink{cite.\the\c@refsection @#1}{%
```

```

23 % \blx@sfrest
24 #2%
25 % \blx@sfsave
26 }%
27 % \blx@sfrest%
28 }%% \def\blx@nohyperref[#1]#2{#2}%
29
30 \protected\long\def\blx@imc@bibhyperlink#1#2{%
31 % \blx@sfsave
32 \hyperlink{cite.\the\c@refsection:#1}{%
33 % \blx@sfrest
34 #2%
35 % \blx@sfsave
36 }%
37 % \blx@sfrest%
38 }%
39
40 \protected\long\def\blx@imc@bibhypertarget#1#2{%
41 % \blx@sfsave%
42 \hypertarget{cite.\the\c@refsection:#1}{%
43 % \blx@sfrest
44 #2%
45 % \blx@sfsave%
46 }%
47 % \blx@sfrest%
48 }
49
50 \let\blx@imc@ifhyperref\@firstoftwo

```

Ensure that an autopage reference is current where each `\cite` is used, although this is nullified inside footnotes since they now use a  $\LaTeX$  box.

```

51 \xpretocmd{\blx@citecmdinit}
52 {\LWR@newautopagelabel{page}}%
53 {}
54 {\LWR@patcherror{biblatex}{blx@citecmdinit}}

```

Ensure that an autopage reference is current for each backref. If the citation is in a footnote, the backref will point to whatever preceded the footnotes.

```

55 \VerifyCommand[lwarp][biblatex]{\blx@addbackref@i}{C820E8B12CF2904906644302E07EBE88}
56
57 \xpatchcmd{\blx@addbackref@i}
58 {\thepage}
59 {\theLWR@previousautopagelabel}% ref to the most recent object
60 {}
61 {\LWR@patcherror{biblatex}{blx@addbackref@i A}}
62
63 \xpatchcmd{\blx@addbackref@i}
64 {\c@page}
65 {\c@LWR@previousautopagelabel}% ref to the most recent object
66 {}
67 {\LWR@patcherror{biblatex}{blx@addbackref@i B}}

```

The following patches are for back page references.

```

68 \DeclareListFormat{pageref}{%
69 \ifnumless{\abx@pagerefstyle}{0}
70 {\usebibmacro{list:plain}%

```

```

71 \ifhyperref
72 {%
73 % \hyperlink{page.#1}{#1}%
74 \LWR@refwithsection{\BaseJobname-autopage-#1}% lwarp
75 }
76 {#1}}
77 {\ifnumequal{\value{listcount}}{1}
78 {\usebibmacro{pageref:init}}
79 {}}%
80 \usebibmacro{pageref:comp}{#1}%
81 \ifnumequal{\value{listcount}}{\value{liststop}}
82 {\usebibmacro{pageref:dump}}
83 {}}
84
85 \expandafter\VerifyCommand\expandafter{\csname abx@macro@pageref:comp\endcsname}
86 {019E018D2EBB4F3D02578439F03128D8}
87
88 \renewbibmacro*{pageref:comp}[1]{%
89 \numdef\abx@range@prev{\abx@range@prev+1}%
90 \ifinteger{#1}
91 {\def\abx@range@num{#1}%
92 \def\abx@range@this{1}%
93 \ifnumequal{\abx@range@this}{\abx@range@last}
94 {}
95 {\def\abx@range@prev{-1}}}
96 {\ifrmnum{#1}
97 {\numdef\abx@range@num{\rmntonum{#1}}%
98 \def\abx@range@this{2}%
99 \ifnumequal{\abx@range@this}{\abx@range@last}
100 {}
101 {\def\abx@range@prev{-1}}}
102 {\undef\abx@range@num
103 \def\abx@range@this{0}%
104 \def\abx@range@prev{-1}}}
105 \ifdef\abx@range@num
106 {\ifnumequal{\abx@range@num}{\abx@range@prev}
107 {\def\abx@range@hold{#1}%
108 \numdef\abx@range@diff{\abx@range@diff+1}}
109 {\usebibmacro{pageref:dump}%
110 \ifnumgreater{\abx@range@last}{-1}
111 {\printdelim{multilistdelim}}
112 {}}%
113 \ifhyperref
114 % {\hyperlink{page.#1}{#1}}
115 {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
116 {#1}}%
117 \edef\abx@range@prev{\abx@range@num}}
118 {\usebibmacro{pageref:dump}%
119 \ifnumgreater{\abx@range@last}{-1}
120 {\printdelim{multilistdelim}}
121 {}}%
122 \ifhyperref
123 % {\hyperlink{page.#1}{#1}}
124 {\LWR@refwithsection{\BaseJobname-autopage-#1}}% lwarp
125 {#1}}%
126 \def\abx@range@prev{-1}}%
127 \edef\abx@range@last{\abx@range@this}}
128
129 \expandafter\VerifyCommand\expandafter{\csname abx@macro@pageref:dump\endcsname}
130 {9BD1165E771053A5DA8957BE4E2E7B9E}

```

```

131
132 \renewbibmacro*{pageref:dump}{%
133 \ifnumgreater{\abx@range@diff}{0}
134 {\ifcase\abx@pagerefstyle\relax % two
135 \bibrangedash
136 \ifhyperref
137 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
138 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
139 {\abx@range@hold}}%
140 \or % three
141 \ifnumless{\abx@range@diff}{2}
142 {\printdelim{multilistdelim}}
143 {\bibrangedash}%
144 \ifhyperref
145 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
146 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
147 {\abx@range@hold}}%
148 \or % two+
149 \ifnumless{\abx@range@diff}{2}
150 {\sqspace
151 \ifhyperref
152 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
153 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
154 {\bibstring{sequens}}}
155 {\bibrangedash
156 \ifhyperref
157 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
158 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
159 {\abx@range@hold}}}%
160 \or % three+
161 \ifnumless{\abx@range@diff}{2}
162 {\sqspace
163 \ifhyperref
164 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
165 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
166 {\bibstring{sequens}}}
167 {\ifnumless{\abx@range@diff}{3}
168 {\sqspace
169 \ifhyperref
170 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
171 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
172 {\bibstring{sequentes}}}
173 {\bibrangedash
174 \ifhyperref
175 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
176 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
177 {\abx@range@hold}}}%
178 \else % all+
179 \ifnumless{\abx@range@diff}{2}
180 {\sqspace
181 \ifhyperref
182 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
183 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
184 {\bibstring{sequens}}}
185 {\sqspace
186 \ifhyperref
187 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
188 {\LWR@refwithsection{\BaseJobname-autopage-\abx@range@hold}}% lwarp
189 {\bibstring{sequentes}}}%
190 \fi

```

```

191 \def\abx@range@diff{0}}
192 {}
193
194 }% \AfterPreamble

```

---

File 47 **lwarp-bibunits.sty**

§ 159 Package **bibunits**

(Emulates or patches code by THORSTEN HANSEN.)

`bibunits` (*Pkg*) `bibunits` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

```
2 \def\bu@bibdata{\BaseJobname}
```

---

File 48 **lwarp-bigdelim.sty**

§ 160 Package **bigdelim**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

`bigdelim` (*Pkg*) `bigdelim` is used as-is for `print` or `lateximage`, and patched for `HTML`.

The delimiters are displayed in `HTML` by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `<span>` class of `ldelim` or `rdelim`, and the default `css` sets this to `font-size:200%`

⚠ **use `\mrowcell`** `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<-> a b
 {
left { c d
 { e f
 { g h
<-> i j

```

---

For `MATHJAX`, limited emulation is provided which merely prints the delimiter and optional text in the first row.

**for HTML output:** First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```
1 \let\ldelim\relax
2 \let\rdelim\relax
```

Next, load the package's new definitions:

```
3 \LWR@ProvidesPackagePass{bigdelim}[2021/03/15]

\ldelim {\langle 1:delimiter \rangle} {\langle 2:#rows \rangle} [\langle 3: vmove \rangle] {\langle 4:width \rangle} [\langle 5:text \rangle]
\rdelim

4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m o m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#4}{#5 \InlineClass{ldelim}{#1}}%
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m o m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#4}{\InlineClass{rdelim}{#1} #5}%
14 }
15
16 \LWR@formatted{rdelim}
```

Limited emulation for `MATHJAX`. The delimiter is printed on the first row, along with any optional text.

```
17 \begin{warpMathJax}
18 % \ldelim ({n}{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelimtwo}[1][\text{#1}~\LWRbigdelim]}
20 \CustomizeMathJax{\newcommand{\LWRldelimone}[2][\LWRldelimtwo]}
21 \CustomizeMathJax{\def\ldelim#1#2{\def\LWRbigdelim{#1}\LWRldelimone}}
22 % \rdelim) {n}{width}[text]
23 \CustomizeMathJax{\newcommand{\LWRrdelimtwo}[1][\LWRbigdelim~\text{#1}]}
24 \CustomizeMathJax{\newcommand{\LWRrdelimone}[2][\LWRrdelimtwo]}
25 \CustomizeMathJax{\def\rdelim#1#2{\def\LWRbigdelim{#1}\LWRrdelimone}}
26 \end{warpMathJax}
```

---

File 49 **lwarp-bigfoot.sty**

§ 161 Package **bigfoot**

`bigfoot (Pkg)` `bigfoot` is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FooterSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
```



---

```

10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}

```

---

File 50 **lwarp-bigstrut.sty**

§ 162 Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

`bigstrut` (*Pkg*) `bigstrut` is used as-is for print or `lateximage`, and patched for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][x]{}%
12 \end{warpMathJax}

```

---

File 51 **lwarp-bitpattern.sty**

§ 163 Package **bitpattern**

*(Emulates or patches code by JEAN-MARC BOURGUET.)*

`bitpattern` (*Pkg*) `bitpattern` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

2 \VerifyCommand[lwarp][bitpattern]{\bitpattern}{379A39416C9C5E48DBCEEF730D51C5BF}
3
4 \xpatchcmd{\bitpattern}
5 {\begingroup}
6 {\begin{lateximage}[-bitpattern~\PackageDiagramAltText]?}%
7 {}
8 {\LWR@patcherror{bitpattern}{bitpattern}}
9
10 \VerifyCommand[lwarp][bitpattern]{\bp@Done}{4F2F6DDB41FE31051ACA3CA9F58E3395}
11
12 \xpatchcmd{\bp@Done}
13 {\endgroup}

```

```

14 {\end{lateximage}}
15 {}
16 {\LWR@patcherror{bitpattern}{bp@Done}}

```

---

File 52 **lwarp-blowup.sty**

§ 164 Package **blowup**

`blowup` (*Pkg*) `blowup` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]  
2 \newcommand\*\blowUp[1]{}

---

File 53 **lwarp-bm.sty**

§ 165 Package **bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

`bm` (*Pkg*) `bm` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

`\DeclareBoldMathCommand` must only be used in the preamble, since it adds to the `MATHJAX` setup code.

```

2 \begin{warpMathJax}
3 \LetLtxMacro\LWR@orig@DeclareBoldMathCommand\DeclareBoldMathCommand
4
5 \renewcommand\DeclareBoldMathCommand[3][bold]{%
6 \LWR@orig@DeclareBoldMathCommand[#1]{#2}{#3}%
7 \CustomizeMathJax{\newcommand{#2}{\boldsymbol{#3}}}%
8 }
9
10 \@onlypreamble\DeclareBoldMathCommand
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

---

File 54 **lwarp-booklet.sty**

§ 166 Package **booklet**

(Emulates or patches code by PETER WILSON.)

`booklet` (*Pkg*) `booklet` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

---

```

2 \newdimen\pageseplength
3 \newdimen\pagesewidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside \sidebysidetrue
6 \newif\ifuselandscape \uselandscapefalse
7 \newif\ifprintoption \printoptionfalse
8 \newcommand*\pagespersignature}[1]{}
9 \def\magstepminus#1{}
10 \newcommand*\target}[3]{}
11 \newcommand*\source}[3]{}
12 \newcommand*\setpdftargetpages{}
13 \newcommand*\setdvipstargetpages{}
14 \newcommand*\targettopbottom{}
15 \newcommand*\twoupemptypage{}
16 \newcommand*\twoupclearpage{}
17 \newcommand*\checkforlandscape{}

```

---

File 55 **lwarp-bookmark.sty**

§ 167 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

bookmark (*Pkg*) **bookmark** is ignored.

**for HTML output:** Discard all options for **lwarp-bookmark**:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

2 \newcommand*\bookmarksetup}[1]{}
3 \newcommand*\bookmarksetupnext}[1]{}
4 \newcommand*\bookmark}[2][]{}
5 \newcommand*\bookmarkdefinestyle}[2]{}
6 \newcommand*\bookmarkget}[1]{}
7 \newcommand*\BookmarkAtEnd}[1]{}

```


---

File 56 **lwarp-booktabs.sty**

§ 168 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

booktabs (*Pkg*) **booktabs** is emulated during HTML output, and used as-is during print output and inside an HTML `lateximage`.

 `\cmidrule` For MATHJAX, emulation is provided in math mode, but `\cmidrule trim` must not be used.

**for HTML output:** If **booktabs** has already been loaded before **lwarp**, such as by **memoir**, use it as-is. If not, the **lwarp** core will have placed some dummy macros which should be removed before loading the actual **booktabs** definitions.

```

1 \IfPackageLoadedTF{booktabs}{}{
2 \LetLtxMacro\toprule\relax
3 \LetLtxMacro\midrule\relax

```

```

4 \LetLtxMacro\cmidrule\cline
5 \LetLtxMacro\bottomrule\relax
6 \LetLtxMacro\addlinespace\relax
7 \LetLtxMacro\morecmidrules\relax
8 \LetLtxMacro\specialrule\relax
9 }

```

Next, load the booktabs package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if xltabular is loaded:

```

11 % \def\LWR@HTML@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16 {%
17 \IfValueTF{#1}%
18 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
19 {%
20 \ifbool{FormatWP}%
21 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
22 {\booltrue{LWR@doingtbrule}}}%
23 }%
24 \LWR@getmynexttoken}
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29 {%
30 \IfValueTF{#1}%
31 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
32 {%
33 \ifbool{FormatWP}%
34 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
35 {\defaddtocounter{LWR@hlines}{1}}}%
36 }%
37 \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42 \LWR@docmidrule[#1](#2){#3}%
43 \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49 \IfValueTF{#1}%
50 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
51 {%
52 \ifbool{FormatWP}%
53 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
54 {\booltrue{LWR@doingtbrule}}}%
55 }%

```

```

56 \LWR@getmynexttoken%
57 }%
58
59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{}%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{}%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}%
70 {\LWR@docmidrule[#1]}(1-\arabic{\LWR@tabletotalLaTeXcols})\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][\hline]}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrulenoparen}[1]{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][{}%
80 \ifnextchar{\LWRbooktabscmidruleparen\LWRbooktabscmidrulenoparen%
81 }}}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][{}]}
85 \end{warpMathJax}

```

---

File 57 **lwarp-bophook.sty**

§ 169 Package **bophook**

bophook (*Pkg*) bophook is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

```
2 \newcommand*{\AtBeginPage}[1]{}
```

```
3 \newcommand*{\PageLayout}[1]{}
```

---

File 58 **lwarp-bounddvi.sty**

§ 170 Package **bounddvi**

bounddvi (*Pkg*) bounddvi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

File 59 **lwarp-boxedminipage.sty**§ 171 Package **boxedminipage***(Emulates or patches code by SCOTT PAKIN.)*boxedminipage (*Pkg*) boxedminipage is emulated for HTML, and used as-is for lateximages.**for HTML output:** 1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

```

2 \newenvironment{LWR@HTML@boxedminipage}{%
3 \LWR@stoppars%
4 \begin{BlockClass}{framebox}%
5 \minipage%
6 }
7 {%
8 \endminipage%
9 \end{BlockClass}%
10 \LWR@startpars%
11 }
12 \LWR@formattedenv{boxedminipage}

```

File 60 **lwarp-boxedminipage2e.sty**§ 172 Package **boxedminipage2e***(Emulates or patches code by SCOTT PAKIN.)*boxedminipage2e (*Pkg*) boxedminipage2e has been renamed boxedminipage by the author.**for HTML output:** Automatically loads boxedminipage:

```

1 \LWR@ProvidesPackagePass{boxedminipage2e}

```

File 61 **lwarp-braket.sty**§ 173 Package **braket***(Emulates or patches code by DONALD ARSENEAU.)*braket (*Pkg*) braket works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.**for HTML output:** 1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}

```

File 62 **lwarp-breakurl.sty**§ 174 Package **breakurl**

(Emulates or patches code by VILAR CAMARA NETO.)

breakurl (*Pkg*) breakurl is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```

2 \LetLtxMacro\url\LWR@url
3
4 \NewDocumentCommand{\LWR@urlaltb}{O{} +m m}{%
5 \LWR@ensuredoingapar%
6 \LWR@subhyperref{#2}%

```

If use \LWR@subhyperreftext@sanitized here, some forms of text may not expand correctly, and thus break.

```


7 \LWR@subhyperreftext@unsanitized{#3}%
8 \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*{\urlalt}{%
12 \begingroup%
13 \LWR@linkcatcodes%
14 \LWR@urlaltb%
15 }
16
17 \LetLtxMacro\urlalt\urlalt

```

File 63 **lwarp-breqn.sty**§ 175 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)

breqn (*Pkg*) breqn is patched for use by lwarp.

 **darray** darray is not supported, and in fact does not work in the print version either.

While using MATHJAX, breqn objects are converted to svg images.

**for HTML output:** 1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]

```

2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6
7 \BeforeBeginEnvironment{dmath}{
8 \begin{BlockClass}{displaymathnumbered}

```

```
9 \LWR@newautoidanchor%
10 \booltrue{LWR@indisplaymathimage}%
11 \begin{lateximage}[-breqn dmath- \MathImageAltText]?%
12 }
13
14 \AfterEndEnvironment{dmath}{
15 \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19 \begin{BlockClass}{displaymath}
20 \LWR@newautoidanchor%
21 \booltrue{LWR@indisplaymathimage}%
22 \begin{lateximage}[-breqn dmath*- \MathImageAltText]?%
23 }
24
25 \AfterEndEnvironment{dmath*}{
26 \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30 \begin{BlockClass}{displaymathnumbered}
31 \LWR@newautoidanchor%
32 \booltrue{LWR@indisplaymathimage}%
33 \begin{lateximage}[-breqn dseries- \MathImageAltText]?%
34 }
35
36 \AfterEndEnvironment{dseries}{
37 \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41 \begin{BlockClass}{displaymath}
42 \LWR@newautoidanchor%
43 \booltrue{LWR@indisplaymathimage}%
44 \begin{lateximage}[-breqn dseries*- \MathImageAltText]?%
45 }
46
47 \AfterEndEnvironment{dseries*}{
48 \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52 \begin{BlockClass}{displaymath}
53 \LWR@newautoidanchor%
54 \booltrue{LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]?%
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup*- \MathImageAltText]?%
67 }
68
```



```

69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }

```

---

File 64 **lwarp-bsheaders.sty**

§ 176 Package **bsheaders**

`bsheaders` (*Pkg*) `bsheaders` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]


---

File 65 **lwarp-bussproofs.sty**

§ 177 Package **bussproofs**

*(Emulates or patches code by SAMUEL R. BUSS.)*

`bussproofs` (*Pkg*) `bussproofs` is used as-is for HTML, and emulated by MATHJAX's extension.

 `\DisplayProof` If not using MATHJAX, inline proofs with `\DisplayMath` must be placed inside a math expression.

If using MATHJAX, only the `prooftree` environment may be used, not `\DisplayProof`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs}% no date in file

```

2 \ifbool{mathjax}{
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{LWR@HTML@prooftree}%
6 {%
7 \boolfalse{LWR@HTML@sanitize@tmp@removebackslash}%
8 \LWR@doequation{\BODY}{prooftree}%
9 }%
10 [\LWR@doendequation{prooftree}]
11 \LWR@formattedenv{prooftree}
12 }{% SVG HTML
13 \BeforeBeginEnvironment{prooftree}{%
14 \begin{lateximage}[-bussproofs-~\PackageDiagramAltText]?%
15 }
16 \AfterEndEnvironment{prooftree}{\end{lateximage}}
17 }

```

---

File 66 **lwarp-bxpapersize.sty**

§ 178 Package **bxpapersize**

`bxpapersize` (*Pkg*) `bxpapersize` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]

```
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

---

File 67 **lwarp-bytefield.sty**

§ 179 Package **bytefield**

(Emulates or patches code by SCOTT PAKIN.)

bytefield (*Pkg*) bytefield is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]

2 \BeforeBeginEnvironment{bytefield}{%
3 \begin{lateximage}[-bytefield-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}
```

---

File 68 **lwarp-cancel.sty**

§ 180 Package **cancel**

cancel (*Pkg*) cancel is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:**

```
1 \LWR@origRequirePackage{lwarp-xcolor}% for \convertcolorspec
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]
```

\cancelto is math-only, so is used as-is.

```
\LWR@cancelcolor {<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}
Add colors if not empty:
3 \newcommand{\LWR@cancelcolor}[5]{%
4 \ifcempty{#2}%
5 {\InlineClass{#5}{#3}{#1}}%
6 {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
7 }

\cancel {<text>}

8 \DeclareRobustCommand{\LWR@HTML@cancel}[1]{%
9 \begingroup%
10 \CancelColor%
11 \LWR@findcurrenttextcolor%
12 \color{black}%
13 \LWR@cancelcolor{#1}{\LWR@tempcolor}{sout}{text-decoration-color}%
14 {text-decoration:line-through}%
15 \endgroup%
16 }
17 \LWR@formatted{cancel}%
18
19 \LetLtxMacro\bcancel\cancel
20 \LetLtxMacro\xcancel\cancel
```

For MATHJAX:

```
21 \begin{warpMathJax}
22 \PackageNoteNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
23 \CustomizeMathJax{\require{cancel}}
24 \end{warpMathJax}
```

---

File 69 **lwarp-canonlayout.sty**

§ 181 Package **canoniclayout**

canoniclayout (*Pkg*) canoniclayout is ignored.

**for HTML output:** §\LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```
2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}
```

---

File 70 **lwarp-caption.sty**

§ 182 Package **caption**

(Emulates or patches code by AXEL SOMMERFELDT.)

caption (*Pkg*) caption is patched for use by lwarp.

**for HTML output:**

```
1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ``Missing \protect\begin\protect{document\protect}'' error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space%
5 \protect\captionsetup{options}}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2023/08/05]

10 \VerifyCommand[lwarp][caption]{\caption@iibox@}{AD79C5FACDA9F8F9977188D922E8AC12}
11
12 \long\def\caption@iibox@#1#2#3#4{%
13 \setbox\@tempboxa\hbox{#4}%
14 \caption@iibox{#1}{#2}{#3}%
15 [\wd\@tempboxa]%
16 [% lwarp
17 [\captionbox@innerpos@default]%
18 {\unhbox\@tempboxa}%
19 {#4}}% lwarp
20 }

21 \VerifyCommand[lwarp][caption]{\caption@iiiibox@}{62FC9237FCA80F5A607BF02D88C61601}
22
23 \long\def\caption@iiiibox#1#2#3#4#5[#6][#7]#8{%
24 \begingroup
25 #1*% set \caption@position
26 \caption@iftop{%
27 \endgroup
```

```

28 \minipagefullwidth% lwarp
29 \parbox[t]{\linewidth}{%
30 #1\relax
31 \caption@setposition t%
32 % #2%
33 {\caption#4{#5}}%
34 % \captionbox@hrule
35 % \csname caption@justification@#7\endcsname
36 #8%
37 }%
38 }{%
39 \endgroup

40 % \parbox[b]{#6}{%
41 \minipagefullwidth% lwarp
42 \parbox[b]{\linewidth}{%
43 #1\relax
44 \caption@setposition b%
45 % \csname caption@justification@#7\endcsname
46 #8%
47 % \captionbox@hrule
48 % #3
49 {\caption#4{#5}}%
50 }%
51 }%
52 }

```

\caption@makecaption

```

53 \VerifyCommand[lwarp][caption]{\caption@makecaption}{9E0A92DF71E248B2C7A3B4BB5190A2C5}
54
55 \long\def\caption@makecaption#1#2{%
56 \caption@make@above
57 \caption@@make{#1}{#2}%
58 % \caption@make@below
59 }
60
61 \AtBeginDocument{
62 \let\@makecaption\caption@makecaption
63 }

```

Appended to look ahead to the next token for \centering, etc:

```

64 \AtBeginDocument{
65 \xapptocmd{\@xfloat}
66 {\LWR@futurenonpacelet\LWR@mynexttoken\LWR@floatalignment}
67 {}
68 {\LWR@patcherror{caption}{@xfloat}}
69
70 \xapptocmd{\@xdblfloat}
71 {\LWR@futurenonpacelet\LWR@mynexttoken\LWR@floatalignment}
72 {}
73 {\LWR@patcherror{caption}{@xdblfloat}}
74 }

75 \VerifyCommand[lwarp][caption]{\caption@@@text}{C7253081E4F8EA695FF193E21855AA0A}
76
77 \long\def\caption@@@text#1#2#3[#4]#5{%
78 \begin{BlockClass}{figurecaption}% lwarp

```

```

79 \begingroup
80 #3{\csname c@#1\endcsname #4\relax}%
81 #2{\caption@fnum{#1}}{#5}%
82 \endgroup%
83 \end{BlockClass}% lwarp
84 }

```

Updates for late patches for scrextend:

```

85 \caption@AtBeginDocument{
86 \IfPackageLoadedTF{lwarp-scrextend}{
87 \LetLtxMacro\captionbelow\caption
88 \LetLtxMacro\captionabove\caption
89 \LetLtxMacro\captionofbelow\captionof
90 \LetLtxMacro\captionofabove\captionof
91 }{}
92 }

```

---

File 71 **lwarp-caption3.sty**

§ 183 Package **caption3**

(Emulates or patches code by AXEL SOMMERFELDT.)

caption3 (*Pkg*) caption3 is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{caption3}[2023/07/31]

```

\caption@@@make

 {<caption label>} {<caption text>}

2 \IfPackageAtLeastTF{caption3}{2020/08/23}{
3 %
4 \VerifyCommand[lwarp][caption3]{\caption@@@make}{F09A9BB05CE4EDF5A477D3CC2AE04F81}
5 %
6 \renewcommand\caption@@@make[2]{%
7 \LWR@traceinfo{caption@@@make}%

8 \LWR@stoppars% lwarp

9% \ifx\caption@fmt\undefined\caption@format\fi
10% \let\caption@lfmt\caption@labelformat
11% \global\def\caption@tempa{gobbletwo}%
12% \global\def\caption@tempb{}%
13% \sbox\@tempboxa{%
14% \let\caption@ignorespaces\ignorespaces
15% \def\ignorespaces{%
16% \global\def\caption@tempb{two}% "gobble" -> "gobbletwo"
17% % if \ignorespaces is used additionally
18% \caption@ignorespaces}%
19% #1%
20% {\global\let\caption@tempa\undefined\aftergroup\@gobble}%
21% {\global\def\caption@tempa{gobble\caption@tempb}}}%
22% \ifdim\wd\@tempboxa=\z@
23% \gdef\caption@tempa{none}%
24% \fi
25% \ifx\caption@tempa\undefined \else
26% \expandtwoargs\caption@set{labelseparator}{\caption@tempa}%

```

```

27% \fi
28 \caption@ifempty{#2}{%
29 \caption@set{labelseparator}{none}%
30 \caption@set{textformat}{simple}%
31 }%
32 \caption@labelseparator % defines \caption@iflabelfont,
33 \caption@labelsep and \caption@labelsep@name
34 (the latter is needed by \caption@fmt)
35%

36% \setpar{\@@par\caption@@par}\caption@@par
37 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

38% \caption@fmt
39 {\ifcaption@star\else
40 \begingroup
41 \captionlabelfont

42 \LWR@isolate{#1}% lwarp
43 \endgroup
44 \fi}%
45 {\ifcaption@star\else
46 \begingroup
47 \caption@iflabelfont\captionlabelfont
48 \relax\caption@labelsep
49 \endgroup
50 \fi}%
51 {{\captiontextfont

52 \let\\\newline% lwarp
53%
54 \caption@textstart

55% \caption@ifstrut
56% {\vrule\@height\ht\strutbox\@width\z@}%
57% {}}%
58% \nobreak\hskip\z@skip % enable hyphenation

59 \LWR@isolate{\caption@textformat{#2}}% lwarp

60% \caption@ifstrut
61% {\ifhmode\@finalstrut\strutbox\fi}%
62% {}}%
63 \caption@textend}}%

64 \LWR@startpars% lwarp
65 \LWR@traceinfo{caption@@@make done}%
66 }
67}% later than 2020/08/23
68{% earlier than 2020/08/23
69 \renewcommand\caption@@@make[2]{%
70 \LWR@traceinfo{caption@@@make}%
71 \LWR@stoppars% lwarp
72% \sbox\@tempboxa{#1}%
73% \ifdim\wd\@tempboxa=\z@
74% \let\caption@lsep\relax
75% \fi
76 \caption@ifempty{#2}{%
77 \let\caption@lsep\@empty
78 \let\caption@tfmt\@firstofone
79 }%

```

```

80 % \setpar{\@@par\caption@@par}\caption@@par
81 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

82 % \caption@fmt
83 {\ifcaption@star\else
84 \begingroup
85 \caption@labelfont
86 \LWR@isolate{#1}% lwarp
87 \endgroup
88 \fi}%
89 {\ifcaption@star\else
90 \begingroup
91 \caption@iflf\caption@labelfont
92 \relax
93 \caption@lsep
94 \endgroup
95 \fi}%
96 {%
97 \caption@textfont
98 \let\\\newline% lwarp
99 %
100 % \caption@ifstrut
101 % {\vrule\@height\ht\strutbox\@width\z@}%
102 % {}%
103 % \nobreak\hskip\z@skip % enable hyphenation
104 % \LWR@isolate{\caption@tfmt{#2}}% lwarp
105 % \caption@ifstrut
106 % {\ifhmode\@finalstrut\strutbox\fi}%
107 % {}%
108 % }%
109 % \LWR@startpars% lwarp
110 % \LWR@traceinfo{\caption@@@make done}%
111 % }
112 % earlier than 2020/08/23

```

\caption@@make@

```

{\langle} {\langle}
112 \VerifyCommand[lwarp][caption3]{\caption@@make@}{AD348E907B8F8B0BCAE57E72DE4A2035}
113 %
114 \renewcommand{\caption@@make@[2]}{%
115 \caption@stepthecounter%
116 \caption@beginhook%
117 \caption@box\hsize%
118 \caption@singlelinecheck{\caption@slc{#1}{#2}\caption@singleline\caption@multiline}{\caption@mu
119 \caption@calcmargin
120 \caption@make@leftmargin
121 \caption@make@parbox%
122 \caption@make@indentation
123 \caption@@@make{#1}{#2}%
124 % }
125 \caption@make@rightmargin
126 % }%
127 \caption@endhook%
128 % }

129 \DeclareCaptionBox{none}{#2}
130 \DeclareCaptionBox{parbox}{%
131 #2%
132 % }

```

```

133 \DeclareCaptionBox{colorbox}{%
134 #2%
135 }

```

---

## File 72 **lwarp-cases.sty**

### § 184 Package **cases**

*(Emulates or patches code by DONALD ARSENEAU.)*

`cases` (*Pkg*) `cases` is patched for use by `lwarp`.

While using `MATHJAX`, `cases` objects are converted to `svg` math images. The `MathJax 3.2 cases` package does not yet work with `lwarp`.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{cases}[2020/03/29]

2 \BeforeBeginEnvironment{numcases}{
3 \begin{BlockClass}{displaymathnumbered}
4 \LWR@newautoidanchor%
5 \booltrue{LWR@indisplaymathimage}%
6 \begin{lateximage}[-cases- \MathImageAltText]?%
7 }
8
9 \AfterEndEnvironment{numcases}{
10 \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{
14 \begin{BlockClass}{displaymathnumbered}
15 \LWR@newautoidanchor%
16 \booltrue{LWR@indisplaymathimage}%
17 \begin{lateximage}[-cases- \MathImageAltText]?%
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21 \end{lateximage}\end{BlockClass}
22 }

```

---

## File 73 **lwarp-ccicons.sty**

### § 185 Package **ccicons**

*(Emulates or patches code by MICHAEL UMMELS.)*

`ccicons` (*Pkg*) `ccicons` is used as `svg` images for `HTML`.

#### for HTML output:

Discard all options for `lwarp-ccicons`:

```

1 \LWR@ProvidesPackagePass{ccicons}[2017/10/30]

2 \newcommand{\LWR@ccicons}[2]{%
3 {\begin{lateximage}*[#1]?ccicons@font\char#2\end{lateximage}}%
4 }

```



---

```

5 \renewcommand{\ccicons@logo}{\LWR@ccicons{ccLogo}{0}}
6 \renewcommand{\ccicons@by}{\LWR@ccicons{ccAttribution}{1}}
7 \renewcommand{\ccicons@sa}{\LWR@ccicons{ccShareAlike}{2}}
8 \renewcommand{\ccicons@end}{\LWR@ccicons{ccNoDerivatives}{3}}
9 \renewcommand{\ccicons@nc}{\LWR@ccicons{ccNonCommercial}{4}}
10 \renewcommand{\ccicons@nceu}{\LWR@ccicons{ccNonCommercialEU}{5}}
11 \renewcommand{\ccicons@ncjp}{\LWR@ccicons{ccNonCommercialJP}{6}}
12 \renewcommand{\ccicons@pd}{\LWR@ccicons{ccPublicDomain}{7}}
13 \renewcommand{\ccicons@zero}{\LWR@ccicons{ccZero}{8}}
14 \renewcommand{\ccicons@sampling}{\LWR@ccicons{ccSampling}{9}}
15 \renewcommand{\ccicons@share}{\LWR@ccicons{ccShare}{10}}
16 \renewcommand{\ccicons@remix}{\LWR@ccicons{ccRemix}{11}}
17 \renewcommand{\ccicons@copy}{\LWR@ccicons{ccCopy}{12}}
18 \renewcommand{\ccicons@pdalt}{\LWR@ccicons{ccPublicDomainAlt}{13}}

```

---

#### File 74 **lwarp-centerlastline.sty**

§ 186 Package **centerlastline**

centerlastline (*Pkg*) centerlastline is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{centerlastline}[2020/10/12]

```

2 \providecommand{\centerlastline}{}
3 \def\endcenterlastline{\par}

```

---

#### File 75 **lwarp-centernot.sty**

§ 187 Package **centernot**

*(Emulates or patches code by HEIKO OBERDIEK.)*

centernot (*Pkg*) centernot is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{centernot}}
4 \end{warpMathJax}

```

---

#### File 76 **lwarp-changebar.sty**

§ 188 Package **changebar**

changebar (*Pkg*) changebar is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

2 \newcommand*{\cbstart}{}
3 \newcommand*{\cbend}{}
4 \newenvironment*{\changebar}{}{}

```

```

5 \newcommand*\cbdelete{}
6 \newcommand*\nochnagebars{}
7 \newcommand*\cbcolor[1]{}
8 \newlength{\changebarwidth}
9 \newlength{\deletebarwidth}
10 \newlength{\changebarsep}
11 \newcounter{changebargrey}

```

---

File 77 **lwarp-changelayout.sty**

§ 189 Package **changelayout**

*(Emulates or patches code by AHMED MUSA.)*

changelayout (*Pkg*) changelayout is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]

2 \renewrobustcmd\cpl@backtodefaults{}
3
4 \renewrobustcmd\cpl@checkifoddpagelayout{%
5 \cpl@oddpagelayoutfalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9 \setkeys[KV]{changelayout}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15 \setkeys[KV@X]{changelayout}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21 \setkeys[KV]{changelayout}{#1}%
22 \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}
23 \color{\cpl@textcolor}%
24 \cpl@content
25 \end{BlockClass}
26 }

```

---

File 78 **lwarp-changepage.sty**

§ 190 Package **changepage**

*(Emulates or patches code by PETER WILSON.)*

changepage (*Pkg*) changepage is ignored.

**for HTML output:**

Discard all options for lwarp-changepage:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

```

```

2 \newif\ifoddpag
3 \DeclareRobustCommand{\checkoddpag}{\oddpagtrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changeag}[9]{}
6
7 \@ifundefined{adjustwidth}{
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}

```


---

File 79 **lwarp-changes.sty**

§ 191 Package **changes**

*(Emulates or patches code by EKKART KLEINOD.)*

changes (*Pkg*) changes is patched for use by lwarp.

 `\comment` Use `commandnameprefix=ifneeded` to avoid a conflict with the `\comment` command when using lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2021/07/15]

\BaseJobname is added to the label in case `xr` or `xr-hyper` are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3 \IfIsInList{#1}{\Changes@loc@show}{%
4 \LWR@startpars%
5 #2: #3 \qqquad
6 \nameref{\BaseJobname-autopage-#4}%
7 \LWR@stoppars%
8 }{}%
9 }
10
11 \VerifyCommand[lwarp][changes]{\listofchanges}{CDE77F21854A8C807FDF2CF756286B55}
12
13 \renewcommand{\listofchanges}[1][\@empty]{%
14 \setkeys{Changes@loc}{#1}%
15 \ifbool{Changes@optiondraft}%
16 {%
17 \IfIsInList{\Changes@loc@style}{list|summary|compactsummary}%
18 }{}%
19 }{}%
20 \PackageWarning{changes}{Wrong style for list of changes:%
21 '\Changes@loc@style', using 'list' instead.}%
22 \def\Changes@loc@style{}%
23 }{}%
24 \IfIsEmpty{\Changes@loc@style}%
25 {\def\Changes@loc@style{list}}%
26 }{}%

```

```

27 \IfStrEq{\Changes@loc@show}{all}%
28 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
29 {}%
30 \IfIsInList{\Changes@loc@show}{added|deleted|replaced|highlight|comment}%
31 {}%
32 {}%
33 \PackageWarning{changes}{Wrong show-value for list of changes: '\Changes@loc@show', using 'all' instead}%
34 \def\Changes@loc@show{}%
35 }%
36 \IfIsEmpty{\Changes@loc@show}%
37 {\def\Changes@loc@show{added|deleted|replaced|highlight|comment}}%
38 {}%
39 \IfIsEmpty{\Changes@loc@title}%
40 {}%
41 \IfStrEq{\Changes@loc@style}{list}%
42 {\def\Changes@heading{\listofchangesname}}{}%
43 \IfStrEq{\Changes@loc@style}{summary}%
44 {\def\Changes@heading{\summaryofchangesname}}{}%
45 \IfStrEq{\Changes@loc@style}{compactsummary}%
46 {\def\Changes@heading{\compactsummaryofchangesname}}{}%
47 }%
48 {\def\Changes@heading{\Changes@loc@title}}%
49 \section*{\Changes@heading}
50 \IfIsInList{\Changes@loc@style}{list}%
51 {}%
52 \IfFileExists{\jobname.\Changes@loc@extension}%
53 {}%
54 \newread\Changes@InFile%
55 \openin\Changes@InFile=\jobname.\Changes@loc@extension%
56 \loop\unless\ifeof\Changes@InFile%
57 \read\Changes@InFile to \Changes@Line%
58 \ifeof\Changes@InFile\else%
59 \Changes@Line%
60 \fi
61 \repeat
62 \closein\Changes@InFile%
63 }{}%
64 \emph{\changesnoloc}%
65 \PackageWarning{changes}{LaTeX rerun needed for list of changes}%
66 }%
67 }{}%
68 \IfIsInList{\Changes@loc@style}{summary|compactsummary}%
69 {}%
70 \IfFileExists{\jobname.\Changes@soc@extension}%
71 {}%
72 \newread\Changes@InFile%
73 \openin\Changes@InFile = \jobname.\Changes@soc@extension%
74 \loop\unless\ifeof\Changes@InFile%
75 \read\Changes@InFile to \Changes@Line%
76 \ifeof\Changes@InFile\else%
77 \expandafter\changes@chopline\Changes@Line\\%
78 \textbf{}%
79 \IfIsColored%
80 {\color{\Changes@Incolor}}%
81 {}%
82 \IfIsAnonymous{\Changes@Inid}%
83 {}%
84 \LWR@textcurrentcolor{} lwarp
85 \changesauthorname: \changesanonymousname%
86 }% lwarp

```

```

87 }%
88 {%
89 \LWR@textcurrentcolor{% lwarp
90 \changesauthorname: \Changes@Inid%
91 }% lwarp
92 \IfIsEmpty{\Changes@Inname}%
93 {}%
94 { %
95 \LWR@textcurrentcolor{% lwarp
96 (\Changes@Inname)%
97 }% lwarp
98 }%
99 }%
100 }%%
101 \numdef{\Changes@InSum}{0}%
102 \renewcommand*\do}[1]{%
103 \numdef{\Changes@InSum}{\Changes@InSum + \csuse{Changes@In#####1}}%
104 }%
105 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
106 \ifnumcomp{\Changes@InSum}{=}{0}%
107 {%
108 % \parbox{\Changes@summary@width}{% lwarp
109 \changesnochanges%
110 % }% lwarp
111 % \[1ex]% lwarp
112 \par% \lwarp
113 }%
114 {%
115 \numdef{\Changes@InCount}{0}%
116 \renewcommand*\do}[1]{%
117 \numdef{\Changes@InCount}{\Changes@InCount + \csuse{Changes@In#####1}}%
118 \ifboolexpr{%
119 not test {\IfStrEq{\Changes@loc@style}{compactsummary}} or%
120 test {\ifnumgreater{\csuse{Changes@In#####1}}{0}}%
121 }%
122 {%
123 % \parbox{\Changes@summary@width}{% lwarp
124 \csuse{changes#####1name}~%
125 % \let\cleaders\leaders\dotfill~% lwarp
126 \dotfill~% \lwarp
127 \csuse{Changes@In#####1}%
128 % }% lwarp
129 % \ifnumless{\Changes@InCount}{\Changes@InSum}% lwarp
130 }%%
131 % {\[1ex]}% lwarp
132 }%
133 {}%
134 }%
135 \expandafter\dopsvlist\expandafter{\Changes@loc@show}%
136 \par% lwarp
137 }%
138 \fi%
139 \repeat
140 \closein\Changes@InFile%
141 }{%
142 \emph{\changesnosoc}%
143 \PackageWarning{changes}{LaTeX rerun needed for summary of changes}%
144 }%
145 }{}%
146 }{}%

```

```
147 }
148
149 \VerifyCommand[lwarp][changes]{\Changes@Markup@comment}{23057A40141C9D1A0A173DCF1BD5DE55}
150
151 \renewcommand{\Changes@Markup@comment}[3]{%
152 \IfStrEq{\Changes@optioncommentmarkup}{todo}%
153 {%
154 \IfIsColored%
155 {\colorlet{Changes@todocolor}{authorcolor}}%
156 {\colorlet{Changes@todocolor}{black}}%
157 \todo[color=Changes@todocolor!10, bordercolor=Changes@todocolor, linecolor=Changes@todocolor!70, nol
158]{}}%
159 \IfStrEq{\Changes@optioncommentmarkup}{margin}%
160 {%
161 \marginpar{%
162 \IfIsColored%
163 {\leavevmode\color{authorcolor}}%
164 }%
165 \LWR@textcurrentcolor{% lwarp
166 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
167 }% lwarp
168 }%
169 }%
170 \IfStrEq{\Changes@optioncommentmarkup}{footnote}%
171 {%
172 \footnote{%
173 \LWR@textcurrentcolor{% lwarp
174 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
175 }% lwarp
176 }%
177 }%
178 \IfStrEq{\Changes@optioncommentmarkup}{uwave}%
179 {%
180 {%
181 \IfIsColored%
182 {\color{authorcolor}}%
183 }%
184 \allowbreak%
185 \uwave{%
186 \textbf{[\IfIsAnonymous{#2}]{#3~}\arabic{Changes@commentCount#2}]:} #1%
187 }%
188 }%
189 }%
190 }
191
192 \VerifyCommand[lwarp][changes]{\Changes@output}{BD1ACDECB4BBA2D9181885F9EDC87F77}
193
194 \renewrobustcmd{\Changes@output}[7]{%
195 \ifbool{Changes@optiondraft}%
196 {%
197 \Changes@check@author{#2}%
198 \Changes@set@color{#2}%
199 {%
200 \IfIsInList{#1}{added|deleted|replaced|highlight}%
201 {%
202 \IfIsEmpty{#5}%
203 {%
204 \IfIsAuthorEmptyAtPosition{#2}{left}%
205 }%
206 }%

```

```
207 \IfIsColored%
208 {\color{authorcolor}}%
209 {}%
210 \LWR@textcurrentcolor{% lwarp
211 \Changes@Markup@author{\Changes@output@author@position{#2}{left}}%
212 }% lwarp
213 }}%
214 }{}%
215 {%
216 \IfStrEq{#1}{highlight}%
217 }{}%
218 \IfIsColored%
219 {\color{authorcolor}}%
220 {}%
221 }%
222 \LWR@textcurrentcolor{% lwarp
223 \IfStrEq{#1}{added}{\Changes@Markup@added{#3}}{}%
224 \IfStrEq{#1}{deleted}{\Changes@Markup@deleted{#4}}{}%
225 \IfStrEq{#1}{replaced}{\Changes@Markup@added{#3}\allowbreak\Changes@Markup@deleted{#4}}{}%
226 \IfStrEq{#1}{highlight}{\Changes@Markup@highlight{#3}}{}%
227 }% lwarp
228 }%
229 \IfIsEmpty{#5}%
230 {}%
231 \IfIsAuthorEmptyAtPosition{#2}{right}%
232 {}%
233 {}%
234 \IfIsColored%
235 {\color{authorcolor}}%
236 {}%
237 \LWR@textcurrentcolor{% lwarp
238 \Changes@Markup@author{\Changes@output@author@position{#2}{right}}%
239 }% lwarp
240 }}%
241 }{}%
242 \stepcounter{Changes@#1Count#2}%
243 }{}%
244 \IfIsEmpty{#5}%
245 {}%
246 {%
247 \stepcounter{Changes@commentCount#2}%
248 \Changes@set@commentcount{#2}%
249 \Changes@Markup@comment%
250 {#5}%
251 {#2}%
252 {\Changes@output@author-#2}}%
253 }%
254 }%
255 \IfIsEmpty{#2}%
256 {\def\Changes@locid{}}%
257 {\def\Changes@locid{~{#2}}}%
258 \addtocontents{\Changes@locextension}{\protect\ChangesListline{#1}{#6\Changes@locid}{#7}{\thepage}}%
259 }%
260 {%
261 \IfIsEmpty{#3}%
262 {\@sphack\@esphack}%
263 {#3}%
264 }%
265 }
```

File 80 **lwarp-chappg.sty**

§ 192 Package **chappg**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

chappg (*Pkg*) chappg is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]  
 2 \renewcommand{\pagenumbering}[2][{}]{  
 3 \providecommand{\chappgsep}{--}}

File 81 **lwarp-chapterbib.sty**

§ 193 Package **chapterbib**

*(Emulates or patches code by DONALD ARSENEAU.)*

chapterbib (*Pkg*) chapterbib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]  
 2 \xdef\@savedjobname{\BaseJobname}  
 3 \let\@currentipfile\@savedjobname

File 82 **lwarp-chemfig.sty**

§ 194 Package **chemfig**

*(Emulates or patches code by CHRISTIAN TELLECHEA.)*

chemfig (*Pkg*) chemfig is patched for use by lwarp.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . .]{. . . }
\end{lateximage}
```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemfig}[2021/02/28]  
 2 \catcode`\\_ =11  
 3  
 4 \IfPackageAtLeastTF{chemfig}{2020/03/05}



```
5 {
6 \xpretocmd\charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
7 }{\LWR@patcherror{chemfig}{charge}}
8 \xpretocmd\Charge{\begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
9 }{\LWR@patcherror{chemfig}{Charge}}
10 \xapptocmd\charge_c{\end{lateximage}}
11 }{\LWR@patcherror{chemfig}{charge_c}}
12 }{}
13
14 \IfPackageAtLeastTF{chemfig}{2019/04/18}%
15 {% 2019/04/18 or newer

16 \xpretocmd{\CF_chemfiga}
17 {\begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
18 }{\LWR@patcherror{chemfig}{CF_chemfiga}}
19
20 \VerifyCommand[lwarp][chemfig]{\CF_chemfigb}{7B199210755F37B1BCD036567614BA34}
21
22 \xpatchcmd{\CF_chemfigb}
23 {\let\CF_flipstate\CF_zero}
24 {\end{lateximage}\let\CF_flipstate\CF_zero}
25 }{\LWR@patcherror{chemfig}{CF_chemfigb}}
26
27 \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
28 \gdef\CF_lewisc#1,#2_nil{%
29 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
30 \LWR@chemfig@origCF_lewisc#1,#2_nil
31 \end{lateximage}
32 }
33
34 \gpreto{\schemestart}{%
35 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
36 }
37 \gappto{\CF_schemestop}{\end{lateximage}}
38
39 }% 2019/04/18 or newer
40 {% older than 2019/04/18
41
42 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
43
44 \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
45 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
46 \IfBooleanTF{#1}{%
47 \LWR@chemfig@origchemfig*[#2][#3][#4]%
48 }{%
49 \LWR@chemfig@origchemfig[#2][#3][#4]%
50 }
51 \end{lateximage}%
52 }
53
54 \LetLtxMacro\LWR@chemfig@origCF@lewis@b\CF@lewis@b
55
56 \def\CF@lewis@b#1#2{%
57 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
58 \LWR@chemfig@origCF@lewis@b{#1}{#2}%
59 \end{lateximage}%
60 }
61
62 \preto{\schemestart}{%
63 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
```

```

64 }
65 \appto{\CF@schemestop}{\end{lateximage}}
66
67 }% older than 2019/04/18
68
69 \catcode`_ =8%
70
71
72
73 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
74
75 \def\chemleft#1#2\chemright#3{%
76 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
77 \LWR@chemfig@origchemleft#1#2\chemright#3%
78 \end{lateximage}%
79 }
80
81 \LetLtxMacro\LWR@chemfig@origchemup\chemup
82
83 \def\chemup#1#2\chemdown#3{%
84 \begin{lateximage}[-chemfig~\PackageDiagramAltText]?%
85 \LWR@chemfig@origchemup#1#2\chemdown#3%
86 \end{lateximage}%
87 }

```

---


### File 83 **lwarp-chemformula.sty**

## § 195 Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

`chemformula` (*Pkg*) `chemformula` is patched for use by `lwarp`.

The SVG images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

 **chemformula with MATHJAX** `chemformula` works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before array, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to array, but does not know about MATHJAX, and MATHJAX does not know about `chemformula`.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

**for HTML output:** `1 \LWR@ProvidesPackagePass{chemformula}[2022/01/23]`

`2 \ExplSyntaxOn`

`\ch` Enclose in an inline SVG image or MATHJAX. The `alt` tag is the contents of the `\ch` expression. The filename is hashed, and also has additional hashing information based on the local options.

```

3 \VerifyCommand[\lwarp][chemformula]{\ch}{6D4331F95E9FF2E011E310B1F8C5487E}
4
5 \RenewDocumentCommand \ch { O{}m }
6 {%

```

To work inside align with `\displaymathother`, a simple version must be used to work with `chemformula`'s adaptation to align.

```

7 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
8 {%
9 \chemformula_ch:nn {#1} {#2}% original
10 }%

```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```

11 {%
12 \begingroup%
13 \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

14 \LWR@subsingledollar*{% lwarp
15 \textbackslash}%
16 ch%
17 \{%
18 \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
19 \}% alt text
20 }{%
21 \protect\LWR@HTMLsanitizedetokenized{%
22 \detokenize\expandafter{#1}%
23 }% add'l hashing
24 }%
25 {%
26 \chemformula_ch:nn {#1} {#2}% original
27 }%
28 \endgroup%
29 }%
30 }

```

`\chcpd`

Similar to `\ch`.

```

31 \IfPackageAtLeastTF{chemformula}{2019/10/13}{
32
33 \VerifyCommand[lwarp][chemformula]{\chemformula_chcpd:nn}
34 {C1E882F2C1137D429AE4F789C84E7428}
35
36 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
37 {
38 \begingroup%
39 \boolfalse{mathjax}%
40 \LWR@subsingledollar*{% lwarp
41 \textbackslash}% alt tag
42 chcpd%
43 \{%
44 \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
45 \}%
46 }{%
47 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
48 }{% original
49 \group_begin:
50 \tl_if_blank:nF {#2}
51 {
52 \keys_set:nn {chemformula} {#1}
53 __chemformula_save_catcodes:
54 __chemformula_sanitize:Nn
55 __chemformula_chemformula_tmpa_tl
56 {#2}

```

```

57 __chemformula_input_compound_no_check:NV
58 \l__chemformula_compound_tl
59 \l__chemformula_chemformula_tmpa_tl
60 __chemformula_prepare_output:NV
61 \l__chemformula_compound_tl
62 \l__chemformula_catcodes_tl
63 \chemformula_write:V \l__chemformula_compound_tl
64 }
65 \group_end:
66 }
67 \endgroup
68 }
69}% later than 2019/10/13
70{% earlier than 2019/10/13
71% \changes{v0.903}{2021/12/18}{\pkg{chemformula}: Improved alt tag sanitization.}
72 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
73 {
74 \begingroup%
75 \boolfalse{mathjax}%
76 \LWR@subsingleddollar*{% lwarp
77 \textbackslash{}}% alt tag
78 chcpd%
79 \{%
80 \LWR@HTMLsanitizedetokenized{\detokenize{#2}}%
81 \}%
82 }{%
83 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
84 }{% original
85 \group_begin:
86 \tl_if_blank:nF {#2}
87 {
88 \keys_set:nn {chemformula} {#1}
89 __chemformula_save_catcodes:
90 __chemformula_sanitiz:Nn
91 \l__chemformula_chemformula_tmpa_tl
92 {#2}
93 __chemformula_input_compound_no_check:NV
94 \l__chemformula_compound_tl
95 \l__chemformula_chemformula_tmpa_tl
96 __chemformula_prepare_output:N \l__chemformula_compound_tl
97 \chemformula_write:V \l__chemformula_compound_tl
98 }
99 \group_end:
100 }
101 \endgroup
102 }
103}% earlier than 2019/10/13

```

\charrow

If standalone, appears in a regular lateximage.

```

104 \VerifyCommand[lwarp][chemformula]{\charrow}
105 {31D2B3405541C0B128504C94C5046713}
106
107 \RenewDocumentCommand \charrow { m0{}0{} }
108 {
109 \begin{lateximage}[-chemformula- charrow]
110 \group_begin:
111 __chemformula_draw_arrow:nnn {#1} {#2} {#3}
112 \group_end:
113 \end{lateximage}

```

114 }

`\chname` If standalone, appears in a regular `lateximage`, hashed according to contents.

```

115 \VerifyCommand[lwarp][chemformula]{\chname}
116 {3C697C09415EE601DE035EEDD6D3BA4D}
117
118 \RenewDocumentCommand \chname { R(){}R(){} }
119 {
120 \begin{lateximage}*[%
121 \textbackslash{}%
122 chname%
123 (\LWR@HTMLsanitizedetokenized{\detokenize{#1}})%
124 (\LWR@HTMLsanitizedetokenized{\detokenize{#2}})%
125]*?%
126 \chemformula_chwritebelow:nn {#1} {#2}%
127 \end{lateximage}%
128 }

```

`\chlewis` Placed inline, hashed according to contents and options.

```

129 \VerifyCommand[lwarp][chemformula]{\chlewis}
130 {371F2DD32AA98170F43CFDA71177226B}
131
132 \RenewDocumentCommand \chlewis { O{}mm }
133 {
134 \begingroup%
135 \boolfalse{mathjax}%
136 \LWR@subsingledollar*{\textbackslash{}chlewis\{#2\}\{#3\}}%
137 {
138 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
139 }{
140 \chemformula_lewis:nnn {#1} {#2} {#3}
141 }
142 \endgroup%
143 }

```

`lwarp` redefines the `$` character, so special handling is required to escape math expressions inside `\ch`.

This boolean tracks a new kind of escaped math:

```
144 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

`\chemformula_input_escape_math`

Adds additional escaping for the new dollar definition:

```

145 \VerifyCommand[lwarp][chemformula]{__chemformula_input_escape_math:n}
146 {5318E84E9168C2F123781D2EA8CFA871}
147
148 \cs_gset_protected:Npn __chemformula_input_escape_math:n #1
149 {
150 __chemformula_first_last_math:n {#1}
151 \bool_if:NT \l__chemformula_first_last_dollar_bool
152 {
153 \bool_set_true:N \l__chemformula_first_last_math_bool
154 __chemformula_read_escape_dollar:w #1 \q_nil
155 }

```

```

156 \bool_if:NT \l__chemformula_first_last_mathbraces_bool
157 {
158 \bool_set_true:N \l__chemformula_first_last_math_bool
159 __chemformula_read_escape_mathbraces:w #1 \q_nil
160 }

```

Added by lwarp:

```

161 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% lwarp
162 {
163 \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
164 __chemformula_read_escape_LWRdollar:w #1 \q_nil% lwarp
165 }
166 }

```

`\chemformula_read_escape_LWRdollar`

The following parses the contents inside the new dollars.

`lwarp` keeps the dollar as its original math shift until the document starts. While `chemmacros` is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```

167 \begingroup
168 \catcode`\$=\active
169
170 \cs_new_protected:Npn __chemformula_read_escape_LWRdollar:w $#1$ \q_nil
171 {
172 __chemformula_read_escape_math:n {#1}
173 }
174
175 \endgroup

```

`\chemformula_bool_set_if_first_last`

The following looks at the first and last tokens for delimiters to escape math inside `\ch`. The original definition is modified to look for the control sequences which are used by the new meaning of `$`.

```

176 \cs_new_protected:Npn __chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
177 {
178 \int_zero:N \l__chemformula_tmpa_int
179 \int_zero:N \l__chemformula_tmpb_int
180 \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
181 \tl_map_inline:nn {#2}
182 {
183 \int_incr:N \l__chemformula_tmpb_int
184 \int_compare:nT { \l__chemformula_tmpb_int = 1 }
185 {

```

At the start, the `cs_` version compares control sequences:

```

186 \ifdefstrequal{##1}{#3}% lwarp
187 {
188 \bool_set_true:N #1
189 }% lwarp
190 {}
191 }

```

At the end, compare more control sequences:

```

192 \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
193 {
194 \ifdefstrequal{##1}{#4}
195 {}
196 {
197 \bool_set_false:N #1
198 }
199 }
200 }
201 }

```

\chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```

202 \VerifyCommand[lwarp][chemformula]{__chemformula_first_last_math:n}
203 {B464BC6E81CAC84BE00FEE988970CE96}
204
205 \cs_gset_protected:Npn __chemformula_first_last_math:n #1
206 {
207 \bool_set_false:N \l__chemformula_first_last_math_bool
208 \bool_set_false:N \l__chemformula_first_last_dollar_bool
209 \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
210 \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
211 __chemformula_bool_set_if_first_last:Nnnn
212 \l__chemformula_first_last_dollar_bool
213 {#1}
214 { $ } { $ }
215 \bool_if:NF \l__chemformula_first_last_dollar_bool
216 {
217 __chemformula_bool_set_if_first_last:Nnnn
218 \l__chemformula_first_last_mathbraces_bool
219 {#1}
220 { \ () { \) }

```

Added by lwarp:

```

221 \bool_if:NF \l__chemformula_first_last_mathbraces_bool% lwarp
222 {
223 __chemformula_bool_cs_set_if_first_last:NnNN
224 \l__chemformula_first_last_LWRdollar_bool
225 {#1}
226 { \LWR@newsingledollar } { \LWR@newsingledollar }
227 }% lwarp
228 }
229 }

```

```

230 \ExplSyntaxOff

```

---

File 84 **lwarp-chemgreek.sty**

§ 196 Package **chemgreek**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

chemgreek (*Pkg*) chemgreek is patched for use by lwarp.

**Greek symbols** To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other

⚠ **package selection** packages supported by `chemgreek` will result in math-mode greek characters, which will result in svg images being used. These images will be hashed.

⚠ **X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X, Lua<sup>A</sup>T<sub>E</sub>X** If using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X, select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```
2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5 { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9 { \ensuremath { \text {#1} } }%
10 }
11
12 \ExplSyntaxOff
```

---

File 85 **lwarp-chemmacros.sty**

§ 197 Package **chemmacros**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

`chemmacros` (*Pkg*) `chemmacros` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemmacros}[2022/02/13]

svg file hashing assumes that the relevant options are constant for the entire document.

§ 197.1 **Changes to the user's document**

⚠ **\makepolymerdelims** When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[O{op,.75}]CH_2-CH(-[6]Cl)-[O{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

⚠ **redox reactions** Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For HTML output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} \rightarrow \OX{b,Na}\pch{redox(a,b){oxidation}
\end{redoxreaction}
```



## § 197.2 Code

```
2 \ExplSyntaxOn
```

## § 197.3 Loading packages

Also accept the `lwarp` version. `\VerifyCommand` not used here because it doesn't work with the conditional.

```
3 \prg_set_conditional:Npnn \chemmacros_if_package_loaded:n #1 {p,T,F,TF}
4 {
5 \cs_if_exist:cTF {ver@#1.sty}
6 { \prg_return_true: }
7 {
8 \cs_if_exist:cTF {ver@lwarp-#1.sty}
9 { \prg_return_true: }
10 { \prg_return_false: }
11 }
12 }
```

Nullify `hyperref` detection:

```
13 \hook_gput_code:nnn {begindocument/end} {chemmacros}
14 {
15 \bool_set_false:N \l__chemmacros_hyperref_bool
16 }
```

## § 197.4 Loading modules

Patching `chemmacros` modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

## § 197.5 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```
17 \DeclareDocumentEnvironment{polymerdelims}{}
18 {\begin{lateximage}[-chemmacros- polymer]}
19 {\end{lateximage}}
```

Env `redoxreaction`

*{<space above>} {<space below>}*

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 92.

```
20 \DeclareDocumentEnvironment{redoxreaction}{m m}
21 {\begin{lateximage}[-chemmacros- redoxreaction]}
22 {\end{lateximage}}
```

§ 197.6 **Acid-base**

```

23 \AtBeginDocument{
24 \chemmacros_module_if_loaded:nTF{{acid-base}}{
25 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
26
27 \VerifyCommand[lwarp][chemmacros]{\chemmacros_p:n}
28 {D95080E9783CB80E34C51221236CF370}
29
30 \cs_gset_protected:Npn \chemmacros_p:n #1
31 {
32 \begingroup
33 \boolfalse{mathjax}
34 \LWR@subsingledollar*{
35 \textbackslash}%
36 p%
37 \{%
38 \LWR@HTMLsanitizedetokenized{\detokenize{#1}}%
39 \}
40 }{
41 chemmacros%
42 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#1}}%
43 }{
44 \group_begin:
45 \mbox
46 {
47 \chemmacros_p_style:n {p}
48 \ensuremath {#1}
49 }
50 \group_end:
51 }
52 \endgroup
53 }
54
55 \VerifyCommand[lwarp][chemmacros]{\pH}
56 {BA70E24367521CBBF282F40F65758016}
57
58 \RenewDocumentCommand \pH {} {
59 \begingroup
60 \boolfalse{mathjax}
61 \LWR@subsingledollar*{\textbackslash}pH}{chemmacros}{
62 \chemmacros_p:n { \chemmacros_formula:n {H} }
63 }
64 \endgroup
65 }
66
67 \VerifyCommand[lwarp][chemmacros]{\pOH}
68 {EFBC86417A28B1777F8A783D68225A3C}
69
70 \RenewDocumentCommand \pOH {} {
71 \begingroup
72 \boolfalse{mathjax}
73 \LWR@subsingledollar*{\textbackslash}pOH}{chemmacros}{
74 \chemmacros_p:n { \chemmacros_formula:n {OH} }
75 }
76 \endgroup
77 }
78
79 \VerifyCommand[lwarp][chemmacros]{\pKa}
80 {C4141E480C360A8EDA38B65F71F5B1F}

```

```
81
82 \RenewDocumentCommand \pKa {0{}}
83 {
84 \begingroup
85 \boolfalse{mathjax}
86 \LWR@subsingledollar*{\textbackslash}pKa{[]#1{}}{chemmacros #1}{
87 \chemmacros_p:n
88 {
89 \Ka \ifblank {#1} {}
90 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
91 }
92 }
93 \endgroup
94 }
95
96 \VerifyCommand[lwarp][chemmacros]{\pKb}
97 {00A20E25465C2E0D2E3731634F39B0FA}
98
99 \RenewDocumentCommand \pKb {0{}}
100 {
101 \begingroup
102 \boolfalse{mathjax}
103 \LWR@subsingledollar*{\textbackslash}pKb{[]#1{}}{chemmacros #1}{
104 \chemmacros_p:n
105 {
106 \Kb \ifblank {#1} {}
107 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
108 }
109 }
110 \endgroup
111 }
112
113 \LetLtxMacro\LWR@chemmacros@origKa\Ka
114 \renewcommand*{\Ka}{%
115 \begingroup
116 \boolfalse{mathjax}
117 \LWR@subsingledollar*{\textbackslash}Ka}{chemmacros}{%
118 \LWR@chemmacros@origKa%
119 }%
120 \endgroup
121 }
122
123 \LetLtxMacro\LWR@chemmacros@origKb\Kb
124 \renewcommand*{\Kb}{%
125 \begingroup
126 \boolfalse{mathjax}
127 \LWR@subsingledollar*{\textbackslash}Kb}{chemmacros}{%
128 \LWR@chemmacros@origKb%
129 }%
130 \endgroup
131 }
132
133 \LetLtxMacro\LWR@chemmacros@origKw\Kw
134 \renewcommand*{\Kw}{%
135 \begingroup
136 \boolfalse{mathjax}
137 \LWR@subsingledollar*{\textbackslash}Kw}{chemmacros}{
138 \LWR@chemmacros@origKw
139 }
140 \endgroup
```

```

141 }
142
143 }{}% module loaded
144 }% AtBeginDocument

```

### § 197.7 Charges

```

145 \AtBeginDocument{
146 \chemmacros_module_if_loaded:nTF{{charges}}{
147 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
148
149 \VerifyCommand[lwarp][chemmacros]{\fplus}
150 {F6F7137115BC798D4CA779782DCCEB6D}
151
152 \cs_gset_protected:Npn \fplus {
153 \begingroup
154 \boolfalse{mathjax}
155 \LWR@subsingledollar*{\textbackslash}fplus}{chemmacros}
156 { \LWR@origensuredmath{\chemformula_fplus:} }
157 \endgroup
158 }
159
160 \VerifyCommand[lwarp][chemmacros]{\fminus}
161 {A7ED8520C49A794F33AA6122E2411746}
162
163 \cs_gset_protected:Npn \fminus {
164 \begingroup
165 \boolfalse{mathjax}
166 \LWR@subsingledollar*{\textbackslash}fminus}{chemmacros}
167 { \LWR@origensuredmath{\chemformula_fminus:} }
168 \endgroup
169 }
170
171 }{}% Module loaded.
172 }% AtBeginDocument

```

### § 197.8 Nomenclature

```

173 \AtBeginDocument{
174 \chemmacros_module_if_loaded:nTF{{nomenclature}}{
175 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
176
177 \VerifyCommand[lwarp][chemmacros]{\chemmacros_charge:n}
178 {258D97BF6FF3FA5C995D4FDCC44B0E63}
179
180 \cs_gset_protected:Npn \chemmacros_charge:n #1
181 {
182 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
183 {\chemmacros_formula:n { }^{#1} }}
184 {
185 \ifmmode
186 {\chemmacros_formula:n { }^{#1} }}
187 \else
188 { \textsuperscript{\ensuremath{#1}} }
189 \fi
190 }
191 }
192

```

```
193 \hook_gput_code:nnn {begindocument/end} {chemmacros}
194 {
195 \protected\def\LWR@HTML@chemprime { \HTMLunicode{2032} }
196 \LWR@formatted{chemprime}
197 }

198 \VerifyCommand[lwarp][chemmacros]{\chemmacros_cip:n}
199 {EEF7D8AF4D975C2D11D879A77ABDF88}
200
201 \cs_gset_protected:Npn __chemmacros_cip:n #1
202 {
203 \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
204 \int_step_inline:nnnn {0} {1} {9}
205 {
206 \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
207 {##1}
208 { { \l__chemmacros_cip_number_tl ##1} }
209 }
210 {
211 \l__chemmacros_cip_inner_tl
212 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
213 \l__chemmacros_tmpa_tl
214 }}% lwarp
215 }
216 }

217 \VerifyCommand[lwarp][chemmacros]{\Sconf}
218 {D7A87543D1C944168CBAC59E9F45DF9A}
219
220 \RenewDocumentCommand \Sconf { O{S} } {
221 \begin{lateximage}[\textbackslash{}Sconf{[[]#1{]}]*?%
222 \chemmacros_sconf:n {#1}%
223 \end{lateximage}
224 }
225
226 \VerifyCommand[lwarp][chemmacros]{\Rconf}
227 {AB922016338B2F2C2635E6104311DAF2}
228
229 \RenewDocumentCommand \Rconf { O{R} } {
230 \begin{lateximage}[\textbackslash{}Rconf{[[]#1{]}]*?%
231 \chemmacros_rconf:n {#1}%
232 \end{lateximage}
233 }

234 \VerifyCommand[lwarp][chemmacros]{\chemmacros_hapto:n}
235 {FCEEDAB3292A95E65B69F4F8C8849B26}
236
237 \cs_gset_protected:Npn \chemmacros_hapto:n #1
238 {
239 \begingroup
240 \boolfalse{mathjax}
241 \LWR@subsingledollar*{\textbackslash{}hapto\{#1\}}{chemmacros}{
242 \chemmacros_coordination_symbol:nnnn
243 { \l__chemmacros_coord_use_hyphen_bool }
244 {
245 { \c_true_bool }
246 }
247 { \chemeta }
248 {#1}
249 }
```

```

250 \endgroup
251 }
252
253 \VerifyCommand[lwarp][chemmacros]{\chemmacros_dento:n}
254 {E85BBDEF5A35F37215EBAD87AFCB99E8}
255
256 \cs_gset_protected:Npn \chemmacros_dento:n #1
257 {
258 \begingroup
259 \boolfalse{mathjax}
260 \LWR@subsingledollar*{\textbackslash{}dento\{#1\}}{chemmacros}{
261 \chemmacros_coordination_symbol:nnnn
262 { \l__chemmacros_coord_use_hyphen_bool }
263 {
264 { \c_true_bool }
265 }
266 { \chemkappa }
267 {#1}
268 }
269 \endgroup
270 }
271
272 \VerifyCommand[lwarp][chemmacros]{\chemmacros_bridge:n}
273 {5E5D0EA9045A41FF30D4AB315E547B25}
274
275 \cs_gset_protected:Npn \chemmacros_bridge:n #1
276 {
277 \begingroup
278 \boolfalse{mathjax}
279 \LWR@subsingledollar*{\textbackslash{}bridge\{#1\}}{chemmacros}{
280 \chemmacros_coordination_symbol:nnnn
281 { \l__chemmacros_coord_use_hyphen_bool }
282 { \l__chemmacros_bridge_super_bool }
283 { \chemmu }
284 {#1}
285 }
286 \endgroup
287 }
288 }{}% Module loaded.
289 }{}% AtBeginDocument

```

## § 197.9 Particles

```

290 \AtBeginDocument{
291 \chemmacros_module_if_loaded:nTF{{particles}}{
292 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
293
294 \VerifyCommand[lwarp][chemmacros]{\chemmacros_declare_nucleophile:Nn}
295 {ED9AA7471C8638CEF0757A10A2E3935E}
296
297 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2
298 {
299 \cs_set_protected:cpn {__chemmacros_ \chemmacros_remove_backslash:N #1:}
300 {
301 \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
302 {
303 \chemmacros_elpair:n { #2 }
304 { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
305 \chemmacros_formula:n { {}^{}- } }
306 }

```

```

307 { \chemmacros_formula:n { #2^{ - } } }
308 }
309 \DeclareDocumentCommand #1 {o}
310 {%
311 \begin{lateximage}%
312 \group_begin:%
313 \IfNoValueF {##1}%
314 { \chemmacros_set_keys:nn {particles} {##1} }%
315 \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1:}%
316 \group_end:%
317 \end{lateximage}%
318 }
319 }
320
321 \RenewChemNucleophile \Nuc {Nu}
322 \RenewChemNucleophile \ba {ba}
323
324 }{}% Module loaded.
325 }% AtBeginDocument

```

## § 197.10 Phases

```

326 \AtBeginDocument{
327 \chemmacros_module_if_loaded:nTF{{phases}}{
328 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
329
330 \VerifyCommand[lwarp][chemmacros]{\chemmacros_phase:n}
331 {83788F1FCBEDA21B495E919E36DD90A5}
332
333 \cs_undefine:N \chemmacros_phase:n
334 \cs_new_protected:Npn \chemmacros_phase:n #1
335 {
336
337 \mode_leave_vertical:
338
339 \bool_if:NTF \l__chemmacros_phases_sub_bool
340 {
341 \ifnumequal{\value{LWR@lateximagedepth}}{0}
342 {
343 \textsubscript{ (#1) }
344 }
345 {
346 \chemformula_subscript:n { (#1) }
347 }
348 }
349 \skip_horizontal:N \l__chemmacros_phases_space_dim
350 \chemmacros_text:n { (#1) }
351 }
352
353 }{}% Module loaded.
354 }% AtBeginDocument

```

## § 197.11 Mechanisms

```

355 \AtBeginDocument{
356 \chemmacros_module_if_loaded:nTF{{mechanisms}}{
357 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
358

```

```
359 \chemmacros_define_keys:nn {textmechanisms}
360 {
361 type .choice: ,
362 type / .code:n =
363 {
364 __chemmacros_set_mechanisms:nnn { S }
365 {
366 \textsubscript{N}
367 }
368 { }
369 } ,
370 type / 1 .code:n =
371 {
372 __chemmacros_set_mechanisms:nnn { S }
373 {
374 \textsubscript{N}
375 1
376 }
377 { }
378 } ,
379 type / 2 .code:n =
380 {
381 __chemmacros_set_mechanisms:nnn { S }
382 {
383 \textsubscript{N}
384 2
385 }
386 { }
387 } ,
388 type / se .code:n =
389 {
390 __chemmacros_set_mechanisms:nnn { S }
391 {
392 \textsubscript{E}
393 }
394 { }
395 } ,
396 type / 1e .code:n =
397 {
398 __chemmacros_set_mechanisms:nnn { S }
399 {
400 \textsubscript{E}
401 1
402 }
403 { }
404 } ,
405 type / 2e .code:n =
406 {
407 __chemmacros_set_mechanisms:nnn { S }
408 {
409 \textsubscript{E}
410 2
411 }
412 { }
413 } ,
414 type / ar .code:n =
415 {
416 __chemmacros_set_mechanisms:nnn { S }
417 {
418 \textsubscript{E}
```



```

419 }
420 { Ar - }
421 } ,
422 type / e .code:n =
423 { \chemmacros_set_mechanisms:nnn { E } { } { } } ,
424 type / e1 .code:n =
425 { \chemmacros_set_mechanisms:nnn { E } { 1 } { } } ,
426 type / e2 .code:n =
427 { \chemmacros_set_mechanisms:nnn { E } { 2 } { } } ,
428 type / cb .code:n =
429 {
430 \chemmacros_set_mechanisms:nnn { E }
431 {
432 1
433 \textsubscript{cb}
434 }
435 { }
436 } ,
437 type .default:n =
438 }
439
440 \VerifyCommand[lwarp][chemmacros]{\chemmacros_mechanisms:n}
441 {2CF049E0C61235166A36565979D79933}
442
443 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
444 {
445 \tl_if_blank:nTF {#1}
446 { \chemmacros_set_keys:nn {textmechanisms} { type } }
447 { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
448 \mbox
449 {
450 \tl_use:N \l__chemmacros_mechanisms_ar_tl
451 \tl_use:N \l__chemmacros_mechanisms_type_tl
452 \tl_use:N \l__chemmacros_mechanisms_mol_tl
453 }
454 }
455
456 \appto\LWR@restoreorigformatting{%
457 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
458 {%
459 \tl_if_blank:nTF {#1}%
460 { \chemmacros_set_keys:nn {mechanisms} { type } }%
461 { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
462 \mbox%
463 {%
464 \tl_use:N \l__chemmacros_mechanisms_ar_tl%
465 \tl_use:N \l__chemmacros_mechanisms_type_tl%
466 \tl_use:N \l__chemmacros_mechanisms_mol_tl%
467 }%
468 }%
469 }
470
471 }{}% Module loaded.
472 }% AtBeginDocument

```

## § 197.12 Newman

There are so many options that it is hard to hash these images for reuse.

```
473 \AtBeginDocument{
```

```

474 \chemmacros_module_if_loaded:nTF{{newman}}{
475 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
476
477 \VerifyCommand[lwarp][chemmacros]{\newman}
478 {45E815D161E8467A51F5B04150DEC20C}
479
480 \RenewDocumentCommand \newman {od()m}%
481 {
482 \IfValueTF{#2}
483 {\begin{lateximage}[\textbackslash}newman(#2)\{#3\}}*?}%
484 {\begin{lateximage}[\textbackslash}newman\{#3\}}*?}%
485 \group_begin:
486 \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
487 \IfNoValueTF {#2}
488 { \chemmacros_newman:nn { } {#3} }
489 { \chemmacros_newman:nn {#2} {#3} }
490 \group_end:
491 \end{lateximage}
492 }%
493
494 }{}% Module loaded.
495 }% AtBeginDocument

```

### § 197.13 **Orbital**

```

496 \AtBeginDocument{
497 \chemmacros_module_if_loaded:nTF{{orbital}}{
498 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}
499
500 \VerifyCommand[lwarp][chemmacros]{\orbital}
501 {F8E338F96B2EBF6AFE4A91D37A58CD90}
502
503 \RenewDocumentCommand \orbital {om}
504 {
505 \IfValueTF{#1}
506 {
507 \begin{lateximage}[%
508 \textbackslash}%
509 orbital{[%
510 \LWR@HTMLsanitizedetokenized{\detokenize{#1}}}%
511]}\{#2\}%
512]*[[margin-left: 1em ; margin-right: 1em]%
513 }
514 {
515 \begin{lateximage}[%
516 \textbackslash}orbital\{#2\}%
517]*[[margin-left: 1em ; margin-right: 1em]%
518 }
519 \group_begin:
520 \chemmacros_set_keys:nn {orbital/type} {#2}
521 \IfNoValueTF {#1}
522 { \chemmacros_orbital:n { } }
523 { \chemmacros_orbital:n {#1} }
524 \group_end:
525 \end{lateximage}
526 }
527
528 }{}% Module loaded.
529 }% AtBeginDocument

```

§ 197.14 **Reactions**

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list ({#2}{#3}...)}

530 \AtBeginDocument{
531 \chemmacros_module_if_loaded:nTF{{reactions}}{
532 \PackageInfo{lwarp}{Patching~chemmacros~module~reactions}
533
534 \VerifyCommand[lwarp][chemmacros]{__chemmacros_declare_reaction_env:nnnn}
535 {E52CE623404E664FD0647E3A874F2702}
536
537 % #1: chem
538 % #2: math
539 % #3: args number
540 % #4: argument list ({#2}{#3}...)
541 \cs_gset_protected:Npn __chemmacros_declare_reaction_env:nnnn #1#2#3#4
542 {
543 \exp_args:Nnx \DeclareDocumentEnvironment {#1}
544 { \int_compare:nT { #3+0 = 0 } {!} 0{} \prg_replicate:nn {#3+0} {m} }
545 {
546 \boolfalse{mathjax}% lwarp
547 \ifdefvoid{\LWR@ThisAltText}{% lwarp
548 \ThisAltText{-chemmacros~reaction}% lwarp
549 }{ }% lwarp
550 \chemmacros_add_reaction_description:n {##1}
551 __chemmacros_begin_reaction:
552 __chemmacros_reaction_read:nnw {#2} {#4}
553 }
554 {
555 __chemmacros_end_reaction:
556 \gdef\LWR@ThisAltText{}% lwarp
557 \ignorespacesafterend
558 }
559 }
560
561 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
562
563 \RenewChemReaction {reaction} {equation}
564 \RenewChemReaction {reaction*} {equation*}
565 \RenewChemReaction {reactions} {align}
566 \RenewChemReaction {reactions*} {align*}
567
568 }{}% Module loaded.
569 }% AtBeginDocument

```

§ 197.15 **Reactants**

Recompiled for tabular ampersand processing, with the only change being `\StartDefiningTabulars`. `\xpatchcmd` does not work here.

```

570 \VerifyCommand[lwarp][chemmacros]{\printreactants}
571 {18AD32DCD3F2F49C0369DA9ED9974CD7}
572
573 \StartDefiningTabulars% lwarp
574
575 % #1: star: include ID in table
576 \RenewDocumentCommand \printreactants {s}
577 {
578 \group_begin:
579 \chemmacros_set_keys:nn {reactants} { switch = false }

```

```

580 \int_step_variable:nNn
581 { \seq_count:N \g_chemnum_initiated_compounds_seq }
582 \l__chemmacros_reactants_tmpa_tl
583 {
584 \seq_put_right:Nx
585 \l__chemmacros_reactants_tmpa_seq
586 {
587 \chemnum_cmpd:nne { \c_false_bool } { \c_true_bool } {}
588 {
589 \seq_item:NV
590 \g_chemnum_initiated_compounds_seq
591 \l__chemmacros_reactants_tmpa_tl
592 }
593 &
594 \bool_if:nT {#1}
595 {
596 \seq_item:NV
597 \g_chemnum_initiated_compounds_seq
598 \l__chemmacros_reactants_tmpa_tl
599 }
600 &
601 % TODO: expl3-command ??
602 \solvent
603 {
604 \seq_item:NV
605 \g_chemnum_initiated_compounds_seq
606 \l__chemmacros_reactants_tmpa_tl
607 }
608 \tabularnewline
609 }
610 \tl_set:Nx
611 \l__chemmacros_reactants_tmpb_tl
612 {
613 \seq_item:NV
614 \g_chemnum_initiated_compounds_seq
615 \l__chemmacros_reactants_tmpa_tl
616 }
617 \chemmacros_reactants_list_subreactant:Vn
618 \l__chemmacros_reactants_tmpb_tl
619 {#1}
620 }
621 % TODO: longtable ?
622 % table customizable?
623 % first draft of two styles
624 \par
625 \noindent
626 \bool_if:NTF \l__chemmacros_reactants_printreactants_style_bool
627 {
628 \str_case:Vn \l__chemmacros_reactants_printreactants_style_str
629 {
630 {xltabular}
631 {
632 \chemmacros_if_package_loaded:nTF {xltabular}
633 {
634 \bool_if:nTF {#1}
635 {
636 \begin {xltabular}
637 { \textwidth }
638 { @{}ll>{\raggedright\arraybackslash}X@{} }
639 }

```

```

640 {
641 \begin {xltabular}
642 { \textwidth }
643 { @{}l>{\raggedright\arraybackslash}X@{} }
644 }
645 \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
646 \end{xltabular}
647 }
648 {
649 \msg_expandable_error:nnnn
650 {chemmacros}
651 {package-not-loaded}
652 { \printreactants }
653 {xltabular}
654 }
655 }
656 {longtable}
657 {
658 \chemmacros_if_package_loaded:nTF {longtable}
659 {
660 \bool_if:nTF {#1}
661 {
662 \begin {longtable}[l]
663 { @{}ll>{\raggedright\arraybackslash}p{0.6\textwidth}@{} }
664 }
665 {
666 \begin {longtable}[l]
667 { @{}l>{\raggedright\arraybackslash}p{0.9\textwidth}@{} }
668 }
669 \seq_use:Nn \l__chemmacros_reactants_tmpa_seq { }
670 \end{longtable}
671 }
672 }
673 \msg_expandable_error:nnnn
674 {chemmacros}
675 {package-not-loaded}
676 { \printreactants }
677 {longtable}
678 }
679 }
680 }
681 }
682 {
683 \msg_warning:nn {chemmacros} {missing-printreactants-style}
684 }
685 \group_end:
686 }
687
688 \VerifyCommand[lwarp][chemmacros]{\chemmacros_reactants_list_subreactant:nn}
689 {50553A53C2149BD3ADA8AE0FAB0C79C4}
690
691 % #1: full ID
692 % #2: star, include ID in table
693 \cs_gset_protected:Npn \chemmacros_reactants_list_subreactant:nn #1#2
694 {
695 \chemnum_if_subcompounds:nT {#1}
696 {
697 \int_step_variable:nNn
698 { \chemnum_count_subcompounds:n {#1} }
699 \l__chemmacros_reactants_tmpa_tl

```

```

700 {
701 \seq_put_right:Nx
702 \l__chemmacros_reactants_tmpa_seq
703 {
704 \chemnum_cmpd:nne { \c_false_bool } { \c_true_bool } {}
705 {
706 \exp_not:n {#1}
707 \exp_not:V \l_chemnum_compound_separator_tl
708 \chemnum_get_subcompound:nV
709 {#1}
710 \l__chemmacros_reactants_tmpa_tl
711 }
712 &
713 \bool_if:nT {#2}
714 {
715 #1
716 \l_chemnum_compound_separator_tl
717 \chemnum_get_subcompound:nV
718 {#1}
719 \l__chemmacros_reactants_tmpa_tl
720 &
721 }
722 % TODO: expl3-command ??
723 \solvent
724 {
725 #1
726 \l_chemnum_compound_separator_tl
727 \chemnum_get_subcompound:nV
728 {#1}
729 \l__chemmacros_reactants_tmpa_tl
730 }
731 \tabularnewline
732 }
733 }
734 }
735 }
736 \cs_generate_variant:Nn \chemmacros_reactants_list_subreactant:nV {V}
737
738 \StopDefiningTabulars% lwarp

```

## § 197.16 Redox

```

739 \AtBeginDocument{
740 \chemmacros_module_if_loaded:nTF{{redox}}{
741 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
742
743 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
744 {
745 \IfBooleanTF {#1}
746 { \chemmacros_ox:nnnn {#1} {#2} #3 }
747 { \chemmacros_ox:nnnn { } {#2} #3 }
748 }
749
750 \VerifyCommand[lwarp][chemmacros]{\ox}
751 {06B84CC6B38302F75169D5B90D8D29AA}
752
753 \RenewDocumentCommand \ox { s O{ } m }
754 {
755 \begingroup
756 \boolfalse{mathjax}

```

```

757 \IfBooleanTF {#1}
758 {
759 \LWR@subsingledollar*{% yes hash
760 \textbackslash}%
761 ox*%
762 \{%
763 \LWR@HTMLsanitizedetokenized{\detokenize{#3}}%
764 \}% alt
765 }{%
766 star \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#2}}%
767 }{%
768 \LWR@chemmacros@ox* {#2} {#3}% contents
769 }%
770 }
771 {
772 \LWR@subsingledollar*{% yes hash
773 \textbackslash}%
774 ox%
775 \{%
776 \LWR@HTMLsanitizedetokenized{\detokenize{#3}}%
777 \}% alt
778 }{%
779 \protect\LWR@HTMLsanitizedetokenized{\detokenize\expandafter{#2}}%
780 }{%
781 \LWR@chemmacros@ox {#2} {#3}% contents
782 }%
783 }
784 \endgroup
785 }
786
787 }{% Module loaded.
788 }% AtBeginDocument

```

## § 197.17 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

789 \AtBeginDocument{
790 \chemmacros_module_if_loaded:nTF{{scheme}}{
791 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
792
793 \ifdefstring{\schemename}{los}{
794 \SetupFloatingEnvironment{scheme}{
795 name = \chemmacros_translate:n {scheme-name}
796 }
797 }{}
798
799 }{% Module loaded.
800 }% AtBeginDocument

```

## § 197.18 Spectroscopy

```

801 \AtBeginDocument{
802 \chemmacros_module_if_loaded:nTF{{spectroscopy}}{
803 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
804
805 \VerifyCommand[lwarp][chemmacros]{__chemmacros_nmr_base:nn}
806 {EDE669CC90B085080E3F96DB754836D5}
807
808 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
809 {
810 \group_begin:
811 \tl_use:N \l__chemmacros_nmr_base_format_tl
812 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
813 {
814 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
815 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
816 }
817 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
818 % \chemmacros_formula:n { ^{#1} }
819 #1
820 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
821 {
822 \bool_if:NTF \l__chemmacros_nmr_parse_bool
823 { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
824 { \chemmacros_formula:V \g__chemmacros_nmr_element_coupled_tl }
825 }
826 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
827 \tl_use:N \l__chemmacros_nmr_method_tl
828 \group_end:
829 }
830
831
832 \VerifyCommand[lwarp][chemmacros]{\chemmacros_nmr_position:n}
833 {637FDE0E801CF4052274FF60A12A38F0}
834
835 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
836 {
837 \chemmacros_formula:x
838 {
839 \exp_not:V \g__chemmacros_nmr_element_tl
840 \bool_if:NF \l__chemmacros_nmr_position_side_bool
841 {
842 \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
843 { \textsuperscript{\exp_not:n { #1} }} % lwarp
844 { \textsubscript{\exp_not:n { #1} }} % lwarp
845 % \exp_not:V \l__chemmacros_nmr_position_tl
846 % \exp_not:n { #1 }
847 }
848 }
849 \bool_if:NT \l__chemmacros_nmr_position_side_bool
850 {
851 \tl_use:N \l__chemmacros_nmr_position_tl
852 __chemmacros_nmr_position:n {#1}
853 }
854 }
855
856 \VerifyCommand[lwarp][chemmacros]{__chemmacros_nmr_coupling:w}
857 {4D1E7321CA2F8C7EA2E4F56FB3A26EED}
858

```



```

859 \cs_gset_protected:Npn __chemmacros_nmr_coupling:w (#1;#2)
860 {
861 \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
862 {
863 \l__chemmacros_nmr_coupling_bonds_pre_tl
864 #1
865 \l__chemmacros_nmr_coupling_bonds_post_tl
866 }
867 \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
868 {
869 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
870 {
871 % \c_math_subscript_token
872 \textsubscript% lwarp
873 {
874 \l__chemmacros_nmr_coupling_nuclei_pre_tl
875 \chemmacros_formula:n {#2}
876 \l__chemmacros_nmr_coupling_nuclei_post_tl
877 }
878 }
879 }
880 {
881 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
882 {
883 \l__chemmacros_nmr_coupling_nuclei_pre_tl
884 \chemmacros_formula:n {#2}
885 \l__chemmacros_nmr_coupling_nuclei_post_tl
886 }
887 }
888 __chemmacros_nmr_coupling_aux_i:w
889 }
890 \AfterEndPreamble{% After \AtBeginDocument
891
892 \VerifyCommand[lwarp][chemmacros]{\chemmacros_nmr:nnnn}
893 {FD67505420F044B2CA8E7CBD05B1ECEB}
894
895 % \NMR{<num>,<elem>}<num>,<unit>[<solvent>] ALL arguments are optional
896 % \NMR* same but without ": δ" at end
897 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
898 {
899 \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
900 \group_begin:

901 \mode_leave_vertical:

902 \bool_set_false:N \l__chemmacros_nmr_frequency_bool
903 \bool_set_false:N \l__chemmacros_nmr_solvent_bool
904 \tl_if_empty:nF {#3}
905 { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
906 \tl_if_empty:nF {#4}
907 { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
908 \bool_if:nT
909 {
910 \l__chemmacros_nmr_frequency_bool
911 ||
912 \l__chemmacros_nmr_solvent_bool
913 }
914 { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
915 \bool_if:nT
916 {

```

```

917 \l__chemmacros_nmr_frequency_bool
918 &&
919 \l__chemmacros_nmr_solvent_bool
920 }
921 { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
922 \tl_if_empty:nTF {#2}
923 {
924 __chemmacros_nmr_nucleus:VV
925 \l__chemmacros_nmr_isotope_default_tl
926 \l__chemmacros_nmr_element_default_tl
927 }
928 { __chemmacros_nmr_nucleus:w #2 \q_stop }
929 \mode_if_math:TF
930 {
931 \text
932 {
933 \group_begin:
934 \tl_use:N \l__chemmacros_nmr_format_tl
935 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
936 __chemmacros_nmr_base:VV
937 \g__chemmacros_nmr_isotope_tl
938 \g__chemmacros_nmr_element_tl
939 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
940 { ~ () }
941 \bool_if:NT \l__chemmacros_nmr_frequency_bool
942 { __chemmacros_nmr_frequency:n {#3} }
943 \bool_if:NT \l__chemmacros_nmr_comma_bool
944 { , ~ }
945 \bool_if:NT \l__chemmacros_nmr_solvent_bool
946 { \chemmacros_formula:n {#4} }
947 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
948 {) }
949 \tl_if_blank:nT {#1} {:#~}
950 }}% lwarp
951 \group_end:
952 }
953 \tl_if_blank:nT {#1}
954 {
955 \delta
956 \text { \l__chemmacros_nmr_delta_tl }
957 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
958 }
959 }
960 {
961 \group_begin:
962 \tl_use:N \l__chemmacros_nmr_format_tl
963 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
964 __chemmacros_nmr_base:VV
965 \g__chemmacros_nmr_isotope_tl
966 \g__chemmacros_nmr_element_tl
967 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
968 {~(}
969 \bool_if:NT \l__chemmacros_nmr_frequency_bool
970 { __chemmacros_nmr_frequency:n {#3} }
971 \bool_if:NT \l__chemmacros_nmr_comma_bool
972 {,~}
973 \bool_if:NT \l__chemmacros_nmr_solvent_bool
974 {
975 \bool_if:NTF \l__chemmacros_nmr_parse_bool

```

```

976 % { \chemformula_ch:nn { } {#4} }% original
977 {\ch{#4}}% lwarp
978 {#4}
979 }
980 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
981 {}
982 }}% lwarp
983 \tl_if_blank:nT {#1} {:}
984 \group_end:
985 \tl_if_blank:nT {#1}
986 {
987 \tl_use:N \c_space_tl
988 \c_math_toggle_token
989 \delta
990 \c_math_toggle_token
991 \l__chemmacros_nmr_delta_tl
992 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
993 }
994 }
995 \group_end:
996 }
997 }% AfterEndPreamble
998
999
1000 \VerifyCommand[lwarp][chemmacros]{\chemmacros_data:w}
1001 {30A6134DE00E9850E074854B48644833}
1002
1003 \RenewDocumentCommand \chemmacros_data:w { smo }
1004 {
1005 \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
1006 {
1007 % \tl_use:N \l__chemmacros_nmr_format_tl #2
1008 \tl_use:N \l__chemmacros_nmr_format_tl
1009 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
1010 #2
1011 \IfNoValueF {#3} { ~ (#3) }
1012 \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
1013 }}% lwarp
1014 }
1015 \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
1016 }
1017
1018 }{}% Module loaded.
1019 }% AtBeginDocument

```

## § 197.19 Thermodynamics

```

1020 \AtBeginDocument{
1021 \chemmacros_module_if_loaded:nTF{{thermodynamics}}{
1022 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
1023
1024 \VerifyCommand[lwarp][chemmacros]{\chemmacros_state:nnnnn}
1025 {C5B35D9405E380ABE9A9CE849F46EE6D}
1026
1027 \cs_gset_protected:Npn \chemmacros_state:nnnnn #1#2#3#4#5#6
1028 {
1029 \group_begin:
1030 \chemmacros_set_keys:ne {thermodynamics}
1031 {
1032 \exp_not:n {#1} ,

```

```

1033 \tl_if_novalue:nF {#2} { subscript-left = \exp_not:n {#2} , }
1034 \tl_if_novalue:nF {#3} { superscript-left = \exp_not:n {#3} , }
1035 \tl_if_novalue:nF {#5} { subscript-right = \exp_not:n {#5} , }
1036 \tl_if_novalue:nF {#6} { superscript-right = \exp_not:n {#6} }
1037 }
1038 \LWR@subsingledollar*{% yes hashing
1039 \textbackslash{}state%
1040 \{\LWR@HTMLsanitizedetokenized{\detokenize{#4}}\}% alt
1041 }{%
1042 chemmacros_state% add'l hashing
1043 #1% options
1044 LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
1045 LSB \tl_use:N \l__chemmacros_state_sb_left_tl
1046 RSP \tl_use:N \l__chemmacros_state_sp_right_tl
1047 RSB \tl_use:N \l__chemmacros_state_sb_right_tl
1048 }
1049 {
1050 \LWR@origensuredmath
1051 {
1052 \chemmacros_text:V \l__chemmacros_state_pre_tl
1053 \c_math_superscript_token
1054 { \chemmacros_text:V \l__chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

1055 \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
1056 {}
1057 {
1058 \c_math_subscript_token
1059 { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
1060 }
1061 #4
1062 \c_math_superscript_token
1063 { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
1064 \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
1065 {}
1066 {
1067 \c_math_subscript_token
1068 { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
1069 }
1070 \chemmacros_text:V \l__chemmacros_state_post_tl
1071 }
1072 }
1073 \group_end:
1074 }
1075 \cs_generate_variant:Nn \chemmacros_state:nnnnn { nVVVVV }
1076
1077 \VerifyCommand[lwarp][chemmacros]{\chemmacros_declare_state:Nn}
1078 {3C1386935B85ED732A283627DA403FBE}
1079
1080 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
1081 {
1082 \chemmacros_define_keys:xn
1083 {thermodynamics/\chemmacros_remove_backslash:N #1}
1084 {
1085 pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
1086 post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
1087 superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
1088 superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,

```

```

1089 superscript .meta:n = { superscript-right = ##1 } ,
1090 subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
1091 subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
1092 subscript .meta:n = { subscript-left = ##1 } ,
1093 subscript-pos .choices:nn =
1094 { left , right }
1095 { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
1096 symbol .tl_set:N = \l__chemmacros_state_symbol_tl ,
1097 unit .tl_set:N = \l__chemmacros_state_unit_tl
1098 }
1099 \DeclareDocumentCommand #1 { s0{}D(){}m }
1100 {
1101 \group_begin:
1102 \chemmacros_set_keys:en
1103 {thermodynamics/\chemmacros_remove_backslash:N #1}
1104 {##2}
1105 \tl_if_blank:nF {##3}
1106 {
1107 \chemmacros_set_keys:ne {thermodynamics}
1108 { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
1109 }
1110 % \LWR@origensuredmath
1111 % {
1112 \chemmacros_state:nVVVVV
1113 {##2}
1114 \c_novalue_tl
1115 \c_novalue_tl
1116 \l__chemmacros_state_symbol_tl
1117 \c_novalue_tl
1118 \c_novalue_tl
1119 \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
1120 \IfBooleanF {##1} { = \qty {##4} { \l__chemmacros_state_unit_tl } }
1121 % }
1122 \group_end:
1123 }
1124 }

```

The pre-existing macros are redefined with the new definition:

```

1125 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
1126 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
1127 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
1128
1129 }{}% Module loaded.
1130 }% AtBeginDocument

1131 \ExplSyntaxOff

```

---

File 86 **lwarp-chemnum.sty**

§ 198 Package **chemnum**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

chemnum (*Pkg*) chemnum is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]

```

2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][chemnum]{\chemnum_compound_write:n}
5 {E47ACDCCC4D90FAC40B75B53721EC218}
6
7 \cs_gset_protected:Npn \chemnum_compound_write:n #1
8 {
9 \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
10 \group_begin:
11 \bool_if:NTF \l__chemnum_compound_local_bool
12 { \l__chemnum_local_label_format_tl }
13 { \chemnum_get_compound_property:nn {#1} {label-format} }
14 {
15 \LWR@textcurrentfont{
16 \chemnum_get_compound_property:nn {#1} {counter-representation}
17 }
18 }
19 \group_end:
20 \chemnum_get_compound_property:nn {#1} {post-main-label-code}
21 }
22
23 \VerifyCommand[lwarp][chemnum]{\chemnum_subcompound_write:nn}
24 {F6BB883B91A1FA330EF3B89924BF3679}
25
26 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
27 {
28 \group_begin:
29 \bool_if:NTF \l__chemnum_compound_local_bool
30 { \l__chemnum_local_label_format_tl }
31 { \chemnum_get_compound_property:nn {#1} {label-format} }
32 {
33 \LWR@textcurrentfont{
34 \chemnum_get_subcompound_property:nnn {#1} {#2}
35 {counter-representation}
36 }
37 }
38 \group_end:
39 }
40
41 \ExplSyntaxOff

```

---

File 87 **lwarp-chkfloat.sty**

§ 199 Package **chkfloat**

chkfloat (*Pkg*) chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 88 **lwarp-chngpage.sty**

§ 200 Package **chngpage**

(Emulates or patches code by PETER WILSON.)

chngepage (*Pkg*) chngepage is ignored.

**for HTML output:** Discard all options for lwarp-chngepage:

```
1 \LWR@ProvidesPackageDrop{chngepage}[2009/10/20]
2 \LWR@origRequirePackage{lwarp-chngepage}
```

File 89 **lwarp-cite.sty**

§ 201 Package **cite**

*(Emulates or patches code by DONALD ARSENEAU.)*

cite (*Pkg*) cite is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```
2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdefstrequal{\@biblabel}{\LWRCT@biblabel}
5 {
6 \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the [super] option, \textsuperscript is used instead of math superscript:

```
8 \def\@citess#1{#1}
9
10 \DeclareDocumentCommand\citepunct{}{,\,\, \relax}
```

File 90 **lwarp-citeref.sty**

§ 202 Package **citeref**

*(Emulates or patches code by BJÖRN BRIEL.)*

citeref (*Pkg*) citeref is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]

```
2 \def\@cprwrite#1={%
3 \write\@auxout{\string\citepageref{#1}{\theLWR@previousautopagelabel}}%
4 }
5
6 \VerifyCommand[lwarp][citeref]{\citepageref}
7 {F5E07AE6603C65E9398417D6D392825D}
8
9 \def\citepageref#1#2{%
10 \xdef\cpr@testa{\@nameuse{cpr@last@#1}}%letzte Zitatstelle
11 \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
12 \ifx\cpr@testa\cpr@testb%
13 \relax% Konsekutive identische Seitenangaben weglassen
```

```

14 \else%
15 \@namexdef{cpr@last@#1}{#2}%
16 \@ifundefined{cpr@#1}%
17 {\@namexdef{cpr@#1}{\LWR@refwithsection{\BaseJobname-autopage-#2}}}% lwarp
18 {% lwarp
19 \@namexdef{cpr@#1}{\@nameuse{cpr@#1}, % space
20 \LWR@refwithsection{\BaseJobname-autopage-#2}}%
21 }%
22 \fi
23 }

```

---

File 91 **lwarp-CJK.sty**

§ 203 Package **CJK**

CJK (*Pkg*) CJK does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \IfPackageLoadedTF{xeCJK}{%
2 \LWR@Loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]

```

---

File 92 **lwarp-CJKutf8.sty**

§ 204 Package **CJKutf8**

CJKutf8 (*Pkg*) CJKutf8 does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \IfPackageLoadedTF{xeCJK}{%
2 \LWR@Loadnever{CJKutf8}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]

```

---

File 93 **lwarp-classicthesis.sty**

§ 205 Package **classicthesis**

*(Emulates or patches code by ANDRÉ MIEDE AND IVO PLETIKOSIĆ.)*

classicthesis (*Pkg*) classicthesis is emulated.

**for HTML output:** Discard all options for lwarp-classicthesis:

```

1 \LWR@ProvidesPackageDrop{classicthesis}[2018/06/03]

2 \RequirePackage{scrlayer-scrpage} % provides headers and footers (KOMA Script)
3 \RequirePackage{scrttime} % time access
4 \PassOptionsToPackage{titles}{tocloft}
5 \RequirePackage{textcase} % for \MakeTextUppercase
6 \RequirePackage[newparttoc]{titlesec} % newparttoc to write \part to .toc with \numberline

```



```

7 \RequirePackage{tocloft}
8 \PassOptionsToPackage{headinclude,footinclude}{typearea} % for classes other than KOMA
9 \RequirePackage{typearea}
10 \PassOptionsToPackage{marginal}{footmisc}% marginal flushmargin
11 \RequirePackage{footmisc}%
12 \RequirePackage{prelim2e}
13 \RequirePackage{remreset}%
14
15 \DeclareRobustCommand{\spacedallcaps}[1]{\textsc{\MakeTextUppercase{#1}}}
16 \DeclareRobustCommand{\spacedlowsmallcaps}[1]{\textsc{\MakeTextLowercase{#1}}}
17 \newcommand{\ctparttext}[1]{}
18 \newcommand{\tocEntry}[1]{}
19 \DeclareRobustCommand*\deactivateaddvspace{}{}%
20 \newlength{\beforebibskip}

```

---

File 94 **lwarp-cleveref.sty**

§ 206 Package **cleveref**

*(Emulates or patches code by TOBY CUBITT.)*

cleveref (*Pkg*) cleveref is patched for HTML, and limited MATHJAX emulation is added.

⚠ **cleveref page numbers** cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\pageref` and `\pagerefrange`. This phrase includes `\pagerefFor`, which defaults to “for”.

Ex:

```

\pageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”

```

See `\pagerefFor` at page 754 to redefine the message which is printed for page number references.

Table 16 on page 506 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

For MATHJAX, each references is printed as an `\eqref`, without `cleveref`’s description text. Page references are also printed as simple `\eqrefs`. Multiple labels in a single `\cref` will print as (???) in MATHJAX.

⚠ **multiple labels**

**for HTML output:** `1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]`

The following patches are applied. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```
\@@@setcref {<kindofref>} {<label>}
```

For HTML, `\@templabel` is replaced by the section number.

```

2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}}%
3
4 \ifdequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5 \renewcommand*\@@@setcref}[2]{#1{\ref{#2}}{}}

```

```

6 }{
7 \ifdefequal{\@@@setcref}\LWR@orig@@@setcref}{% as of v0.21
8 \renewcommand*\@@@setcref}[2]{%
9 #1{\ref{#2}}{}}
10 }{
11 \PackageWarningNoLine{lwarp-cleveref}{
12 Unknown version of cleveref.
13 \protect\cref\space will fail.
14 }%
15 }
16 }

```

`\@@@setcrefrange`  $\langle text \rangle$   $\langle label \rangle$   $\langle label \rangle$

```

17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18 \cref@getlabel{#2}\@labela}%
19 \cref@getlabel{#3}\@labelb}%
20 #1{\@labela}\@labelb}{}}}%
21
22 \ifdefequal{\@@@setcrefrange}\LWR@orig@@@setcrefrange}{
23 \renewcommand{\@@@setcrefrange}[3]{%
24 #1{\ref{#2}}{\ref{#3}}{}}}%
25 }
26 }{
27 \ifdefequal{\@@@setcrefrange}\LWR@orig@@@setcrefrange}{
28 \renewcommand{\@@@setcrefrange}[3]{%
29 #1{\ref{#2}}{\ref{#3}}{}}}%
30 }
31 }{
32 \PackageWarningNoLine{lwarp-cleveref}{
33 Unknown version of cleveref.
34 \protect\crefrange\space will fail.
35 }
36 }
37 }

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```

38 \newcommand*\cpagerefFor{for}

```

`\@@@setcpageref`  $\langle typeofref \rangle$   $\langle label \rangle$ , where `typeofref` is “page” or “pages”

```

39 \def\LWR@orig@@@setcpageref#1#2{% before v0.21
40 \cref@getpageref{#2}\@temppage}#1{\@temppage}{}}}%
41
42 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
43 \cpageref@getlabel{#2}\@temppage}#1{\@temppage}{}}}%
44
45 \ifdefequal{\@@@setcpageref}\LWR@orig@@@setcpageref}{
46 \renewcommand*\@@@setcpageref}[2]{%
47 #1{\cpagerefFor\ \cref{#2}}{}}}%
48 }
49 }{
50 \ifdefequal{\@@@setcpageref}\LWR@orig@@@setcpageref}{
51 \renewcommand*\@@@setcpageref}[2]{%
52 #1{\cpagerefFor\ \cref{#2}}{}}}%
53 }

```

```

54 }
55 {
56 \PackageWarningNoLine{lwarp-cleveref}{
57 Unknown version of cleveref.
58 \protect\cpageref\space will fail.
59 }
60 }
61 }

62 \def\LWR@orig@@setcpagerefrange#1#2#3{% before v0.21
63 \cref@getpageref{#2}{\@pagea}%
64 \cref@getpageref{#3}{\@pageb}%
65 #1{\@pagea}{\@pageb}{\@pagec}{\@paged}%
66
67 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
68 \cpageref@getlabel{#2}{\@pagea}%
69 \cpageref@getlabel{#3}{\@pageb}%
70 #1{\@pagea}{\@pageb}{\@pagec}{\@paged}%
71
72 \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
73 \renewcommand*\@@setcpagerefrange}[3]{%
74 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagec}{\@paged}%
75 }
76 }{
77 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
78 \renewcommand*\@@@setcpagerefrange}[3]{%
79 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagec}{\@paged}%
80 }
81 }
82 {
83 \PackageWarningNoLine{lwarp-cleveref}{
84 Unknown version of cleveref.
85 \protect\cpagerefrange\space will fail.
86 }
87 }
88 }

```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{labelcref}
98 \LWR@absorbstar{labelcpageref}

```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \IfPackageLoadedTF{varioref}{
100 \LWR@absorbstar{vref}
101 \LWR@absorbstar{Vref}
102 \LWR@absorbstar{vrefrange}
103 \LWR@absorbstar{Vrefrange}

```

```

104 \LWR@absorbstar{fullref}
105 \LWR@absorbstar{Fullref}
106 }{}% varioref

107 \IfClassLoadedTF{memoir}{
108 \AtBeginDocument{
109 \def\sf@memsub@label(#1)#2{%
110 \protected@edef\mem@currentlabelname{#1}%
111 \sf@memsub@label{#2}}
112 }
113 }{}

114 \IfPackageLoadedTF{subfig}{
115 \def\sf@sub@label(#1)#2{%
116 \ifhyperrefloaded
117 \protected@edef\@currentlabelname{%
118 \expandafter\strip@period #1\relax.\relax\@@}%
119 \fi
120 \sf@sub@label{#2}}
121 }{}

```

---

File 95 **lwarp-clrdblpg.sty**

§ 207 Package **clrdblpg**

clrdblpg (*Pkg*) clrdblpg is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]


---

File 96 **lwarp-cmbright.sty**

§ 208 Package **cmbright**

*(Emulates or patches code by WALTER SCHMIDT.)*

cmbright (*Pkg*) cmbright is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored, and \mathbold is available.

The dedicated macros for upright Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
2
3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \IfPackageLoadedWithOptionsTF{cmbright}{slantedGreek}

```

```

9 {
10 \LWR@mathjax@addgreek@u@it*{}{}
11 }
12 {}
13
14 \LWR@mathjax@addgreek@u@up*{up}{}
15
16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}

```

---

File 97 **lwarp-cmdtrack.sty**

§ 209 Package **cmdtrack**

cmdtrack (*Pkg*) cmdtrack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}

---

File 98 **lwarp-colonequals.sty**

§ 210 Package **colonequals**

*(Emulates or patches code by HEIKO OBERDIEK.)*

colonequals (*Pkg*) colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

**for HTML output:** 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@inprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\unicode{x2236}\! =}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\unicode{x2237}\! =}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=!\unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=!\unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\unicode{x2236}-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2237}-}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{\unicode{x2236}\! \approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2237}\! \approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx!\unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx!\unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\unicode{x2236}\! \sim}}}

```

```

20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\unicode{x2237}\!\sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim\!\unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim\!\unicode{x2237}}}}
23 \end{warpMathJax}

```

---

File 99 **lwarp-color.sty**

§ 211 Package **color**

`color` (*Pkg*) Allowed but ignored. `xcolor` is then required as well.

`color` is superceded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}

```

`\color@endgroup`'s `\endgraf` was conflicting with `lwarp`'s paragraph handling.

```

3 \let\color@endgroup\endgroup


```

---

File 100 **lwarp-colortbl.sty**

§ 212 Package **colortbl**

`colortbl` (*Pkg*) `colortbl` is used as-is for print output, and emulated for HTML.

 **row/cell color** Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

**colored tables** `\rowcolors` is supported, except that the optional argument is ignored so far.

**for HTML output:** A placeholder definition is forgotten first:

```

1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2022/06/20]

```

The following `\LWR@HTML` versions are used inside an HTML `tabular`.

`\columncolor`

```

[<model>] {<color>} [<left overhang>] [<right overhang>]

```

`\LWR@getmynexttoken` is not used here because `\columncolor` is not used inside the data area of the `tabular`.

`\columncolor` is provided here to satisfy `\LWR@formatted`'s test for the existence of the print-mode macro.

```

4 \ProvideDocumentCommand{\columncolor}{O{named} m o o}{}%
5
6 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
7 \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
8 \LWR@addtabularcellcolor%
9 }

```

```
10
11 \AtBeginDocument{\LWR@formatted{columncolor}}
```

\LWR@getmynexttoken is used for \rowcolor because it is used inside the data area of the tabular.

\rowcolor                    [*model*] {*color*} [*left overhang*] [*right overhang*]

```
12 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
13 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
14 \LWR@getmynexttoken%
15 }
16
17 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}
```

\cellcolor                    [*model*] {*color*} [*left overhang*] [*right overhang*]

```
18 \NewDocumentCommand{\LWR@HTML@cellcolor}{O{named} m o o}{%
19 \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
20 \LWR@addtabularcellcolor%
21 }
22
23 \AtBeginDocument{\LWR@formatted{cellcolor}}
```

\arrayrulecolor              [*model*] {*color*}

The HTML version for use outside a tabular. Inside a tabular, \LWR@HTML@arrayrulecolornexttoken is used instead.

```
24 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
25 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
26 }
27
28 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}
```

[*model*] {*color*}

\LWR@arrayrulecolornexttoken    The HTML version for use inside a tabular.

```
29 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
30 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
31 \LWR@getmynexttoken%
32 }
33
34 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}
```

\doublerulesepcolor            [*model*] {*color*}

The version for use outside a tabular.

```
35 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{%
36
37 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}
```

[*model*] {*color*}

\LWR@doublerulesepcolornexttoken    The version for use inside a tabular.

```
38 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
39
```

```
40 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}
```

```
\rowcol@rs
```

```
[<cmds>] {\startrow} {\odd color} {\even color}
```

```
41 \newcommand*\LWR@xcolortempcolor{}
```

```
42
```

```
43 \VerifyCommand[lwarp][colortbl]{\rowcol@rs}{A66C3974E0C5BD5C3DDE033367D197A4}
```

```
44
```

```
45 \def\rowcol@rs[#1]#2#3#4%
```

```
46 {%
```

The lwarp emulation starts at row 1 instead of 0.

```
47 % \global\rownum=\z@
```

```
48 \global\rownum=1% lwarp
```

```
49 \global\@rowcolorstrue%
```

```
50 \@ifxempty{#3}%
```

```
51 {\def\@oddrowcolor{\@norowcolor}}%
```

```
52 {%
```

```
53 \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor% lwarp
```

```
54 \edef\@oddrowcolor{%
```

```
55 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}% lwarp
```

```
56 }%
```

```
57 }%
```

```
58 \@ifxempty{#4}%
```

```
59 {\def\@evenrowcolor{\@norowcolor}}%
```

```
60 {%
```

```
61 \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor% lwarp
```

```
62 \edef\@evenrowcolor{%
```

```
63 \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}% lwarp
```

```
64 }%
```

```
65 }%
```

```
66 \if@rowcmd
```

```
67 \def\@rowcolors
```

```
68 {%
```

```
69 % #1%
```

```
70 \if@rowcolors
```

```
71 % \noalign{%
```

```
72 \relax\ifnum\rownum<#2\@norowcolor\else
```

```
73 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
```

```
74 % }%
```

```
75 \fi%
```

```
76 }%
```

```
77 \else
```

```
78 \def\@rowcolors
```

```
79 {%
```

```
80 \if@rowcolors
```

```
81 \ifnum\rownum<#2%
```

```
82 % \noalign{%
```

```
83 \@norowcolor
```

```
84 % }
```

```
85 \else
```

```
86 % #1%
```

```
87 % \noalign{%
```

```
88 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi
```

```
89 % }%
```

```
90 \fi
```

```
91 \fi%
```

```
92 }%
```

```
93 \fi
```



```
94 \ignorespaces%
95 }
```

`\@norowcolor`

Turns off color for this row.

```
96 \def\@norowcolor{%
97 \renewcommand{\LWR@excolorrowHTMLcolor}{}%
98 }
```

`\@rowcolors`

Executed at the end of each row.

```
99 \def\@rowcolors{%
100 % \noalign{%
101 \advance\rownum\@ne%
102 % }%
103 \@rowcolors%
104 }
```

For MATHJAX, use the MATHJAX package. The unused macro options are ignored.

```
105 \begin{warpMathJax}
106
107 \CustomizeMathJax{\require{colortbl}}
108 \CustomizeMathJax{\let\LWRorigcolumnncolor\columnncolor}
109 \CustomizeMathJax{\renewcommand{\columnncolor}[2][named]{%
110 \LWRorigcolumnncolor[#1]{#2}%
111 \LWRabsorbtwooptions%
112 }}
113
114 \CustomizeMathJax{\let\LWRorigrowcolor\rowcolor}
115 \CustomizeMathJax{\renewcommand{\rowcolor}[2][named]{%
116 \LWRorigrowcolor[#1]{#2}%
117 \LWRabsorbtwooptions%
118 }}
119
120 \CustomizeMathJax{\let\LWRorigcellcolor\cellcolor}
121 \CustomizeMathJax{\renewcommand{\cellcolor}[2][named]{%
122 \LWRorigcellcolor[#1]{#2}%
123 \LWRabsorbtwooptions%
124 }}
125
126 \end{warpMathJax}
```

---

File 101 **lwarp-continue.sty**

§ 213 Package **continue**

`continue (Pkg)` `continue` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{continue}}[2018/12/09]

```
2 \newcommand*\flagcont{}
3 \newcommand*\flagend{}
4 \newcommand*\flagword{}
5 \newcommand*\preflagword{}
6 \newcommand*\postflagword{}
7 \newlength\contsep
```

---

```
8 \newlength\contdrop
```

---

File 102 **lwarp-copyrightbox.sty**

§ 214 Package **copyrightbox**

*(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)*

copyrightbox (*Pkg*) **copyrightbox** is emulated for use by **lwarp**.

The entire copyright box is placed inside a `<div>` of class `copyrightbox`.

The contents are placed inside a `<div>` of class `copyrightboxcontents`.

The copyright notice is placed inside a `<div>` of class `copyrightboxnote`.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4 display: inline-flex;
5 flex-direction: column ;
6]{copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }
15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

---

File 103 **lwarp-crop.sty**

§ 215 Package **crop**

*(Emulates or patches code by MELCHIOR FRANZ.)*

crop (*Pkg*) **crop** is ignored.

**for HTML output:**

Discard all options for **lwarp-crop**:

```
1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*\crop}[1][{}]{
3 \newcommand*\cropdef}[6][{}]{


```

File 104 **lwarp-ctable.sty**

§ 216 Package **ctable**

*(Emulates or patches code by WYBO DEKKER.)*

ctable (*Pkg*) ctable is patched for use by lwarp.

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4][[%
3 \let\@CTaborfig \@df\CTaborfig
4 \let\@CTalign \@df\CTalign
5 \let\@CTsideways \@df\CTsideways
6 \let\@CTcontinued \empty
7 \let\@CTpos \@df\CTpos
8 \let\@CTcaption \empty
9 \let\@CTcap \undefined
10 \let\@CTlabel \empty
11 \let\@CTbotcap \@df\CTbotcap
12 \let\@CTstarred \@df\CTstarred
13 \let\@CTsuper \@df\CTsuper
14 \let\@CTnotespar \@df\CTnotespar
15 \let\@CTdoinside \@df\CTdoinside
16 \let\@CTbgopacity \@df\CTbgopacity
17 \@CTframerule \@df\CTframerule
18 \@CTcaptionskip \@df\CTcaptionskip
19 \@CTframesep \@df\CTframesep
20 \@CTwidth \@df\CTwidth
21 \@CTmaxwidth \@df\CTmaxwidth
22 \@CTmincapwidth \@df\CTmincapwidth
23 \@CTfooterwidth \@df\CTfooterwidth
24 \def\@CTfgactual {@df\CTframefg}%
25 \def\@CTbgactual {@df\CTframebg}%
26 \def\@CTbeg {\begin{\@CTsideways\@CTaborfig\@CTstarred}}%
27 \def\@CTbegin {\@CTbeg}%
28 \def\@CTend {\end{\@CTsideways\@CTaborfig\@CTstarred}}%
29 \setkeys{CT}{#1}%
30 \ifx\@CTcap\undefined\let\@CTcap\@CTcaption\fi
31 \ifx\@CTcap\empty
32 \if@CTcaptionloaded\else
33 \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34 An empty cap= option prevents lot/loc entry only\MessageBreak
35 if the caption package is loaded!}
36 \fi
37 \fi
38 \if@CTinmemoir\else
39 \ifx\@CTbotcap\undefined
40 \PackageError{lwarp-ctable}{\MessageBreak
41 You can, currently, use the sidecap option only with\MessageBreak
42 memoir documents. Use topcap or botcap only}

```

```

43 {}
44 \fi
45 \fi
46 \ifdim\@CTwidth=0pt\else
47 \ifdim\@CTmaxwidth=0pt\else
48 \PackageError{lwarp-ctable}{\MessageBreak
49 You may not use the width and maxwidth options together\MessageBreak
50 Use either width or maxwidth}
51 {}
52 \fi
53 \fi
54 \ifx\@CTpos\empty
55 \ifx\@CTsideways\empty\else
56 \PackageError{lwarp-ctable}{\MessageBreak
57 You may not use the pos and sideways options together\MessageBreak
58 Rotated tables and figures are always typeset on a separate page}
59 {}
60 \fi
61 \fi
62 \ifx\@CTcaption\empty
63 \ifx\@CTlabel\empty\else
64 \PackageError{lwarp-ctable}{\MessageBreak
65 You may not label a captionless table\MessageBreak
66 Such a label can't be referenced}
67 {}
68 \fi
69 \fi

```

Some of the original, regarding computing the width of \CT@t, is removed here.

```

70 \@CTbegin
71 \ifx\@CTcontinued\empty\else\addtocounter{\@CTtaborfig}{-1}\fi
72 \@CTalign

```

lwarp's patches begin here:

```

73 \begin{center}
74 \setlength{\fboxrule}{\@CTframerule}
75 \setlength{\fboxsep}{\@CTframesep}
76 \LWR@forceminwidth{\fboxrule}% lwarp
77 \convertcolorspec{named}{\@CTbgactual}{HTML}\LWR@tempcolor% lwarp
78 \begin{BlockClass}[% lwarp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle{named}{\@CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ; %
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{%
85 background: \LWR@colorstyle{named}{\@CTbgactual} ; %
86 }%
87]{fminipage}% lwarp
88 \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89 \ifx\@CTbotcap\undefined%
90 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91 \fi
92 \@CTdoinside
93 \begin{tabularx}{\linewidth}{#2}% lwarp
94 #4%
95 \end{tabularx}% lwarp

```

```

96 \def\@CTfootnotes{#3}%
97 \ifx#3\empty\else{% append footnotes, if any
98 \begin{BlockClass}{tnotes}% lwarp
99 #3
100 \end{BlockClass}% lwarp
101 }
102 \fi
103 \ifx\@CTbotcap\undefined\end{sidecaption}\fi
104 \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \@CTend
108 }
109 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115
116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117 \tmark[#1]\,#2\par
118 }
119 \LWR@formatted{tnote}

```

---

File 105 **lwarp-cuted.sty**

§ 217 Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

*cuted (Pkg)* **cuted** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cuted}[2021/10/04]

```

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \newtoks\preCutedStrip \preCutedStrip{}
5 \newtoks\postCutedStrip \postCutedStrip{}
6 \def\oldcolsbreak#1{}

```

---

File 106 **lwarp-cutwin.sty**

§ 218 Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

*cutwin (Pkg)* **cutwin** is emulated.

**for HTML output:** Discard all options for `lwarp-cutwin`:

```

1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

2 \newcommand*\opencutleft{}
3 \newcommand*\opencutright{}
4 \newcommand*\opencutcenter{}
5 \newcommand*\cutfuzz{}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}
21 {}
22
23 \newcommand*\putstuffinpic{}
24
25 \newcommand*\picinwindow{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

---

File 107 **lwarp-dblfloatfix.sty**

§ 219 Package **dblfloatfix**

`dblfloatfix (Pkg)` `dblfloatfix` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]`

---

File 108 **lwarp-dblfnote.sty**

§ 220 Package **dblfnote**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

`dblfnote (Pkg)` `dblfnote` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]`

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}

```

---

```

6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}

```

---

File 109 **lwarp-dcolumn.sty**

§ 221 Package **dcolumn**

`dcolumn` (*Pkg*) `dcolumn` is used as-is in a `lateximage`, and is emulated by the `lwarp` core.

`dcolumn` used to be `\LWR@ProvidesPackageDrop` in prior versions of `lwarp`, but is now supported for print mode.

```
1 \LWR@ProvidesPackagePass{dcolumn}[2014/10/28]
```

Due to how the D column is created, cannot use `\HTMLnewcolumn` type here. An HTML version neutralizes the lower-level macros, leaving a `c` column type.

```

2 \newcommand*\LWR@HTML@DC@[3]{}
3 \LWR@formatted{DC@}
4
5 \providecommand*\DC@end{}{}
6
7 \newcommand*\LWR@HTML@DC@end{}{}
8 \LWR@formatted{DC@end}

```

---

File 110 **lwarp-decimal.sty**

§ 222 Package **decimal**

*(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)*

`decimal` (*Pkg*) `decimal` works as-is for `SVG math`, and is emulated for `MATHJAX`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]`

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.\{\mbox{.}\}}
4 \end{warpMathJax}

```

---

File 111 **lwarp-decorule.sty**

§ 223 Package **decorule**

*(Emulates or patches code by PETER FLYNN.)*

`decorule` (*Pkg*) `decorule` is patched for use by `lwarp`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{decorule}[2020/04/01]`

```

2 \xpretocmd{\decorule}
3 {\begin{lateximage}*[decorule]}
4 {}
5 {\LWR@patcherror{decorule}{decorule A}}
6
7 \xapptocmd{\decorule}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{decorule}{decorule B}}

```

File 112 **lwarp-diagbox.sty**

§ 224 Package **diagbox**

*(Emulates or patches code by LEO LIU.)*

diagbox (*Pkg*) **diagbox** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a lateximage:

```

2 \LetLtxMacro\LWR@origdiagbox@double\diagbox@double
3 \LetLtxMacro\LWR@origdiagbox@triple\diagbox@triple
4
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\diagbox@double\LWR@origdiagbox@double%
7 \LetLtxMacro\diagbox@triple\LWR@origdiagbox@triple%
8 }

```

\LWR@diagbox@AB

$\langle E/W \rangle \langle A \rangle \langle E/W \rangle \langle B \rangle$

```

9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro\\\newline%
12 \BlockClassSingle{diagbox#1}{#2}%
13 \BlockClassSingle{diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }

```

\LWR@diagboxNW

$\langle A \rangle \langle B \rangle$

```

17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }

```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

```



```

\diagbox@double {\langle keys \rangle} {\langle A \rangle} {\langle B \rangle}

26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }

```

```

\LWR@diagboxTNW {\langle title \rangle} {\langle A \rangle} {\langle B \rangle}

30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}
32 \LWR@diagboxNW{#2}{#3}
33 }

```

Likewise for NE, SW, SE:

```

34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}
36 \LWR@diagboxNE{#2}{#3}
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}
41 \BlockClassSingle{diagboxtitleS}{#1}
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}
47 \BlockClassSingle{diagboxtitleS}{#1}
48 \LWR@stoppars%
49 }

```

```

\diagbox@triple {\langle keys \rangle} {\langle A \rangle} {\langle T \rangle} {\langle B \rangle}

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \nameuse{LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }

```

---

File 113 **lwarp-dingbat.sty**

§ 225 Package **dingbat**

*(Emulates or patches code by SCOTT PAKIN.)*

dingbat (*Pkg*) **dingbat** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

```

2 \newcommand*\LWR@dingbatsymbol[1]{\HTMLUnicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}

```

```

8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

---

File 114 **lwarp-doipubmed.sty**

§ 226 Package **doipubmed**

*(Emulates or patches code by NICOLA TALBOT.)*

doipubmed (*Pkg*) doipubmed is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{doipubmed}[2007/08/20]
2 \VerifyCommand[lwarp][doipubmed]{\doi}{13FFCBAF4F1414B838B6C3AD344117A8}
3
4 \renewcommand*{\doi}[1]{%
5 \def\@doi@code{%
6 \@doi@linksubs#1#\@@\@doi@code
7 \@onelevel@sanitize{\@doi@code}%
8 \def\@doi@text{%
9 \@doi@textsubs#1\nil\@@\@doi@text%
10 \xpretocmd{\@doi@code}{http://dx.doi.org/}{}}%
11 \expandafter\href\expandafter{\@doi@code}{\doi@text{\@doi@text}}

```

Must not modify catcodes before using \url:

```

12 \DeclareDocumentCommand{\LWR@citeurlb}{m}{%
13 \LWR@ensuredoingapar%
14 \textless%
15 \LWR@href@sanitized{#1}{#1}%
16 \textgreater%
17 \endgroup%
18 }
19
20 \renewrobustcmd*{\citeurl}{%
21 \begingroup%
22 \LWR@linkcatcodes%
23 \LWR@citeurlb%
24 }

```

---

File 115 **lwarp-DotArrow.sty**

§ 227 Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

DotArrow (*Pkg*) **DotArrow** is patched for use by **lwarp**, and emulated for **MATHJAX**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.

```

2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{#1}{\unicode{x21E2}}}}
6 \end{warpMathJax}

```


---

File 116 **lwarp-dotlessi.sty**

§ 228 Package **dotlessi**

*(Emulates or patches code by JAVIER BEZOS.)*

dotlessi (*Pkg*) **dotlessi** is used as-is for SVG math, and is emulated for **MATHJAX**.

 **HTML \dotlessj** Use `\usepackage{cmap}` if `\dotlessj` does not appear in HTML in text mode. See section 7.4.

 **not bold** For **MATHJAX**, use `\boldsymbol` instead of `\mathbf`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For **MATHJAX**:

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}

```

---

File 117 **lwarp-dprogress.sty**

§ 229 Package **dprogress**

`dprogress (Pkg)` `dprogress` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 118 **lwarp-draftcopy.sty**

§ 230 Package **draftcopy**

`draftcopy (Pkg)` `draftcopy` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```

2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

---

File 119 **lwarp-draftfigure.sty**

§ 231 Package **draftfigure**

`draftfigure (Pkg)` `draftfigure` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]  
2 \RequirePackage{xkeyval}

```

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}[]{}
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

---

File 120 **lwarp-draftwatermark.sty**

§ 232 Package **draftwatermark**

*(Emulates or patches code by SERGIO CALLEGARI.)*

draftwatermark (*Pkg*) draftwatermark is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

```

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}

```

---

File 121 **lwarp-drftcite.sty**

§ 233 Package **drftcite**

*(Emulates or patches code by DONALD ARSENEAU.)*

drftcite (*Pkg*) drftcite is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

```

2 \VerifyCommand[lwarp][drftcite]{\@lbibitem}{43265BD7F1B9C9818D873D651C19485C}
3
4 \def\@lbibitem[#1]#2{\g@lbal\@HighCite\z@
5 \item[
6 \textsuperscript{\@nameuse{DCN@#2\@extra@b@citeb}}~% lwarp
7 \@biblabel{\@ifundefined{DCN@#2\@extra@b@citeb}{\@warning
8 {Reference `#2' on page \thepage\space was never cited}}{}}%
9% \DC@LLap{$^\@nameuse{DCN@#2\@extra@b@citeb}}$\ \ }%o
10 \@citeverb{#2}}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
11 \immediate\write\@auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}

```

---

File 122 **lwarp-easy-todo.sty**

§ 234 Package **easy-todo**

*(Emulates or patches code by JUAN RADA-VILELA.)*

easy-todo (*Pkg*) easy-todo is patched for use by lwarp.

To remove the “P.” heading for HTML:

```
\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]

\listoftodos

Modified to correct buggy use of \flushright.

```
2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }
```

\todoii

Modified to use \textcolor instead of \color.

```
10 \VerifyCommand[lwarp][easy-todo]{\todoii}{04C63A894C30C706AC60DD6B58FDEDA2}
11
12 \renewcommand{\todoii}[2]{%
13 \ifthenelse{\equal{\@todoobeyfinal}{true}}%
14 {%
15 \ifoptionfinal{\todoenable{false}}{\todoenable{true}}%
16 }%
17 {}%
18 \ifthenelse{\equal{\@todoenable}{true}}%
19 {%
20 \refstepcounter{todos}%
21 \noindent{%
22 \todocolor%
23 \LWR@textcurrentcolor{%
24 \normalfont\scriptsize{\bfseries{\thetodos.#1}}%
25 }%
26 }%
27 \addcontentsline{lod}{todos}{\protect{\thetodos. } \LWR@isolate{#2}}%
28 }%
29 {}%
30 }
```

---

File 123 **lwarp-ebook.sty**

§ 235 Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

ebook (*Pkg*) **ebook** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ebook}

```
2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefill}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{
8 \setcounter{secnumdepth}{0}
```

```

9 \setcounter{tocdepth}{2}
10 }

```

---

File 124 **lwarp-econometrics.sty**

§ 236 Package **econometrics**

*(Emulates or patches code by ERIK KOLE.)*

econometrics (*Pkg*) econometrics is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42
43 \LWR@mathjax@addgreek@l@bfit{v}{% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{% uppercase Greek bold italic, capitalized macro names
45

```

```

46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{_{} \mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^{} \mathrm{#1}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][]{%
74 \frac{\mathrm{d}^{\#1}\#2}{\mathrm{d}\, \#3^{\#1}}%
75 }}
76 \CustomizeMathJax{\newcommand{\pderiv}[3][]{%
77 \frac{\partial^{\#1}\#2}{\partial \ #3^{\#1}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}
98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}

```



```

106 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{\rf}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{\rb}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm\cal I}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm\cal H}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm\imath}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\eu}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathrm{W}}}}
128 \end{warpMathJax}

```

---

File 125 **lwarp-ed.sty**

§ 237 Package **ed**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

ed (*Pkg*) **ed** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

**Bugs:**

1. todoclist fails with the hide option, as does \edexplanation.
2. \edstubURI is actually \edstuURI.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%
6 \def\@test{#1}%
7 \begin{center}%
8 \huge%
9 \textcolor{red}{%
10 #1 is only a provisional stub\\Large
11 the Office document
12 \ifx\ed@stubURI\@empty{#2}\else\LWR@href{\ed@stubURI}{#2}\fi\
13 contains more text\\which will be merged for the final document%
14 }%
15 \end{center}%
16 \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

---

File 126 **lwarp-ellipsis.sty**

§ 238 Package **ellipsis**

*(Emulates or patches code by PETER J. HESLIN.)*

ellipsis (*Pkg*) **ellipsis** is emulated.

```
1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\textellipsis\,}
```

---

File 127 **lwarp-embrac.sty**

§ 239 Package **embrac**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

embrac (*Pkg*) **embrac** is patched for HTML and used as-is for print.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{embrac}[2021/02/20]
2
3 \ExplSyntaxOn
4 \ExplSyntaxOff
5 \LetLtxMacro\LWR@orig@HTML@emph\LWR@HTML@emph
6 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
7
8 \LetLtxMacro\LWR@orig@HTML@textit\LWR@HTML@textit
9 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
10
11 \LetLtxMacro\LWR@orig@HTML@textsl\LWR@HTML@textsl
12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \AtBeginDocument{
15 \LWR@formatted{emph}
16 \LWR@formatted{textit}
17 \LWR@formatted{textsl}
18 \ifdef{\textsi}
19 {
20 \LetLtxMacro\LWR@orig@HTML@textsi\LWR@HTML@textsi
21 \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
22 \LWR@orig@HTML@textsi{#2}%
23 }
24 \LWR@formatted{textsi}
25 }{}
26 }
27
28 \newcommand{\LWR@HTML@EmbracOff}{}
```

---

```

29 \LWR@formatted{EmbracOff}
30
31 \newcommand{\LWR@HTML@EmbracOn}{}
32 \LWR@formatted{EmbracOn}

```

---

File 128 **lwarp-emptypage.sty**

§ 240 Package **emptypage**

emptypage (*Pkg*) emptypage is ignored.

**for HTML output:** Discard all options for lwarp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

File 129 **lwarp-endfloat.sty**

§ 241 Package **endfloat**

endfloat (*Pkg*) endfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}
11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats{}
13 \newcommand*\efloatseparator{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

---

File 130 **lwarp-endheads.sty**

§ 242 Package **endheads**

endheads (*Pkg*) endheads is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

```

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontentson \notesincontentsonfalse
10 \newcommand{\notesincontents}{\notesincontentsontrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13 \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19 \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22 \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

---

File 131 **lwarp-endnotes.sty**

§ 243 Package **endnotes**

*(Emulates or patches code by JOHN LAVAGNINO.)*

endnotes (*Pkg*) Patched for HTML.

If using `cleveref`, `endnotes` displays as a link to an endnote, rather than a section. A comma-separated list of end notes does not work with `\cref` and related. (In print mode, such as `list simply` displays a link to the section.)

[table of contents](#) To place the endnotes in the TOC, use:

```

\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional


```

[HTML page](#) To additionally have the endnotes on their own HTML page, if `FileDepth` allows:

```

\ForceHTMLPage
\theendnotes

```

 [\endnotemark numbering](#) If using `MATHJAX`, see section 8.5.4 regarding the use of `\endnotemark` and `\endnotetext`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{endnotes}[2020-01-02]

```

2 \def\enoteformat{%
3 % \rightskip\z@ \leftskip\z@ \parindent=1.8em

```

```

4 \leavevmode
5 % \llap{
6 \makeenmark
7 % }
8 }

9 \def\LWR@HTML@makeenmark{\hbox{\LWR@htmlspan{sup}\normalfont\theenmark}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{@makeenmark}

```

To nullify the endnotes:

```

13 \apptocmd{\LWR>nullifyfootnotes}{%
14 \renewcommand{\endnote}[2][{}]{%
15 \renewcommand{\endnotemark}[1]{%
16 }}{}

```

Modified for updated L<sup>A</sup>T<sub>E</sub>X labels.

```

17 \def\theendnotes{\immediate\closeout{@enotes \global{@enotesopenfalse
18 \begingroup
19 \makeatletter
20 %
21 % The machinery with \@ResetGT and > here ensures that
22 % \@doanote works properly even if > is an active character
23 % at the point where \theendnotes is invoked. > needs to have
24 % catcode 12 when the arguments of \@doanote are scanned, so
25 % that the > in the string "macro:->" is matched. The actual
26 % footnote text is not an argument to \@doanote, but just
27 % follows it in the .ent file; so \@ResetGT can reset the
28 % category code for > that should be used when processing
29 % that text. That resetting takes place within a
30 % \begingroup-\endgroup block set up by \@doanote and
31 % \@endanote, so the catcode for > is back to 12 for the
32 % next note.
33 %
34 \edef@tempa{\string >}%
35 \ifnum\catcode@tempa=12%
36 \let@ResetGT\relax
37 \else
38 \edef@ResetGT{\noexpand\catcode@tempa=\the\catcode@tempa}%
39 \@makeother\>%
40 \fi
41 \def@doanote##1##2>{\def\theenmark{##1}\par\begingroup
42 \@ResetGT

43 \def@currentcounter{endnote}%

44 \edef@currentlabel{\csname p@endnote\endcsname\theenmark}%
45 \enoteformat}
46 \def@endanote{\par\endgroup}%
47 \noteheading
48 \notesize
49 \InputIfFileExists{\jobname.ent}{%
50 \PackageWarning{endnotes}{No endnotes found (file \jobname.ent does not exist)}\MessageBreak}
51 }%
52 \endgroup}

```

For MATHJAX:

```

53 \begin{warpMathJax}
54 \def\endnotename{endnote}
55 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{LWRendnote}{\theendnote}}
56 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRendnote}{\endnotename}}
57 \CustomizeMathJax{\def\LWRendnote{1}}
58 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
59 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
60 \end{warpMathJax}

```

---

File 132 **lwarp-engtcl.sty**

§ 244 Package **engtcl**

(Emulates or patches code by CLAUDIO FIANDRINO.)

engtcl (*Pkg*) engtcl is patched for use by lwarp. MATHJAX is emulated.



For MATHJAX, `\sight`, `\signf`, `\signn`, and `\signz` do not force letter case as they do in SVG math.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{engtcl}[2012/12/18]

2 \newcommand{\LWR@HTML@fines}{%
3 \begin{BlockClass}[text-align:right]{exerend}%
4 \HTMLunicode{220E}%
5 \end{BlockClass}%
6 }
7 \LWR@formatted{fines}
8
9 \newcommand{\LWR@HTML@exerend}{\fines}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engtcl}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\,\mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}

```

```

35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV }}}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{Mib}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}

```

```

95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsubit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109 \hspace{.25cm}\Longrightarrow \hspace{.25cm}}%
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114 #1\mathopen{}\left\lbrace#2\right\rbrace\mathclose{}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}}^{-1}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\text{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\text{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1t\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left\vert\left\vert#1\right\right\vert^{\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left\vert\left\vert#1\right\right\vert}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129 \mathopen{}\left.#1\right\vert\left\vert_{\mathrm{dB}}\right\mathclose{}}%
130 }
131 \CustomizeMathJax{\newcommand{\for}[2]{\left.#1\right\vert\left\vert_{\#2}}}
132 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
133 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
134 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
135 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}\#2}}
136 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
137 \CustomizeMathJax{\newcommand{\diff}{\mathop{\mathopen{\mathrm{d}}}}}
138 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
139 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(#1\right)}}
140 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
141 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{\#1}}}
142 %
143 \CustomizeMathJax{\newcommand{\gammatens}{\{\}^{\mathrm{V}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammacor}{\{\}^{\mathrm{I}}\Gamma}}
145 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\{\}^{\mathrm{V}}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammacorin}[1]{\{\}^{\mathrm{I}}\Gamma_{\mathrm{#1}}}}
147 \CustomizeMathJax{\newcommand{\gammamain}[1]{\Gamma_{\mathrm{#1}}}}
148 \CustomizeMathJax{\newcommand{\gammak}{\{\}^{\mathrm{k}}\Gamma}}
149 %
150 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}
151 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
152 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
153 %
154 \CustomizeMathJax{\newcommand{\potin}[1]{P_{\mathrm{#1}}}}
155 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{disp}}^{\#1}}

```



```

155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{DC}}^{\#1}}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{CC}}^{\#1}}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{irr}}^{\#1}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{diss}}^{\#1}}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{inc}}^{\#1}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{\#1}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{\#1}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{\#1}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{\#1}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\infty\#1}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{zinf[\#1]}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\infty\#1}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{yinf[\#1]}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoe fas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campoh fas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\sigt}[1][\#1(t)}
178 \CustomizeMathJax{\newcommand{\signf}[1][\#1(f)}
179 \CustomizeMathJax{\newcommand{\signn}[1][\#1(n)}
180 \CustomizeMathJax{\newcommand{\signz}[1][\#1(z)}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[\#1\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[\#1\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{\ , \ , \ ,}}
186 \CustomizeMathJax{\newcommand{\dato}{\ , \ , \ ,}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\clight\valc}
204 \CustomizeMathJax{\let\Log\loga}
205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltaain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammain\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}

```

```

215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disppow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potlim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoe}
223 \CustomizeMathJax{\let\phasorHfield\campoh}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\ex}
227 \end{warpMathJax}

```

---

File 133 **lwarp-enotez.sty**

§ 245 Package **enotez**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

enotez (*Pkg*) **enotez** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enotez}[2020/12/13]

Hyperref is emulated by **lwarp**, so it is forced on for **enotez**:

```

2 \ExplSyntaxOn
3 \AtBeginDocument{
4 \bool_set_true:N \l__enotez_hyperref_bool
5 \bool_set_true:N \l__enotez_hyperfootnotes_bool
6 }

```

Do not move or `\hbox` the `\hypertarget`:

```

7 % typeset the actual mark:
8 % #1: id
9 % #2: mark
10 \VerifyCommand[lwarp][enotez]{\enotez_write_mark:nn}{61DA2A7B03A7D9F55E3E2E2D2498FB32}
11
12 \cs_gset_protected:Npn \enotez_write_mark:nn #1#2
13 {
14 \bool_if:NTF \l__enotez_hyperfootnotes_bool
15 {
16 \enotezwritemark { \hyperlink {enz.#1} { \enmarkstyle #2 } }
17 \bool_if:NT \l__enotez_hyperbackref_bool
18 {
19 % \box_move_up:nn {1em} {
20 % \hbox:n {
21 % \hypertarget {enz.#1.backref} { }
22 % }
23 % }
24 }
25 }
26 { \enotezwritemark { \enmarkstyle #2 } }
27 }
28 \cs_generate_variant:Nn \enotez_write_mark:nn {x}

```

Do not move or \hbox the \hypertarget:

```

29 \VerifyCommand[lwarp][enotez]{\enotez_write_list_number:n}{9793BEC2766E17864C6391209599DD84}
30
31 \cs_gset_protected:Npn \enotez_write_list_number:n #1
32 {
33 \bool_if:NT \l__enotez_hyperfootnotes_bool
34 {
35 \box_move_up:nn {1em} { \hbox:n {
36 \hypertarget {enz.#1} { }
37 } }
38 }
39 \tl_use:N \l__enotez_list_number_format_tl
40 \tl_if_eq:nxTF {a} { \prop_item:Nn \g__enotez_endnote_man_prop {#1} }
41 {
42 \bool_if:nTF
43 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
44 {
45 \exp_args:Nnx
46 \hyperlink {enz.#1.backref}
47 { \exp_not:V \l__enotez_endnote_mark_tl }
48 }
49 { \prop_item:Nn \g__enotez_endnote_mark_prop {#1} }
50 }
51 {
52 \bool_if:nTF
53 { \l__enotez_hyperfootnotes_bool && \l__enotez_hyperbackref_bool }
54 {
55 \exp_args:Nnx
56 \hyperlink {enz.#1.backref}
57 { \exp_not:V \l__enotez_endnote_mark_tl }
58 }
59 { \tl_use:N \l__enotez_endnote_mark_tl }
60 }
61 }

```

Do not move the label to the left:

```

62 \DeclareTemplateCode {enotez-list} {paragraph} {1}
63 {
64 heading = \enotez_list_heading:n ,
65 format = \l__enotez_list_format_tl ,
66 number = \enotez_list_number:n ,
67 number-format = \l__enotez_list_number_format_tl ,
68 notes-sep = \l__enotez_list_notes_sep_dim
69 }
70 {
71 \AssignTemplateKeys
72 \enotez_set_totoc:
73 \enotez_list_heading:n { \l__enotez_list_name_tl }
74 \enotez_list_preamble:
75 \enotez_build_print_list:nnnn {#1}
76 {}
77 {
78 \par\noindent
79 \group_begin:
80 \tl_use:N \l__enotez_list_format_tl
81 \hbox_overlap_left:n
82 {
83 \enotez_list_number:n

```

```

84 { \enotez_write_list_number:n {##1} }
85 \tl_use:N \c_space_tl
86 % }
87 % \cs_set:cpn {@currentlabel}
88 % { \p@endnote \l__enotez_endnote_mark_tl }
89 \tl_use:N \g__enotez_endnote_text_tl
90 \par
91 \dim_compare:nT { \l__enotez_list_notes_sep_dim != 0pt }
92 { \addvspace { \l__enotez_list_notes_sep_dim } }
93 \group_end:
94 }
95 {}
96 \enotez_list_postamble:
97 }
98
99 \ExplSyntaxOff

```

For MATHJAX:

```

100 \begin{warpMathJax}
101 \def\endnotename{endnote}
102 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{LWRendnote}{\theendnote}}
103 \appto\LWR@syncnotenenames{\LWR@synconenotename{LWRendnote}{\endnotename}}
104 \CustomizeMathJax{\def\LWRendnote{1}}
105 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
106 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
107 \end{warpMathJax}

```

---

File 134 **lwarp-enumerate.sty**

§ 246 Package **enumerate**

`enumerate (Pkg)` `enumerate` is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by `lwarp` and thus must no longer be dropped.

**for HTML output:** `1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]`

---

File 135 **lwarp-enumitem.sty**

§ 247 Package **enumitem**

*(Emulates or patches code by JAVIER BEZOS.)*

`enumitem (Pkg)` `enumitem` is supported with minor adjustments.

**for HTML output:** `1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]`

```

\newlist {<name>} {<type>} {<maxdepth>}
\renewlist {<name>} {<type>} {<maxdepth>}

```

For `enumitem` lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```

2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*\newlist}[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}

```

---

File 136 **lwarp-epigraph.sty**

§ 248 Package **epigraph**

*(Emulates or patches code by PETER WILSON.)*

`epigraph` (*Pkg*) `epigraph` is emulated for HTML, and used as-is for print output.

Use CSS to format epigraphs.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]
2
3 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
4 {%
5 \begin{BlockClass}{qitem}%
6 #1%
7 \LWR@stoppars%
8 \ifbool{FormatWP}%
9 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
10 {\begin{BlockClass}{epigraphsource}}%
11 #2%
12 \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}

```

`epigraph`: Added ARIA role.

```

15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{(note){epigraph}}%
18 \qitem{#1}{#2}%
19 \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}
24 { \LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}{(note){epigraph}}%
25 \endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}

```

The following cannot be used in print mode while generating HTML:

```

27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{ }
29 \renewcommand*\undodrop{}

```

---

File 137 **lwarp-epsf.sty**

§ 249 Package **epsf**

*(Emulates or patches code by TOM ROKICKI.)*

epsf (*Pkg*) **epsf** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{epsf}% not date given

2 \xpretocmd{\epsfsetgraph}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-begin}}
6
7 \xapptocmd{\epsfsetgraph}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{lwarp-epsf}{epsfsetgraph-end}}


```

---

File 138 **lwarp-epsfig.sty**

§ 250 Package **epsfig**

epsfig (*Pkg*) **epsfig** is emulated for use by **lwarp**.

 Only the L<sup>A</sup>T<sub>E</sub>X<sub>2</sub>ε syntax is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{epsfig}[2017/06/25]

```

A few additional keys to capture the filename:

```

2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5 \xdef\LWR@epsfig@filename{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9 \xdef\LWR@epsfig@filename{#1}%
10 }
11
12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}[]{}

```

The captured filename is used as the argument to `\includegraphics`:

```

15 \newcommand{\LWR@HTML@epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16 \LWR@formatted{epsfig}

```

```

17
18 \newcommand{\LWR@HTML@psfig}[1]{\includegraphics[#1]{\LWR@psfig@filename}}
19 \LWR@formatted{psfig}

```

---

File 139 **lwarp-epstopdf.sty**

§ 251 Package **epstopdf**

epstopdf (*Pkg*) Previous versions of lwarp had a nullfied version, but now epstopdf-base is supported. lwarp-epstopdf becomes a placeholder to overwrite previous versions.

See package epstopdf-base for details.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

---

File 140 **lwarp-epstopdf-base.sty**

§ 252 Package **epstopdf-base**

epstopdf-base (*Pkg*)

 **convert to .svg** Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

```
Enter => lwarpmk pdftosvg <listofPDFfiles>
```

to generate .svg versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]

Redefine to remember the image filename, replacing .pdf with .svg. Use the epstopdf print version inside a lateximage.

```

2 \newcommand*\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3 \edef\LWR@tempone{#3}%
4 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6 \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }
8
9 \LWR@formatted{ETE@OrgGin@setfile}

```

\includegraphics in HTML mode redefines \Gin@setfile to be \LWR@HTML@Gin@setfile, which is now redirected to epstopdf's version:

```

10 \renewcommand*\LWR@HTML@Gin@setfile}[3]{%
11 \ETE@Gin@setfile{#1}{#2}{#3}%
12 }

```

Allow .eps images to be found if a suffix is not provided:

```

13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15 .eps, .EPS, .svg, .SVG, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%

```

```

16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }

```

Likewise when inside a lateximage:

```

20 \appto\LWR@restoreorigformatting%
21 \DeclareGraphicsExtensions%
22 .eps, .EPS, .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
23 }%
24 }

```

---

File 141 **lwarp-eqlist.sty**

§ 253 Package **eqlist**

eqlist (*Pkg*) eqlist is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][\description]{\enddescription}
3 \newenvironment{eqlist*}[1][\description]{\enddescription}
4 \newenvironment{Eqlist}[2][\description]{\enddescription}
5 \newenvironment{Eqlist*}[2][\description]{\enddescription}
6 \newcommand*\longitem[1][\item[#1]]
7 \newcommand*\eqlistinit{}
8 \newcommand*\eqliststarinit{}
9 \newcommand*\eqlistinitpar{}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

---

File 142 **lwarp-eqparbox.sty**

§ 254 Package **eqparbox**

*(Emulates or patches code by SCOTT PAKIN.)*

eqparbox (*Pkg*) eqparbox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%
3 {%
4 \minipagefullwidth%
5 \parbox[#1][#2][#3]{\linewidth}{#5}%
6 }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11 \makebox[#2][#3]%
12 }

```



```

13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16 \framebox[#2]{#3}%
17 }
18 \LWR@formatted{eqframebox}
19
20 \NewDocumentEnvironment{LWR@HTML@eqminipage}{O{t} O{} O{t} m}
21 {%
22 \begingroup%
23 \minipagefullwidth%
24 \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27 \endminipage%
28 \endgroup%
29 }
30
31 \newcommand*\LWR@HTML@eqboxwidth[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*\LWR@HTML@eqsetminwidth[2]{}
35 \newcommand*\LWR@HTML@eqsetmaxwidth[2]{}
36
37 \newcommand*\LWR@HTML@eqsetminwidthto[2]{}
38 \newcommand*\LWR@HTML@eqsetmaxwidthto[2]{}

```

---

File 143 **lwarp-errata.sty**

§ 255 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

*errata (Pkg)* **errata** is patched for use by **lwarp**.

This is for v0.3 of **errata**. A newer version of **errata** with more features is under development, at which time the **lwarp** version will have to be updated.

**for HTML output:**

Macros are being defined with the math dollar, so enable the HTML version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```

3 \VerifyCommand[lwarp][errata]{\erratumAdd}{777B919444DA9C70140B71E0C9EDEEBF}
4
5 \xpatchcmd{\erratumAdd}
6 {$_a^{\arabic{erratum}}}$}
7 % {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
8 {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
9 {}
10 {\LWR@patcherror{erratum}{erratumAdd}}

```

```

11
12 \VerifyCommand[lwarp][errata]{\erratumDelete}{057CF8E4B6A0DBECF95C009E9DC44FBA}
13
14 \xpatchcmd{\erratumDelete}
15 {$_d^{\arabic{erratum}}$}
16 % {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}
17 {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
18 {}
19 {\LWR@patcherror{erratum}{erratumDelete}}
20
21 \VerifyCommand[lwarp][errata]{\erratumReplace}{0E24E5FE5415E6038089ABF21C6933D7}
22
23 \xpatchcmd{\erratumReplace}
24 {$_r^{\arabic{erratum}}$}
25 % {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
26 {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
27 {}
28 {\LWR@patcherror{erratum}{erratumReplace}}
29
30 \VerifyCommand[lwarp][errata]{\erratum}{A430F080689BC6FF47E7C905800D2028}
31
32 \xpatchcmd{\erratum}
33 {$_a$}
34 % {\inlinemathother$_a$\inlinemathnormal}
35 {\textsubscript{a}}
36 {}
37 {\LWR@patcherror{erratum}{erratumDelete}}
38 \xpatchcmd{\erratum}
39 {$_d^{\@thefnmark}$}
40 % {\inlinemathother$_d^{\@thefnmark}}$\inlinemathnormal}
41 {\textsubscript{d}\@thefnmark}
42 {}
43 {\LWR@patcherror{erratum}{eDelete}}
44 \xpatchcmd{\erratum}
45 {$_r^{\@thefnmark}}$}
46 % {\inlinemathother$_r^{\@thefnmark}}$\inlinemathnormal}
47 {\textsubscript{r}\@thefnmark}
48 {}
49 {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
50 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
51 \StopDefiningMath
```

---

File 144 **lwarp-eso-pic.sty**

§ 256 Package **eso-pic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

eso-pic (*Pkg*) eso-pic is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

```

2 \newcommand*\LenToUnit{}
3 \newcommand{\AtPageUpperLeft}[1]{}
4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m}{}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m}{}
15 \newcommand*\ClearShipoutPictureBG{}
16 \newcommand*\ClearShipoutPicture{}
17 \newcommand*\ClearShipoutPictureFG{}
18 \newcommand{\gridSetup}[6][1]{}

```

---

## File 145 **lwarp-esvect.sty**

### § 257 Package **esvect**

(Emulates or patches code by EDDIE SAUDRAIS.)

esvect (*Pkg*) **esvect** is used as-is for SVG math, and emulated for MATHJAX.

#### for HTML output:

```

1 \LWR@ProvidesPackagePass{esvect}% no date given

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRresvectv}[1]{\overrightarrow{#1}}}
4 \CustomizeMathJax{\newcommand{\LWRresvectvstar}[2]{\overrightarrow{#1}\!_{#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRresvectvstar\LWRresvectv}}
6 \end{warpMathJax}


```

---

## File 146 **lwarp-etoc.sty**

### § 258 Package **etoc**

etoc (*Pkg*) **etoc** is ignored. All commands are nullified.


 **\tableofcontents with \ref** The etoc package uses a non-standard syntax which looks ahead after a `\tableofcontents` for a following `\ref`. These `\refs` appear in the HTML result unless they are removed. Where a `\tableofcontents` is followed by `\ref`, and perhaps also `\label` as well, enclose all of them inside `\warpprintonly`:

```

\warpprintonly{\tableofcontents \ref{toc:abc}
\label{toc:def}}

```

or place all code related to a local `\tableofcontents` inside a `warpprint` environment.

 **home page** Be sure to keep the initial `\tableofcontents` on the home page, perhaps in its own `\warpHTMLonly` macro or `warpHTML` environment.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \@empty
5 \let\etocthenumber \@empty
6 \let\etocthepage \@empty
7 \let\etocthelinkedname \@empty
8 \let\etocthelinkednumber \@empty
9 \let\etocthelinkedpage \@empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \@empty
11 \DeclareRobustCommand*\etocname {}
12 \DeclareRobustCommand*\etocnumber {}
13 \DeclareRobustCommand*\etocpage {}
14 \DeclareRobustCommand*\etoclink {\@firstofone}
15 \DeclareRobustCommand*\etocifnumbered {\@firstoftwo}
16 \DeclareRobustCommand*\etociffirst {\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty {\@firstoftwo}
18 \let\etocaftertitlehook \@empty
19 \let\etocaftercontentshook \@empty
20 \def\etoctableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocsepone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocseptthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminustwooneleftmargin {1em}
46 \def\etocminustwoonerightmargin {1em}
47 \def\etococlineleaders
48 {\hbox{\normalfont\normalsize\hb@xt@2ex {\hss.\hss}}}
49 \def\etocabbrevpagename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}
53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcot{2}

```

```
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][{}]{
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnerrightsep{2em}
65 \def\etocoprul{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrihrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulcolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrihrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][{}]{
74 \def\etocframedmphook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][{}]{
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtoc\tocfmt #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothnouc[1]{}
97 \newcommand\etococstyle[3][section]{}
98 \newcommand\etococstylewithmarks[4][section]{}
99 \newcommand\etococstylewithmarksnouc[4][section]{}
100 \def\etocignoretocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1#{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}
108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1#{\Etoc@set@localtop}
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etococlines {}
114 \let\etocaftertohook \empty
115 \let\etocbeforetitlehook \empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

---

 File 147 **lwarp-eurosym.sty**

 § 259 Package **eurosym**

*(Emulates or patches code by HENRIK THEILING.)*

eurosym (*Pkg*) eurosym is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

```

2 \renewrobustcmd\officialeuro{\HTMLentity{euro}}
3 \let\geneuro\officialeuro
4 \let\geneuronarrow\officialeuro
5 \let\geneurowide\officialeuro
6 \let\euro\officialeuro
7 \renewrobustcmd\eurobars{}
8 \renewrobustcmd\eurobarsnarrow{}
9 \renewrobustcmd\eurobarswide{}

```

---

 File 148 **lwarp-everypage.sty**

 § 260 Package **everypage**

*(Emulates or patches code by SERGIO CALLEGARI.)*

everypage (*Pkg*) everypage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

```

2 \newcommand*\AddEverypageHook}[1]{}
3 \newcommand*\AddThispageHook}[1]{}

```

---

 File 149 **lwarp-everyshi.sty**

 § 261 Package **everyshi**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

everyshi (*Pkg*) ignored.

**for HTML output:** Discard all options for lwarp-everyshi:

```

1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]
2 \let\EveryShipout\relax
3 \newcommand*\EveryShipout}[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*\AtNextShipout}[1]{}

```

---

File 150 **lwarp-extarrows.sty**

§ 262 Package **extarrows**

*(Emulates or patches code by HUYNH KY ANH.)*

extarrows (*Pkg*) extarrows is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLongleftrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlongleftrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightharrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

---

File 151 **lwarp-extramarks.sty**

§ 263 Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

extramarks (*Pkg*) extramarks is ignored.

**for HTML output:** Discard all options for lwarp-extramarks:

```

1 \LWR@ProvidesPackageDrop{extramarks}[2025/02/07]

2 \newcommand*\extramarks[2]{}
3 \newcommand\extramarksleft[1]{}
4 \newcommand\extramarksright[1]{}
5 \newcommand*\firstleftxmark{}
6 \newcommand*\lastleftxmark{}
7 \newcommand*\firstrightxmark{}
8 \newcommand*\lastrightxmark{}
9 \newcommand*\firstxmark{}
10 \newcommand*\lastxmark{}
11 \newcommand*\topxmark{}
12 \newcommand*\topleftxmark{}
13 \newcommand*\toprightxmark{}
14 \newcommand*\firstleftmark{}
15 \newcommand*\lastrightmark{}
16 \newcommand*\firstrightmark{}
17 \newcommand*\lastleftmark{}

```

File 152 **lwarp-fancybox.sty**

§ 264 Package **fancybox**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

fancybox (*Pkg*) fancybox is supported with some patches.


[framed equation example](#) fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```
\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}
```

[framing alternatives](#) \fbox works with fancybox. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

[framed table example](#) The fancybox documentation's example of a framed table using an \fbox containing a tabular does not work with lwarp, but the FramedTable environment does work if \fbox is replaced by \fboxBlock. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```
\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}
```

 [framed verbatim](#) lwarp does not support the verbatim environment inside a span, box, or fancybox's \Sbox, but a verbatim may be placed inside a fminipage. The fancybox documentation's example FramedVerb may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
\VerbatimEnvironment
\fminipage{#1}
\beginVerbatim
}{
\endVerbatim
\endfminipage
}
```



**framed \VerbBox** fancybox's \VerbBox may be used inside \fbox.

**indented alignment** LVerbatim, \LVerbatimInput, and \LUseVerbatim indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

lwarp sanitizes HTML for fancybox verbatims, except for the contents of \VerbBox and any \verb inside.

**fancybox, fancyvrb** If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:

**\VerbatimFootnotes**  
 sectioning or displaymath

```

\subsection[Subsection Name]
 {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}

```

and likewise for equations or display math.

```
1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]
```

After the preamble is loaded, after any patches to Verbatim:

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching fancybox.}
```

**\VerbatimFootnotes** Patched to use the new version.

```
4 \def\VerbatimFootnotes{%
5 \let\@footnotetext\V@footnotetext%
6 \let\LWR@footnotetext\V@footnotetext% lwarp
7 }
```

**\V@footnotetext** Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@footnotetext.

```
8 \def\V@footnotetext{%
9 \LWR@traceinfo{V@footnotetext}%
```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
10 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
11 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
12 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
13 \protected@edef\@currentlabel{%
14 \csname p@footnote\endcsname\@thefnmark%
15 }% @currentlabel
16 \ifdef{cref@currentlabel}{% cleveref
17 % \protected@edef\cref@currentlabel{%
18 % [footnote]%
19 % [\arabic{footnote}]}%
20 % [%
```

```

21 % \csname p@footnote\endcsname\@thefnmark}%
22 % \cref@constructprefix{footnote}{\cref@result}%
23 % \ifundefined{cref@footnote@alias}%
24 % {\def\@tempa{footnote}}%
25 % {\def\@tempa{\csname cref@footnote@alias\endcsname}}%
26 % \protected@edef\cref@currentlabel{%
27 % [\@tempa][\arabic{footnote}][\cref@result]%
28 % \csname p@footnote\endcsname\csname thefootnote\endcsname}%
29 % }{}%

```

Use HTML superscripts in the footnote even inside a lateximage:

```
30 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
31 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline%
```

Append the footnote to the list:

```
32 \@makefnctext{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```
33 \bgroup%
34 \aftergroup\V@@@footnotetext%
```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```
35 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
36 \ignorespaces%
37 }%

```

\V@@@footnotetext

```

38 \def\V@@@footnotetext{%
39 \LWR@orignobreakspace\LWR@orignewline%
40 \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
41 \strut\egroup%
42 }

43 }% AfterEndPreamble

44 \renewcommand*\@shadowbox}[1]{%
45 \ifbool{FormatWP}%
46 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
47 {\InlineClass{shadowbox}{#1}}%
48 }
49
50 \renewcommand*\@doublebox}[1]{%
51 \ifbool{FormatWP}%
52 {\InlineClass[border:1px double black]{doublebox}{#1}}%
53 {\InlineClass{doublebox}{#1}}%
54 }
55
56 \renewcommand*\@ovalbox}[2]{%
57 \ifbool{FormatWP}%
58 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
59 {%
60 \ifthenelse{\isequivalentto{#1}{\thinlines}}%
61 {\InlineClass{ovalbox}{#2}}%
62 {\InlineClass{Ovalbox}{#2}}%

```

```
63 }%
64 }
```

Convert minipages, parboxes, and lists into linear text using the LWR@nestspan environment:

```
65 \let\LWR@origSbox\Sbox
66
67 \def\Sbox{\LWR@origSbox\LWR@nestspan}
68
69
70 \let\LWR@origendSbox\endSbox
71
72 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}
```

Beqarray is adapted for MATHJAX or enclosed inside a lateximage:

```
73 \RenewEnviron{Beqarray}
74 {\LWR@eqnarrayfactor}
75
76 \csgpreto{Beqarray*}{\boolfalse{LWR@numbereqnarray}}
```

\GenericCaption is enclosed in an HTML block:

```
77 \renewcommand{\GenericCaption}[1]{%
78 \LWR@figcaption%
79 \LWR@isolate{#1}%
80 \endLWR@figcaption%
81 }
```

Btrivlist is enclosed in an HTML block. This is a tabular, and does not use \item.

\trivlist

{\lcr} [ \tcb ]

```
82 \RenewDocumentEnvironment{Btrivlist}{m o}
83 {%
84 \LWR@stoppars%
85 \begin{BlockClass}{Btrivlist}%
86 \tabular{#1}%
87 }
88 {%
89 \endtabular%
90 \end{BlockClass}%
91 \LWR@startpars%
92 }
```

Btrivlist is also neutralized when used inside a span:

```
93 \AtBeginEnvironment{LWR@nestspan}{%
94 \RenewDocumentEnvironment{Btrivlist}{m o}{}{}%
95 }
```

lwarp's handling of \item is patched to accept fancybox's optional arguments:

```
96 \let\LWRFB@origitemizeitem\LWR@itemizeitem
97 \let\LWRFB@origdescitem\LWR@descitem
98
```

```

99 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
100 \IfValueTF{#2}{%
101 \LWRFB@origitemizeitem[#2]%
102 }{%
103 \LWRFB@origitemizeitem%
104 }%
105 }
106
107 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
108 \IfValueTF{#2}{%
109 \LWRFB@origdescitem[#2]~%
110 }{%
111 \LWRFB@origdescitem%
112 }%
113 }

114 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
115 \if@newlist\else{
116 \LWR@htmltagc{br /}%
117 \LWR@orignewline%
118 }\fi%
119 \LWR@origitem%
120 }

```

The various boxed lists become regular lists:

```

121 \renewenvironment{Bitemize}[1][]
122 {%
123 \LWR@spanwarnformat{Bitemize}%
124 \booltrue{LWR@starting@fancybox}%
125 \begin{itemize}%
126 \boolfalse{LWR@starting@fancybox}%
127 }
128 {\end{itemize}}
129
130 \renewenvironment{Benumerate}[1][]
131 {%
132 \LWR@spanwarnformat{Benumerate}%
133 \booltrue{LWR@starting@fancybox}%
134 \begin{enumerate}%
135 \boolfalse{LWR@starting@fancybox}%
136 }
137 {\end{enumerate}}
138
139 \renewenvironment{Bdescription}[1][]
140 {%
141 \LWR@spanwarnformat{Bdescription}%
142 \booltrue{LWR@starting@fancybox}%
143 \begin{description}%
144 \boolfalse{LWR@starting@fancybox}%
145 }
146 {\end{description}}

```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```

147 \RenewDocumentCommand{\boxput}{s d() m m}{%
148 \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
149 }

```

## Neutralized commands:

```

150 \RenewDocumentCommand{\fancyput}{s d() m}{ }
151 \RenewDocumentCommand{\thisfancyput}{s d() m}{ }
152
153 \RenewDocumentCommand{\fancypage}{m m}{ }
154 \RenewDocumentCommand{\thisfancypage}{m m}{ }
155
156 \def\LandScape#1{ }
157 \def\endLandScape{ }
158 \def\@Landscape#1#2#3{ }
159 \def\endLandscape{ }

```

## Low-level patches for UseVerbatim and friends:

```

160 \VerifyCommand[lwarp][fancybox]{\Verbatim@List}{A85522266594F8C0D846AEB1F72232FF}
161
162 \def\Verbatim@List#1{%
163 \if@minipage\else\vskip\parskip\fi
164 \leftskip\@totalleftmargin
165 \@rightskip\@flushglue \rightskip\@rightskip
166 \parindent\z@
167 \parskip\z@
168 \parfillskip\@flushglue
169 \hfuzz\VerbatimFuzz\relax
170 \@@par
171 \global\@inlabelfalse %Prevents vspace from being inserted when
172 \Verbatim@Prep %first line exceeds \hsize.
173 % #1%
174 \expandafter\def\expandafter\tmpb\expandafter{#1}% lwarp
175 \LWR@HTMLSanitize@tmpb% lwarp
176 \tmpb% lwarp
177 \Verbatim@Par}%
178
179 \VerifyCommand[lwarp][fancybox]{\Verbatim@@Input}{3DCC957D04BC5060FF70DD0FF2928D55}
180
181 \def\Verbatim@@Input{%
182 \let\protect\noexpand
183 \LetLtxMacro\tmpb\The@Verbatim% lwarp
184 \LWR@HTMLSanitize@tmpb% lwarp
185 \edef\The@Verbatim{%
186 \noexpand\Every@VerbatimLine
187 % \The@Verbatim
188 \tmpb% lwarp
189 \ifeof\Verbatim@Infile\else\noexpand\Verbatim@Par\fi}%
190 \let\protect\relax
191 \The@Verbatim
192 \ifeof\Verbatim@Infile\else
193 \let\The@Verbatim\The@GVerbatim
194 \def\The@GVerbatim{\Verbatim@NextLine
195 \expandafter\Verbatim@@Input
196 \fi}%
197
198
199
200 \let\LWRFB@UseVerbatim\UseVerbatim
201 \renewcommand*\UseVerbatim}[1]{%
202 \LWR@atbeginverbatim{Verbatim}%
203 \LWRFB@UseVerbatim{#1}%

```

```

204 \LWR@afterendverbatim%
205 }
206
207 \let\LWRFB@LUseVerbatim\LUseVerbatim
208
209 \renewcommand*\LUseVerbatim[1]{%
210 \LWR@atbeginverbatim{LVerbatim}%
211 \noindent%
212 \LWRFB@LUseVerbatim{#1}%
213 \LWR@afterendverbatim%
214 }
215
216 \def\@BUseVerbatim[#1]#2{%
217 \LWR@atbeginverbatim{BVerbatim}%
218 \LWRFB@UseVerbatim{#2}%
219 \LWR@afterendverbatim%
220 }

```

---

File 153 **lwarp-fancyhdr.sty**

§ 265 Package **fancyhdr**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

fancyhdr (*Pkg*) fancyhdr is ignored.

**for HTML output:** Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2025/02/07]

2 \newcommand*\fancyhead[2][]{ }
3 \newcommand*\fancyfoot[2][]{ }
4 \newcommand*\fancyhf[2][]{ }
5
6 \newcommand*\lhead[2][]{ }
7 \newcommand*\chead[2][]{ }
8 \newcommand*\rhead[2][]{ }
9 \newcommand*\lfoot[2][]{ }
10 \newcommand*\cfoot[2][]{ }
11 \newcommand*\rfoot[2][]{ }
12 \newcommand*\headrulewidth{}
13 \newcommand*\footrulewidth{}
14 \providecommand{\headruleskip}{0pt}
15 \providecommand{\footruleskip}{0pt}
16 \newcommand{\plainheadrulewidth}{0pt}
17 \newcommand{\plainfootrulewidth}{0pt}
18 \def\fancyplain#1#2{#1}
19 \newcommand*\headrule{}
20 \newcommand*\footrule{}
21 \newlength{\headwidth}
22 \newcommand*\fancycenter[1][1em]{ }
23 \newcommand*\fancyheadoffset[2][]{ }
24 \newcommand*\fancyfootoffset[2][]{ }
25 \newcommand*\fancyhfoffset[2][]{ }
26 \newcommand{\fancyheadinit}[1]{ }
27 \newcommand{\fancyfootinit}[1]{ }
28 \newcommand{\fancyhfinit}[1]{ }

```

```

29 \newcommand*\iffloatpage[2]{#2}
30 \newcommand*\ifftopfloat[2]{#2}
31 \newcommand*\iffbotfloat[2]{#2}
32 \newcommand*\ifffootnote[2]{#2}
33
34 \NewDocumentCommand{\fancypagestyle}{s m o m}{}
35
36 \newcommand\fancyhdrsettoheight[2]{}
37 \newcommand{\fancyfootalign}[1]{}
38 \NewDocumentCommand{\fancyhdrbox}{ O{cl} o m }{}
39 \newcommand\fancypagestyleassign[2]{}
40
41 \NewDocumentCommand {\fancyheadwidth}{ s O{} O{} m }{}
42 \NewDocumentCommand {\fancyfootwidth}{ s O{} O{} m }{}
43 \NewDocumentCommand {\fancyhfwidth} { s O{} O{} m }{}

```

---

## File 154 **lwarp-fancypar.sty**

### § 266 Package **fancypar**

*(Emulates or patches code by GONZALO MEDINA.)*

`fancypar` (*Pkg*) `fancypar` is used as-is for print output, and emulated for HTML.

⚠ **css classes** `\NotebookPar` and related are used as-is inside a `lateximage`, but for HTML these are emulated as a `<div>` of class `NotebookPar`, etc. For HTML, the package options and the macro optional arguments are ignored. The user must provide custom CSS for each if visual effects are required. See section 7.7.

⚠ **custom styles** If using a custom paragraph style, such as `\MyStylePar` from the documentation, use the following to generate an HTML `<div>` of class `MyStylePar`:

```

... (existing definiton of \MyStylePar, print version) ...
\begin{warpHTML}
\AddFancyparClass{MyStyle}
\end{warpHTML}

```

`\MyStylePar` is then modified to emulate HTML. An optional argument is allowed, which is ignored.

**for HTML output:** `1 \LWR@ProvidesPackagePass{fancypar}[2019/01/18]`

```

2 \begin{warpHTML}
3 \makeatletter
4
5 \newcommand{\LWR@fancypar}[2]{%
6 \begin{BlockClass}{#1Par}
7 #2
8 \end{BlockClass}
9 }
10
11 \newcommand{\LWR@HTML@NotebookPar}[2][\LWR@fancypar{Notebook}{#2}]
12 \LWR@formatted{NotebookPar}
13
14 \newcommand{\LWR@HTML@ZebraPar}[2][\LWR@fancypar{Zebra}{#2}]
15 \LWR@formatted{ZebraPar}

```

```

16
17 \newcommand{\LWR@HTML@DashedPar}[2][\LWR@fancy@par{Dashed}{#2}]
18 \LWR@formatted{DashedPar}
19
20 \newcommand{\LWR@HTML@MarkedPar}[2][\LWR@fancy@par{Marked}{#2}]
21 \LWR@formatted{MarkedPar}
22
23 \newcommand{\LWR@HTML@UnderlinedPar}[2][\LWR@fancy@par{Underlined}{#2}]
24 \LWR@formatted{UnderlinedPar}
25
26
27 \newcommand{\LWR@HTML@add@fancy@format}{}
28 \LWR@formatted{add@fancy@format}
29
30
31 \newcommand{\AddFancy@par@Class}[1]{%
32 \expandafter\newcommand\csname LWR@HTML@#1Par\endcsname[2][\LWR@fancy@par{#1}{##2}]%
33 \LWR@fancy@par{#1}{##2}%
34 }
35 \LWR@formatted{#1Par}
36 }
37
38 \makeatother
39 \end{warpHTML}

```

---

File 155 **lwarp-fancyref.sty**

§ 267 Package **fancyref**

(Emulates or patches code by AXEL REICHERT.)

fancyref (*Pkg*) fancyref is modified for HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

\fancyrefhook (*Hook*) [] To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since lwarp has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand*\LWR@ref@paren@fancyrefhook[1]{(#1)}
3
4 \ifdefstrequal{\fancyrefhook}{\LWR@ref@paren@fancyrefhook}
5 {}{
6 \renewcommand*\fancyrefhook[1]{#1}%
7 }

```

---

File 156 **lwarp-fancytabs.sty**

§ 268 Package **fancytabs**

fancytabs (*Pkg*) fancytabs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]



```

2 \newcommand{\fancytab}[3][RIGHT]{
3 \newcommand{\fancytabsStyle}[1]{
4 \newcommand{\fancytabsHeight}[1]{
5 \newcommand{\fancytabsWidth}[1]{
6 \newcommand{\fancytabsCount}[1]{
7 \newcommand{\fancytabsLeftColor}[1]{
8 \newcommand{\fancytabsRightColor}[1]{
9 \newcommand{\fancytabsTop}[1]{
10 \newcommand{\fancytabsTextVPos}[1]{
11 \newcommand{\fancytabsTextHPos}[1]{
12 \newcommand{\fancytabsGap}[1]{
13 \newcommand{\fancytabsFloor}[1]{
14 \newcommand{\fancytabsRotate}[1]{

```

---

File 157 **lwarp-fancyvrb.sty**

§ 269 Package **fancyvrb**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

fancyvrb (*Pkg*) fancyvrb is supported with some patches.

**HTML classes** The fancy verbatim environment is placed inside a `<div>` of class fancyvrb. The label is placed inside a `<div>` of class fancyvrblabel. The verbatim text itself is placed inside a `<div>` of class verbatim.

For an inline `\Verb`, the verbatim is placed inside a `<span>` of class fancyvrb.

**fancybox, fancyvrb**

⚠ `\VerbatimFootnotes`  
 ⚠ sectioning or  
 displaymath

If using fancybox or fancyvrb with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

```

\subsection[Subsection Name]
 {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbatim+.}

```

and likewise for equations or display math.

```

1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2024/01/20]

```

For `fvextra`, to support background colors.

```

4 \newcommand*\LWR@currentFVbackstyle{}
5
6 \newcommand*\LWR@find@currentFVbackstyle{%
7 \renewcommand*\LWR@currentFVbackstyle{}%
8 }%

```

Initial default patch for fancyvrb:

```

9 \fvset{frame=none}%

```

Gobble does not work with HTML sanitization, so if gobbling is non-zero then turn off HTML sanitization.

```

10 \define@key{FV}{gobble}{%
11 \@tempcnta=#1\relax
12 \ifnum\@tempcnta<\@ne
13 \let\FV@Gobble\relax
14 \else
15 \ifnum\@tempcnta>9
16 \FV@Error{gobble parameter must be less than 10}\FV@eha
17 \else
18 \renewcommand{\FV@@@Gobble}[\@tempcnta]{}%
19 \let\FV@Gobble\FV@@Gobble%
20 \boolfalse{LWR@HTMLsanitize@tmpb@enable}% lwarp
21 \fi
22 \fi}

```

`\FancyVerbSpace`

Force the use of a visible space instead of an empty box.

```

23 \ifxetexorluatex
24 \def\LWR@HTML@FancyVerbSpace{\textvisiblespace}
25 \else
26 \@ifundefined{verbvisiblespace}%
27 {%
28 \@ifundefined{textvisiblespace}%
29 {\begingroup\catcode`\ =12 \gdef\LWR@HTML@FancyVerbSpace{\tt } \endgroup}
30 {\def\LWR@HTML@FancyVerbSpace{\textvisiblespace}}
31 }%
32 {\def\LWR@HTML@FancyVerbSpace{\verbvisiblespace}}
33 \fi
34 \LWR@formatted{FancyVerbSpace}

```

`\FancyVerbTab`

Set the visible tab. Unicode 240B (SYMBOL FOR HORIZONTAL TABULATION) and 21E5 (RIGHTWARDS ARROW TO BAR) both gave unindented new lines at each tab, so a simple pipe character is used instead.

For the print mode, the `fancyvrb` definition does not copy, so a simplified version is used.

```

35 \def\LWR@print@FancyVerbTab{ | }
36 \def\LWR@HTML@FancyVerbTab{ | }%
37 \LWR@formatted{FancyVerbTab}

38 \fvset{tabsize=8,showtabs=false}

```

`\FV@CatCodes`

```

39 \VerifyCommand[lwarp][fancyvrb]{\FV@CatCodes}{BF2C1F38D5FEF0658C18B636ACBDA40E}
40
41 \def\FV@CatCodes{%
42 \let\do\makeother\dospecials % The usual stuff.
43 \FV@ActiveWhiteSpace % See below.
44 \FV@FontScanPrep % See below.
45 \FV@CatCodesHook % A style hook.
46 \FancyVerbCodes % A user-defined hook.
47 \catcode`\>=12% % lwarp
48 \catcode`\<=12% % lwarp
49 }

```

`\FV@GetLine`Added the catcode changes for < and > to avoid the effect of `\@noligs` for these

characters. They were being made active and thus would not be sensed by the search/replace to sanitize.



This code is sensitive to the use of %, and for some reason does not work if `\expandafter` immediately follows the `< catcode` change.

```
50 \VerifyCommand[lwarp][fancyvrb]{\FV@GetLine}{9B86134119C575F099B5B567A9B65A9F}
51
52 \def\FV@GetLine{%
53 \@noligs%
54 \catcode\>=12 lwarp, and the next line as well
55 % for some reason, there must not be a % after the following 12:
56 \catcode\<=12
57 %
58 \expandafter\FV@CheckScan\FancyVerbGetLine%
59 }
```

Modified to sanitize HTML. `\LWR@HTMLsanitize@tmpb` is included in `\FV@Line`, so it will adjust if used inside an `lateximage`.

```
60 \VerifyCommand[lwarp][fancyvrb]{\FancyVerbGetLine}{498B88BACBD0811BAC0791BDF4F3B335}
61
62 \begingroup
63 \catcode\^^M=\active%
64 \gdef\FancyVerbGetLine#1^^M{%
65 \@nil%
66 \FV@CheckEnd{#1}%
67 \ifx\@tempa\FV@EnvName% % True if end is found
68 \ifx\@tempb\FV@@@CheckEnd\else\FV@BadEndError\fi%
69 \let\next\FV@EndScanning%
70 \else%
71 \ifbool{LWR@HTMLsanitize@tmpb@enable}% lwarp
72 {\def\FV@Line{LWR@HTMLsanitize@use@tmpb{#1}}}% lwarp
73 {\def\FV@Line{#1}}}% lwarp
74 \def\next{\FV@PreProcessLine\FV@GetLine}%
75 \fi%
76 \next}%
77 \endgroup
```

`\FV@List`

`{\RL margin 0l}`

Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```
78 \VerifyCommand[lwarp][fancyvrb]{\FV@List}{8FB649FAF7C9487B257B76AF4FFB27D1}
79
80 \def\FV@List#1{%
81 \begingroup
82 \FV@UseKeyValues
83 \FV@LeaveVMode
84 \ifinlabel\else\setbox\@labels=\box\voidb\x\fi
85 \FV@ListNesting{#1}%
86 \FV@ListParameterHook
87 \FV@ListVSpace
88 \FV@SetLineWidth
89 \FV@InterLinePenalty
90 % \let\FV@ProcessLine\FV@ListProcessLine@i
91 \let\FV@ProcessLine\FV@ListProcessLine% lwarp
92 \FV@CatCodes
93 \FV@FormattingPrep
94 \FV@ObeyTabsInit
95 \FV@BeginListFrame}
```

`\FV@ListProcessLine``{\text}`

Processes each line, adding optional line numbers. Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```

96 \VerifyCommand[lwarp][fancyvrb]{\FV@ListProcessLine}{660F9938234FC1043ACF7B02B3F37372}
97
98 \def\FV@ListProcessLine#1{%
99 \hbox to \hsize{%
100 \kern\leftmargin
101 \hbox to \VerbatimHTMLWidth {%
102 \ifcvoid\FV@LeftListNumber}{\kern 2.5em}%
103 \FV@LeftListNumber%
104 } \FV@LeftListFrame
105 \FancyVerbFormatLine{#1}%
106 \hss%
107 } \FV@RightListFrame
108 \FV@RightListNumber%
109 }%
110 \hss% required to avoid underfull hboxes
111 }
112 }

```

`\FVC@SaveVerb``{\name} {\character}`

Modified to sanitize HTML when stored. Sanitizing on use would be too late to adjust catcodes. `\LWR@HTMLsanitize@tmpb` is included in the saved macro, so if inside a `lateximage`, `\LWR@HTMLsanitize@tmp` does nothing.

```

113 \VerifyCommand[lwarp][fancyvrb]{\FVC@SaveVerb}{68373ED055890622906844A5611810C8}
114
115 \begingroup
116 \catcode`\^^M=\active%
117 \gdef\FVC@SaveVerb#1#2{%
118 \@namedef{FV@SV@#1}{%
119 \begingroup%
120 \FV@UseKeyValues%
121 \FV@CatCodes%
122 \outer\def^^M{\FV@EOL}%
123 \global\let\@tempg\FancyVerbAfterSave%
124 \catcode`#2=12%
125 \def\@tempa{\def\FancyVerbGetVerb####1####2}%
126 \expandafter\@tempa\string#2\endgroup\@namedef{FV@SV@#1}{##2}\@tempg}%
127 \expandafter\@tempa\string#2{%
128 \endgroup%
129 \@namedef{FV@SV@#1}{%
130 ##2%
131 \LWR@HTMLsanitize@use@tmpb{##2} \lwarp
132 }\@tempg%
133 }%
134 \FancyVerbGetVerb\FV@EOL}%
135 \endgroup

```

`\FV@UseVerb``{\macro}`

Adds a `<span>`.

```

136 \VerifyCommand[lwarp][fancyvrb]{\FV@UseVerb}{A3A9D802CCDBEC8D2FDAB626346B5EDD}
137

```

```

138 \def\FV@UseVerb#1{%
139 \ifbool{LWR@verbtags}% lwarp
140 {\LWR@htmltag{span class=\textquotedbl{}fancyvrb\textquotedbl}}% lwarp
141 }% lwarp
142 \mbox{\FV@UseKeyValues\FV@FormattingPrep#1}%
143 \ifbool{LWR@verbtags}% lwarp
144 {\LWR@htmltag{/span}}% lwarp
145 }% lwarp
146 }

```

\FVC@Verb

*{character}*

Modified to sanitize HTML.

```

147 \VerifyCommand[lwarp][fancyvrb]{\FVC@Verb}{806B03D5A78CAB39E0514667991695C9}
148
149 \begingroup
150 \catcode\^^M=\active%
151 \gdef\FVC@Verb#1{%
152 \begingroup%
153 \FV@UseKeyValues%
154 \FV@FormattingPrep%
155 \FV@CatCodes%
156 \outer\def^^M{%
157 \catcode#1=12%
158 \def\@tempa{\def\FancyVerbGetVerb####1####2}%
159 \expandafter\@tempa\string#1{%
160 \ifbool{LWR@verbtags}% lwarp
161 {% lwarp
162 \LWR@htmltag{span class=\textquotedbl{}fancyvrb\textquotedbl}% lwarp
163 \def\tmpb{##2}% lwarp
164 \LWR@HTMLSanitize@tmpb% lwarp
165 \mbox{\tmpb}% lwarp
166 \LWR@htmltag{/span}% lwarp
167 }% lwarp
168 {\mbox{##2}}%
169 \endgroup%
170 }%
171 \FancyVerbGetVerb\FV@EOL%
172 }%
173 \endgroup

```

\FV@ReadLine

Modified to sanitize HTML.

```

174 \VerifyCommand[lwarp][fancyvrb]{\FV@ReadLine}{3C3481D735295DAEB5B30DDE9152287D}
175
176 \begingroup
177 \catcode\^^M=\active
178 \gdef\FV@ReadLine{%
179 \ifeof\FV@InFile\else
180 % \immediate\read\FV@InFile to\@tempa%
181 % \expandafter\FV@@ReadLine\@tempa^^M\relax^^M\@nil%
182 \immediate\read\FV@InFile to\tmpb%
183 \LWR@HTMLSanitize@tmpb%
184 \expandafter\FV@@ReadLine\tmpb^^M\relax^^M\@nil%
185 \fi}
186 \endgroup

```

\LWR@FVstyle

Holds the style of the verbatim.

```
187 \newcommand*{\LWR@FVstyle}{}
```

`\LWR@new@FVstyle`

Starts a new style for the next verbatim.

```
188 \newcommand*{\LWR@new@FVstyle}{\renewcommand*{\LWR@FVstyle}{}}
```

`\LWR@addto@FVstyle`

`{<style text>}` Adds to the style for the next verbatim.

```
189 \newcommand*{\LWR@addto@FVstyle}[1]{%
190 \apptocmd{\LWR@FVstyle}{\protect\LWR@indentHTMLtwo#1}%
191 }%
192 {%
193 \PackageWarning{lwarp}{%
194 \string\LWR@addto@FVstyle\space was not
195 able to patch an HTML style.\MessageBreak
196 Patching !#!\MessageBreak%
197 Currently is !\LWR@FVstyle!\MessageBreak%
198 HTML styles may be not be complete%
199 }%
200 }%
201 }
```

`\LWR@addFVtextcolorstyle`

Adds a color style for the current color.

```
202 \newcommand*{\LWR@addFVtextcolorstyle}{%
203 \LWR@findcurrenttextcolor%
204 \ifdefstring{\LWR@tempcolor}{000000}%
205 }%
206 {\LWR@addto@FVstyle{color: \LWR@origpound\LWR@tempcolor ; }}%
207 }
```

`\LWR@addFVbackgroundstyle`

```
208 \newcommand*{\LWR@addFVbackgroundstyle}{%
209 \ifdefempty{\LWR@currentFVbackstyle}%
210 }%
211 {\LWR@addto@FVstyle{\LWR@currentFVbackstyle}}%
212 }
```

`\LWR@addFVborderstyle`

`{<edge>}`

```
213 \newcommand*{\LWR@addFVborderstyle}[1]{%
214 \LWR@addto@FVstyle{\LWR@FVborderstyle{#1}}%
215 }
```

`\LWR@addFVborderstyles`

Redefined on the fly to do `\LWR@addFVborderstyle`, possibly several times, each with its own edge argument.

```
216 \newcommand*{\LWR@addFVborderstyles}{}
```

After the preamble is loaded, after any patches to Verbatim, such as by `fvextra`:

```
217 \AfterEndPreamble{
218
219 \LWR@traceinfo{Patching fancyvrb.}
```

`\VerbatimFootnotes`

Patched to use the new version.

```

220 \VerifyCommand[lwarp][fancyvrb]{\VerbatimFootnotes}{931C9BE6284EB9D8B1516D566C997A87}
221
222 \def\VerbatimFootnotes{%
223 \let\@footnotetext\V@footnotetext%
224 \let\footnote\V@footnote%
225 \let\LWR@footnotetext\V@footnotetext% lwarp
226 }

```

\V@@footnotetext

Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@@footnotetext.

```

227 \VerifyCommand[lwarp][fancyvrb]{\V@@footnotetext}{89E1586855997F951F57C3936CBDF87E}
228
229 \def\V@@footnotetext{%
230 \LWR@traceinfo{V@footnotetext}%

```

Place an autopage marker so that back references to citations inside a footnote will link closer to the footnote text, if possible.

```
231 \LWR@newautopagelabel{page}%
```

Take the current footnote box, then append:

```
232 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
233 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```

234 \protected@edef\@currentlabel{%
235 \csname p@footnote\endcsname\@thefnmark%
236 }% @currentlabel

```

Use HTML superscripts in the footnote even inside a lateximage:

```
237 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Verbatim tags and HTML sanitization will have been turned off inside a lateximage, such as in SVG math, so turn them on here so they will be active in the HTML footnotes.

```

238 \booltrue{LWR@verbtags}%
239 \booltrue{LWR@HTMLsanitize@tmpb@enable}%

```

Use paragraph tags if in a tabular data cell or a lateximage:

```
240 \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewLine%
```

Append the footnote mark to the list:

```
241 \@makefnmark{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```

242 \bgroup%
243 \aftergroup\V@@@footnotetext%

```

Do not generate autopages inside the footnotes, since they are accumulated at the moment before finally being used perhaps on a later page.

```

244 \let\LWR@newautopagelabel\LWR@null@newautopagelabel%
245 \ignorespaces%
246 }%

```

`\V@@@footnotetext`

Improves &lt;par&gt;.

```

247 \def\V@@@footnotetext{%
248 \LWR@orignobreakspace\LWR@orignewline%
249 \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
250 \strut\egroup%
251 }

```

`\FVB@Verbatim``\FVB@LVerbatim`

Prevents unexpected page break in the PDF output before HTML conversion.

```

252 \preto\FVB@Verbatim{\LWR@forcenewpage}
253 \preto\FVB@LVerbatim{\LWR@forcenewpage}
254 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.

```

Simplified to remove PDF formatting:

```

255 \def\LWR@HTML@FV@BeginListFrame@Single{%
256 \FV@SingleFrameLine{\z@}%
257 }
258 \LWR@formatted{FV@BeginListFrame@Single}
259
260 \def\LWR@HTML@FV@endListFrame@Single{%
261 \FV@SingleFrameLine{\@ne}%
262 }
263 \LWR@formatted{FV@endListFrame@Single}
264
265 \def\LWR@HTML@FV@BeginListFrame@Lines{%
266 \FV@SingleFrameLine{\z@}%
267 }
268 \LWR@formatted{FV@BeginListFrame@Lines}
269
270 \def\LWR@HTML@FV@endListFrame@Lines{%
271 \FV@SingleFrameLine{\@ne}%
272 }
273 \LWR@formatted{FV@endListFrame@Lines}
274
275 \newcommand*\LWR@HTML@FV@SingleFrameSep}{}%
276 \LWR@formatted{FV@SingleFrameSep}

```

The following patches to Verbatim are executed at the start and end of the environment, depending on the choice of frame.

`\LWR@fvstartnone`

Wraps label in a &lt;div&gt; of class fancyvrblabel.

```

277 \newcommand*\LWR@fvstartnone}{%
278 \LWR@traceinfo{fvstartnone}%
279 % \hbox to\z@{

```

Accumulate the style settings. Text color, background color, and background style are detected now. Border styles are selected earlier by the choice of verbatim frames.

If the current text style is empty, do not print an HTML style.

```

280 \LWR@find@currentFVbackstyle% lwarp
281 \LWR@new@FVstyle% lwarp
282 \LWR@addFVtextcolorstyle% lwarp
283 \LWR@addFVbackgroundstyle% lwarp

```



```

284 \LWR@addFVborderstyles% lwarp
285 \ifdefempty{\LWR@FVstyle}%
286 {\BlockClass{fancyvrb}}%
287 {\BlockClass[\LWR@FVstyle]{fancyvrb}}%

288 \LWR@stoppars
289 \ifx\FV@LabelPositionTopLine\relax\else
290 \ifx\FV@LabelBegin\relax\else
291 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
292 \ifbool{\LWR@verbtags}% lwarp
293 {% lwarp
294 \LWR@findcurrenttextcolor%
295 \LWR@htmltagc{% lwarp
296 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
297 style=\textquotedbl{}%
298 color: \LWR@origpound\LWR@tempcolor%
299 \textquotedbl%
300 }%
301 \LWR@orignewline% lwarp
302 }% lwarp
303 }% lwarp
304 \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
305 \LWR@orignewline% lwarp
306 \ifbool{\LWR@verbtags}% lwarp
307 {% lwarp
308 \LWR@htmltagc{/div}% lwarp
309 \LWR@orignewline% lwarp
310 }% lwarp
311 }% lwarp
312 \fi
313 \fi
314 \LWR@atbeginverbatim{verbatim}%
315 % }% hbox
316 }

```

\LWR@fvendnone

Wraps label in a <div> of class fancyvrblabel.

```

317 \newcommand*{\LWR@fvendnone}{%
318 \LWR@traceinfo{fvendnone}%
319 % \hbox to\z@{
320 \LWR@afterendverbatim%
321 \LWR@stoppars%
322 \ifx\FV@LabelPositionBottomLine\relax\else
323 \ifx\FV@LabelEnd\relax\else
324 \FancyVerbRuleColor{\LWR@FVfindbordercolor}% lwarp
325 \ifbool{\LWR@verbtags}% lwarp
326 {% lwarp
327 \LWR@findcurrenttextcolor%
328 \LWR@htmltagc{% lwarp
329 div class=\textquotedbl{}fancyvrblabel\textquotedbl\ % space
330 style=\textquotedbl{}%
331 color: \LWR@origpound\LWR@tempcolor%
332 \textquotedbl%
333 }%
334 \LWR@orignewline% lwarp
335 }% lwarp
336 }% lwarp
337 \LWR@print@textrm{\FV@LabelEnd}% lwarp
338 \LWR@orignewline% lwarp
339 \ifbool{\LWR@verbtags}% lwarp

```

```

340 {% lwarp
341 \LWR@htmltag{/div}% lwarp
342 \LWR@orignewline% lwarp
343 }% lwarp
344 }% lwarp
345 \fi
346 \fi
347 \endBlockClass% lwarp
348 % }% hbox
349 }

350 \newcommand*\LWR@fvstartsingle}{%
351 \LWR@traceinfo{fvstartsingle}%
352 \LWR@fvstartnone%
353 \FV@BeginListFrame@Single%
354 }
355
356 \newcommand*\LWR@fvendsingle}{%
357 \LWR@traceinfo{fvendsingle}%
358 \FV@endListFrame@Single%
359 \LWR@fvendnone%
360 }
361
362 \newcommand*\LWR@fvstartline}{%
363 \LWR@traceinfo{fvstartline}%
364 \LWR@fvstartnone%
365 % \setlength{\LWR@templengthone}{\baselineskip}%
366 \FV@BeginListFrame@Lines%
367 % \setlength{\baselineskip}{\LWR@templengthone}%
368 % \setlength{\baselineskip}{5pt}%
369 }
370
371 \newcommand*\LWR@fvendline}{%
372 \LWR@traceinfo{fvendline}%
373 \FV@endListFrame@Lines%
374 \LWR@fvendnone%
375 }

```

The following patches select the start/left/right/end behaviors depending on frame.

```

376 \newcommand*\LWR@FVfindbordercolor}{%
377 \FancyVerbRuleColor%
378 \LWR@findcurrenttextcolor%
379 \color{black}%
380 }

```

\LWR@FVborderstyle

{*edge*} Border width of \FV@FrameRule. Edge is empty, -top, etc.

```

381 \newcommand*\LWR@FVborderstyle}[1]{%
382 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
383 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
384 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
385 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
386 }

```

```

387 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@none}{C60E1656944AB4C4D2B74410E88FE7C0}
388
389 \def\LWR@HTML@FV@Frame@none{%

```

```

390 \let\FV@BeginListFrame\LWR@fvstartnone%
391 \let\FV@LeftListFrame\relax%
392 \let\FV@RightListFrame\relax%
393 \let\FV@EndListFrame\LWR@fvendnone}
394 \LWR@formatted{FV@Frame@none}
395
396 \FV@Frame@none% default values

397 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@single}{CDF78DB9C6408F48D05302D07091C629}
398
399 \def\LWR@HTML@FV@Frame@single{%
400 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{}}% lwarp
401 \let\FV@BeginListFrame\LWR@fvstartsingline%
402 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
403 \let\FV@RightListFrame\FV@RightListFrame@Single%
404 \let\FV@EndListFrame\LWR@fvendsingle}
405
406 \LWR@formatted{FV@Frame@single}

407 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@lines}{1AADD6691DA93C9A66227F5C5B34EAE4}
408
409 \def\LWR@HTML@FV@Frame@lines{%
410 \renewcommand{\LWR@addFVborderstyles}{%
411 \LWR@addFVborderstyle{-top}%
412 \LWR@addFVborderstyle{-bottom}}%
413 }% lwarp
414 \let\FV@BeginListFrame\LWR@fvstartline%
415 \let\FV@LeftListFrame\relax%
416 \let\FV@RightListFrame\relax%
417 \let\FV@EndListFrame\LWR@fvendline}
418
419 \LWR@formatted{FV@Frame@lines}

420 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@topline}{7E102D81F4FD367B398B8E85F48A7754}
421
422 \def\LWR@HTML@FV@Frame@topline{%
423 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-top}}% lwarp
424 \let\FV@BeginListFrame\LWR@fvstartline%
425 \let\FV@LeftListFrame\relax%
426 \let\FV@RightListFrame\relax%
427 \let\FV@EndListFrame\LWR@fvendnone}
428
429 \LWR@formatted{FV@Frame@topline}

430 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@bottomline}{A51600F812F57F4211EF9E34F261564A}
431
432 \def\LWR@HTML@FV@Frame@bottomline{%
433 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-bottom}}% lwarp
434 \let\FV@BeginListFrame\LWR@fvstartnone%
435 \let\FV@LeftListFrame\relax%
436 \let\FV@RightListFrame\relax%
437 \let\FV@EndListFrame\LWR@fvendline}
438
439 \LWR@formatted{FV@Frame@bottomline}

```

Seems to be required in some situations. Is not \LWR@formatted because it is defined as needed.

```

440 \def\FV@FrameFillLine{}

441 \VerifyCommand[lwarp][fancyvrb]{\FV@Frame@leftline}{2A77982C6520FD64F6DBFA1C03B670BA}
442
443 \def\LWR@HTML@FV@Frame@leftline{%
444 \renewcommand{\LWR@addFVborderstyles}{\LWR@addFVborderstyle{-left}}% lwarp

```

To define the `\FV@FrameFillLine` macro (from `\FV@BeginListFrame`)

```

445 \ifx\FancyVerbFillColor\relax%
446 \let\FV@FrameFillLine\relax%
447 \else%
448 \@tempdima\FV@FrameRule\relax%
449 \multiply\@tempdima-\tw@%
450 \edef\FV@FrameFillLine{%
451 {\noexpand\FancyVerbFillColor{\vrule\@width\@number\@tempdima sp}%
452 \kern-\@number\@tempdima sp}}%
453 \fi%
454 \let\FV@BeginListFrame\LWR@fvstartnone%
455 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
456 \let\FV@RightListFrame\relax%
457 \let\FV@EndListFrame\LWR@fvendnone}
458
459 \LWR@formatted{FV@Frame@leftline}

```

`\FV@SingleFrameLine`

Adds the optional label to the top and bottom edges.

```

460 \VerifyCommand[lwarp][fancyvrb]{\FV@SingleFrameLine}{2D8B1DAED851500F255E357437FF065C}
461
462 \def\LWR@HTML@FV@SingleFrameLine#1{%
463 % \hbox to\z@{%
464 % \kern\leftmargin
465 \ifnum#1=\z@\relax
466 \let\FV@Label\FV@LabelBegin
467 \else
468 \let\FV@Label\FV@LabelEnd
469 \fi
470 \ifx\FV@Label\relax
471 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
472 \else
473 \ifnum#1=\z@
474 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
475 \ifx\FV@LabelPositionTopLine\relax
476 \else
477 \fi
478 \else
479 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
480 \ifx\FV@LabelPositionBottomLine\relax
481 \else
482 \fi
483 \fi
484 \fi
485 % \hss
486 % }
487 }
488 \LWR@formatted{FV@SingleFrameLine}

```

Env BVerbatim

Adds `lwarp` verbatim patches.

```

489 \xpretocmd{\FV@BeginVBox}
490 {%
491 \LWR@forcenewpage%
492 \LWR@atbeginverbatim{bverbatim}%
493 }
494 {}
495 {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
496
497 \xapptocmd{\FV@EndVBox}
498 {%
499 \LWR@afterendverbatim%
500 }
501 {}
502 {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

```

End of the modifications to make at the end of the preamble:

```

503 } % \AfterEndPreamble

504 \VerifyCommand[lwarp][fancyvrb]{\FVB@VerbatimOut}{A0AC591D2DB283DCEBCCC75968FF88CF}
505
506 \def\FVB@VerbatimOut#1{%
507 \@bsphack
508 \begingroup
509 \FV@UseKeyValues
510 \FV@DefineWhiteSpace
511 \def\FV@Space{\space}%
512 \FV@DefineTabOut
513 \def\FV@ProcessLine{\immediate\write\FV@OutFile}%
514 \immediate\openout\FV@OutFile #1\relax
515 \let\FV@FontScanPrep\relax
516 % DG/SR modification begin - May. 18, 1998 (to avoid problems with ligatures)
517 \let\@noligs\relax
518 % DG/SR modification end
519 \boolfalse\LWR@HTMLsanitize@tmpb@enable}% lwarp
520 \FV@Scan}

```

---

## File 158 **lwarp-fbox.sty**

### § 270 Package **fbox**

*(Emulates or patches code by HERBERT VOSS.)*

**fbox** (*Pkg*) **fbox** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fbox}[2022/02/20]

This will be \LWR@formatted when \AtBeginDocument:

```
2 \LetLtxMacro\LWR@HTML@fbox\fbox
```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*{\orig@fbox}{\FBox@i[tblr]}
```

```
\WR@fboxpkg@border <{<1: top/bottom/left/right}> <{<2: t/b/l/r}> <{<3: padding, or empty}>}
```

Accumulates HTML styles for border, and padding if given:

```

4 \newcommand*{\LWR@fboxpkg@border}[3]{%
5 \colorlet{\LWR@border@color}{\csuse{fbox@#2color}}%
6 \protect\convertcolorspec{named}{\LWR@border@color}{HTML}\LWR@tempbordercolor\relax%
7 \appto\LWR@tempone{%
8 border-#1: % space
9 \LWR@printlength{\LWR@atleastonept} % space
10 solid \LWR@origpound%
11 }%
12 \expandafter\appto\expandafter\LWR@tempone\expandafter{\LWR@tempbordercolor}%
13 \appto\LWR@tempone{ ;\LWR@indentHTML}%
14 \ifblank{#3}{}%
15 \appto\LWR@tempone{%
16 padding-#1: \LWR@printlength{#3} ;\LWR@indentHTML
17 }%
18 }%
19 }

```

A hack to reuse the same code for inline and blocks:

```

20 \newbool{\LWR@fboxpkg@ispar}
21 \boolfalse{\LWR@fboxpkg@ispar}

```

Accumulate HTML styles for left and right padding, depending on `\if@fbox@space@left`, `\if@fbox@space@right`:

```

22 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
23 \csuse{\if@fbox@space@#1}%
24 \appto\LWR@tempone{%
25 padding-#1: \LWR@printlength{\fbox@@sep};\LWR@indentHTML
26 }
27 \else%
28 \appto\LWR@tempone{%
29 padding-#1: 0pt;\LWR@indentHTML
30 }
31 \fi%
32 }

```

The HTML version, modified to use HTML styles and either an `\InlineClass` or `BlockClass`:

```

33 \newcommand{\LWR@HTML@FBox@iii}[1]{%

```

Find and set the text color, rule width, margin:

```

34 \LWR@forceminwidth{\fbox@@rule}%
35 \LWR@findcurrenttextcolor%
36 \def\LWR@tempone{%
37 color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
38 margin: 1ex ; \LWR@indentHTML
39 }%

```

Add left/right padding:

```

40 \LWR@fboxpkg@lrpadding{left}%
41 \LWR@fboxpkg@lrpadding{right}%

```

Per the original to decode the borders, in a new way:

```

42 \ifnum\the\@tempcntb>8\relax
43 \advance\@tempcntb by -8\relax
44 \LWR@fboxpkg@border{top}{t}{\fbox@sep}%
45 \fi
46 \ifnum\@tempcntb>3
47 \advance\@tempcntb by -4\relax
48 \LWR@fboxpkg@border{left}{l}{}%
49 \fi
50 \ifnum\@tempcntb>1\relax
51 \LWR@fboxpkg@border{right}{r}{}%
52 \fi
53 \ifodd\@tempcntb
54 \LWR@fboxpkg@border{bottom}{b}{\fbox@sep}%
55 \fi

```

Generate a BlockClass or \InlineClass with the contents:

```

56 \color@begingroup
57 \ifbool{LWR@fboxpkg@ispar}%
58 {%
59 \begin{BlockClass}[LWR@tempone]{fboxpkg}%
60 #1%
61 \end{BlockClass}%
62 }%
63 {%
64 \InlineClass[LWR@tempone]{fboxpkg}{%
65 #1%
66 }%
67 }%
68 \color@endgroup
69 \boolfalse{LWR@fboxpkg@ispar}% globally
70 }
71 \LWR@formatted{FBox@iii}

```

For \fparbox, set the use of BlockClass, then reuse the above:

```

72 \long\def\LWR@HTML@FParBox@i[#1]#2{%
73 \booltrue{LWR@fboxpkg@ispar}%
74 \FBox@i[#1]{#2}
75 }
76 \LWR@formatted{FParBox@i}
77
78 \long\def\LWR@HTML@FParBox@ii#1{%
79 \booltrue{LWR@fboxpkg@ispar}%
80 \FBox@i[tblr]{#1}%
81 }
82 \LWR@formatted{FParBox@ii}

```

For MATHJAX, absorb and ignore star and optional arguments:

```

83 \CustomizeMathJax{\let\LWRorigfbox\fbox}
84 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][\LWRorigfbox{#2}]}
85 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
86 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}

```

---

File 159 **lwarp-fewerfloatpages.sty**

§ 271 Package **fewerfloatpages**

fewerfloatpages (*Pkg*) fewerfloatpages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

```
2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}
```

---

File 160 **lwarp-figcaps.sty**

§ 272 Package **figcaps**

*(Emulates or patches code by PATRICK W. DALY.)*

figcaps (*Pkg*) figcaps is ignored.

**for HTML output:** Discard all options for lwarp-figcaps:

```
1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

2 \newcommand*\figcapson{}
3 \newcommand*\figcapsoff{}
4 \newcommand*\printfigures{}
5 \newcommand*\figmarkon{}
6 \newcommand*\figmarkoff{}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}
```

---

File 161 **lwarp-figsize.sty**

§ 273 Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

figsize (*Pkg*) figsize is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```
2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
```



```

6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }

```

---

File 162 **lwarp-fitbox.sty**

§ 274 Package **fitbox**

`fitbox (Pkg)` `fitbox` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3 \begin{BlockClass}{fitbox}
4 #3
5 \end{BlockClass}
6 }
7
8 \newcommand*{\fitboxset}[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitBoxLayout[3][[]]{}

```

---

File 163 **lwarp-fix2col.sty**

§ 275 Package **fix2col**

`fix2col (Pkg)` `fix2col` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]


---

File 164 **lwarp-fixmath.sty**

§ 276 Package **fixmath**

*(Emulates or patches code by WALTER SCHMIDT.)*

`fixmath (Pkg)` `fixmath` is used as-is for SVG math, and emulated for MATHJAX.

 **limitations** MATHJAX does not have full font support for bold italic Greek.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

```

5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addletter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}

```

---

File 165 **lwarp-fixme.sty**

§ 277 Package **fixme**

*(Emulates or patches code by DIDIER VERNA.)*

`fixme` (*Pkg*) `fixme` is patched for use by `lwarp`.

⚠ **external layouts** External layouts (`\fxloadlayouts`) are not supported.

Customized layouts are overwritten by `lwarp`'s versions `\AtBeginDocument` in order to provide the HTML conversion. If creating a new layout, see `lwarp`'s changes to provide similar for the new layout, inside a `warpHTML` environment.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```

\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}

```

**for HTML output:** `1 \LWR@ProvidesPackagePass{fixme}[2019/01/03]`

Restore `lwarp`'s version of `\@wrindex`, ignoring the `fixme` package's target option:

```
2 \let\@wrindex\LWR@wrindex
```

Float-related macros required by `lwarp`:

```

3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6 \hypertocfloat{1}{fixme}{lox}%
7 {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}%
8 {#2}
9 }

```

Other modifications. Done `\AtBeginDocument` to hopefully work if the user customizes the layouts.

```

10 \AtBeginDocument{
11
12 \def\FXFaceInlineHTMLStyle{font-weight:bold}
13
14 \renewcommand*\FXLayoutInline[3]{ % space
15 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
16 {\@fxttextstd{#1}{#2}{#3}}%
17 }
18

```

```

19 \def\FXFaceEnvHTMLStyle{font-weight:bold}
20
21 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
22 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
23 \ignorespaces#2 \fxnotename{#1}: \ignorespaces%
24 }
25
26 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
27
28 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
29 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
30 \fxnotename{#1}: \ignorespaces%
31 }
32
33 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsiganture{#2}\endBlockClass}
34
35 \def\FXFaceSignatureHTMLStyle{font-style:italic}
36
37 \DeclareRobustCommand*\@fxsiganture[1]{%
38 \ifthenelse{\equal{#1}{}}%
39 {}%
40 { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesiganture}{#1}}}%
41 }
42
43
44 \def\FXFaceTargetHTMLStyle{font-style:italic}
45
46 \renewcommand\FXTargetLayoutPlain[2]{%
47 \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
48 }
49
50 }% \AtBeginDocument

```

---

File 166 **lwarp-fixmetodonotes.sty**

§ 278 Package **fixmetodonotes**

*(Emulates or patches code by GIOELE BARABUCCI.)*

fixmetodonotes (*Pkg*) fixmetodonotes is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]
2
3
4 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@addtolist}{C8CA636EF295D370F26A278FFAE28B2F}
5
6 \renewcommand{\NOTES@addtolist}[2]{%
7 \refstepcounter{NOTES@note}%
8 \phantomsection REMOVED
9 \addcontentsline{notes}{NOTES@note}{%
10 \protect\numberline{\theNOTES@note}{#1}: {#2}}%
11 }
12
13 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@marker}{B5B482E83AB149A1B7F0CCFB4099C61E}
14
15 \renewcommand{\NOTES@marker}[2]{\fbox{%
16 \textcolor{#2}{% WAS \color

```

```

16 \textbf{#1}}%
17 }}
18
19 \VerifyCommand[lwarp][fixmetodonotes]{\NOTES@colorline}{816FF1D31286EA48258FE3F2BA58E99C}
20
21 \renewcommand{\NOTES@colorline}[2]{%
22 \bgroup%
23 \ULon{\LWR@backgroundcolor{#1}{#2}}%
24 }

```

---

File 167 **lwarp-flafter.sty**

§ 279 Package **flafter**

flafter (*Pkg*) flafter is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]  
2 \providecommand\fl@trace[1]{}

---

File 168 **lwarp-flippdf.sty**

§ 280 Package **flippdf**

flippdf (*Pkg*) flippdf is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]  
  
2 \newcommand\FlipPDF{}  
3 \newcommand\UnFlipPDF{}

---

File 169 **lwarp-float.sty**


§ 281 Package **float**

*(Emulates or patches code by ANSELM LINGNAU.)*

float (*Pkg*) float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML `<figure>` class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: plain, plaintop, boxed, or ruled, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

 **not seem to be a floating environment**  
**for HTML output:**

Always declare a `\newfloat` before modifying it with `\floatname`, etc.

1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

`\LWR@floatstyle` The default float style.

```
2 \newcommand*\LWR@floatstyle}{plain}
```

`\newfloat`

```
{<1: type>} {<2: placement>} {<3: ext>} [<4: within >]
```

Emulates the `\newfloat` command from the `float` package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4 \IfValueTF{#4}%
5 {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6 {\DeclareFloatingEnvironment[fileext=#3]{#1}}%
```

Remember the float style:

```
7 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```
8 \cslet{listof#1s}\relax%
9 \cslet{listof#1es}\relax%
```

Like `size`, `newfloat` also creates `\l@<type>`, but `float` does not, so remove it here:

```
10 \cslet{l@#1}\relax%
11 }
```

`\floatname`

```
{<type>} {<name>}
```

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from `trivfloat`.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13 \def\LWR@tempone{#2}%
14 \def\LWR@temptwo{\@nameuse{#1name}}%
15 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}{%
16 \SetupFloatingEnvironment{#1}{name=#2}%
17 }%
18 }
```

`\floatplacement`

```
{<type>} {<placement>}
```

Float placement is ignored.

```
19 \newcommand*\floatplacement}[2]{%
20 \SetupFloatingEnvironment{#1}{placement=#2}%
21 }
```

`\floatstyle`

```
{<style>}
```

Remember the style for future floats:

```
22 \newcommand{\floatstyle}[1]{%
23 \def\LWR@floatstyle{#1}%
24 }
```

`\restylefloat`

```
* {<type>}
```

Remember the style for this float:

```

25 \NewDocumentCommand{\restylefloat}{s m}{%
26 \csedef{LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }

```

\listof

See section 80.2 for the \LWR@listof command in the lwarp core.

```

28 \newcommand{\listof}{\LWR@listof}

```

---

File 170 **lwarp-floatflt.sty**

§ 282 Package **floatflt**

*(Emulates or patches code by MATS DAHLGREN.)*

floatflt (*Pkg*) floatflt is emulated.

**for HTML output:** Discard all options for lwarp-floatflt:

```

1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]

```

**offset** [*<type>*] [*<width>*] Borrowed from the lwarp version of keyfloat:

```

2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4 \begin{LWR@setvirtualpage}*%
5 \ifblank{#3}{%
6 \LWR@BlockClassWP{%
7 float:right; %
8 width: 1.5in; % reasonable dummy width for word processor
9 margin:10pt%
10 }{%
11 (note)%
12 {marginblock}%
13 }{%
14 \setlength{\LWR@templengthone}{#3}%
15 \LWR@BlockClassWP{%
16 float:right; %
17 width:\LWR@printlength{\LWR@templengthone}; % extra space
18 margin:10pt%
19 }{%
20 width:\LWR@printlength{\LWR@templengthone}%
21 }%
22 (note)%
23 {marginblock}%
24 }%
25 \renewcommand*{\@capttype}{#2}%
26 }
27 {%
28 \endLWR@BlockClassWP%
29 \end{LWR@setvirtualpage}%
30 }

```

**[<placement>]** [*<width>*]

```

31 \DeclareDocumentEnvironment{floatingfigure}{o m}
32 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
33 {\end{KFLTfloatflt@marginfloat}}

```

Env floatingfigure

Env floatingtable

[*<placement>*]

```

34 \DeclareDocumentEnvironment{floatingtable}{o}
35 {\begin{KFLTfloatflt@marginfloat}{table}{}}
36 {\end{KFLTfloatflt@marginfloat}}

```

File 171 **lwarp-floatpag.sty**§ 283 Package **floatpag***(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*floatpag (*Pkg*) floatpag is ignored.**for HTML output:** Discard all options for lwarp-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*{\floatpagestyle}[1]{}
3 \newcommand*{\rotfloatpagestyle}[1]{}
4 \newcommand*{\thisfloatpagestyle}[1]{}

```

File 172 **lwarp-floatrow.sty**§ 284 Package **floatrow***(Emulates or patches code by OLGA LAPKO.)*floatrow (*Pkg*) floatrow is emulated.**for HTML output:** 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

⚠ **subfig package** When combined with the `subfig` package, while inside a `subfloatrow` `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

⚠ **\FBwidth, \FBheight** The emulation of `floatrow` does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether subcaption was loaded. If not, it is assumed that subfig is used instead:

```

2 \newbool{LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \IfPackageLoadedTF{subcaption}
6 {\booltrue{LWR@subcaptionloaded}}
7 {\boolfalse{LWR@subcaptionloaded}}
8 }

```

\floatbox

$[\langle 1 \text{ preamble} \rangle] \{\langle 2 \text{ cptype} \rangle\} [\langle 3 \text{ width} \rangle] [\langle 4 \text{ height} \rangle] [\langle 5 \text{ vert pos} \rangle] \{\langle 6 \text{ caption} \rangle\} \{\langle 7 \text{ object} \rangle\}$

Only parameters for cptype, width, caption, and object are used.

LWR@insubfloatrow is true if inside a subfloatrow environment.

There are two actions, depending on the use of subcaption or subfig.

```

9 \NewDocumentCommand{\floatbox}{o m o o o +m +m}{%
10 \ifbool{LWR@subcaptionloaded}%
11 {% subcaption

```

For subcaption:

```

12 \ifbool{LWR@insubfloatrow}%
13 {% subcaption in a subfloatrow

```

subfigure and subtable environments take width as an argument.

```

14 \IfValueTF{#3}%
15 {\@nameuse{sub#2}{#3}}%
16 {\@nameuse{sub#2}{\linewidth}}%
17 }% subcaption in a subfloatrow
18 {% subcaption not in subfloatrow

```

figure and table environments do not take a width argument.

```

19 \@nameuse{#2}%
20 }% subcaption not in subfloatrow
21 #6
22
23 #7

```

End the environments:

```

24 \ifbool{LWR@insubfloatrow}%
25 {\@nameuse{endsub#2}}%
26 {\@nameuse{end#2}}%
27 }% subcaption
28 {% assume subfig

```

For subfig:

```

29 \ifbool{LWR@insubfloatrow}%
30 {% subfig in a subfloatrow

```

\subfloat is a macro, not an environment.

Package subfig's \subfloat command takes an optional argument which is the caption, but \floatbox argument #6 contains commands to create the caption and label, not the caption itself. Thus, \caption is temporarily disabled to return its own argument without braces.

```

31 \beginngroup

```



```

32 \let\caption\@firstofone
33 \subfloat[#6]{#7}
34 \endgroup
35 }% subfig in a subfloatrow
36 {% subfig package, but not a subfig

```

figure and table are environments:

```

37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }

```

Not used:

```

45 \newcommand*\nocapbeside{}
46 \newcommand*\capbeside{}
47 \newcommand*\captop{}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}
50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*\useFCwidth{}
53 \newcommand{\floatsetup}[2][{}]{
54 \newcommand{\thisfloatsetup}[1]{
55 \newcommand{\clearfloatsetup}[1]{
56 \newcommand*\killfloatstyle{}

```

`\newfloatcommand`       $\langle 1 \text{ command} \rangle$   $\langle 2 \text{ cotype} \rangle$   $[\langle 3 \text{ preamble} \rangle]$   $[\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }

```

`\renewfloatcommand`       $\langle 1 \text{ command} \rangle$   $\langle 2 \text{ cotype} \rangle$   $[\langle 3 \text{ preamble} \rangle]$   $[\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }

```

`\ffigbox`       $[\langle width \rangle]$   $[\langle height \rangle]$   $[\langle vposn \rangle]$   $\langle caption \text{ commands} \rangle$   $\langle contents \rangle$

```

67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][

```

`\ttabbox`       $[\langle width \rangle]$   $[\langle height \rangle]$   $[\langle vposn \rangle]$   $\langle caption \text{ commands} \rangle$   $\langle contents \rangle$

```

68 \newfloatcommand{ttabbox}{table}[\captop][\FBwidth]

```

`\fcapside`

$$[\langle width \rangle] [\langle height \rangle] [\langle vposn \rangle] \{ \langle caption commands \rangle \} \{ \langle contents \rangle \}$$

```
69 \newfloatcommand{fcapside}{figure}[\capbeside][]
```

`Env floatrow`

$$[\langle numfloats \rangle]$$

The row of floats is placed into a `<div>` of class `floatrow`.

```
70 \newenvironment*{floatrow}[1][2]
71 {%
72 \begin{LWR@setvirtualpage}*%
73 \BlockClass{floatrow}%
74 }
75 {
76 \endBlockClass%
77 \end{LWR@setvirtualpage}%
78 }
```

Keys for `\DeclareNewFloatType`:

```
79 \newcommand*{\LWR@frowkeyplacement}{}
80 \newcommand*{\LWR@frowkeyname}{}
81 \newcommand*{\LWR@frowkeyfileext}{}
82 \newcommand*{\LWR@frowkeywithin}{}
83 \newcommand*{\LWR@frowkeycapstyle}{}
84
85 \define@key{frowkeys}{placement}{}%
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
89 \define@key{frowkeys}{relatedcapstyle}{}%
```

`\DeclareNewFloatType`

$$\{ \langle type \rangle \} \{ \langle options \rangle \}$$

Use `\listof{type}{Title}` to print a list of the floats.

```
90 \newcommand*{\DeclareNewFloatType}[2]{%
```

Reset key values:

```
91 \renewcommand*{\LWR@frowkeyplacement}{}%
92 \renewcommand*{\LWR@frowkeyname}{}%
93 \renewcommand*{\LWR@frowkeyfileext}{}%
94 \renewcommand*{\LWR@frowkeywithin}{}%
95 \renewcommand*{\LWR@frowkeycapstyle}{}%
```

Read new key values:

```
96 \LWR@traceinfo{about to setkeys frowkeys}%
97 \setkeys{frowkeys}{#2}%
98 \LWR@traceinfo{finished setkeys frowkeys}%
```

Create a new float with optional `[within]`:

```
99 \ifthenelse{\equal{\LWR@frowkeywithin}{} }%
100 {%
101 \DeclareFloatingEnvironment[
102 placement=\LWR@frowkeyplacement,
103 fileext=\LWR@frowkeyfileext
104]{#1}%
105 }%
106 {%
107 \DeclareFloatingEnvironment[
```

```

108 placement=\LWR@frowkeyplacement,
109 fileext=\LWR@frowkeyfileext,
110 within=\LWR@frowkeywithin
111]{#1}%
112 % \LWR@traceinfo{finished newfloat #1}%
113 }%

```

Rename the float if a name was given:

```

114 \ifthenelse{\equal{\LWR@frowkeyname}{}}%
115 {}%
116 {%
117 \SetupFloatingEnvironment{#1}{name={\LWR@frowkeyname}}%
118 }%
119 }

```

Not used:

```

120 \newcommand{\buildFBBOX}[2]{}
121 \newcommand*\CenterFloatBoxes{}
122 \newcommand*\TopFloatBoxes{}
123 \newcommand*\BottomFloatBoxes{}
124 \newcommand*\PlainFloatBoxes{}
125
126 \newcommand{\capsubrowsettings}{}
127
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

\RawCaption

{<text>}

To be used inside a minipage or parbox.

```
129 \newcommand{\RawCaption}[1]{#1}
```

\floatfoot

{<text>}

Places additional text inside a float, inside a css <div> of class floatfoot.

```

130 \NewDocumentCommand{\floatfoot}{s +m}{%
131 \begin{BlockClass}{floatfoot}
132 #2
133 \end{BlockClass}
134 }

```

Used to compute \linewidth.

```

135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}

```

Env subfloatrow

[<num\_floats>]

```

137 \newenvironment*{subfloatrow}[1][2]
138 {

```

The row of floats is placed into a <div> of class floatrow:

```

139 \LWR@forcenewpage
140 \BlockClass{floatrow}

```

While inside the floatrow, LWR@insubfloatrow is set true, which tells \floatbox to use \subfigure or \subtable.

```

141 \begingroup%
142 \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145 \endgroup%
146 \endBlockClass%
147 \boolfalse{LWR@insubfloatrow}%
148 }

```

---

### File 173 **lwarp-fltrace.sty**

#### § 285 Package **fltrace**

`fltrace` (*Pkg*) `fltrace` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```

2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}

```

---

### File 174 **lwarp-flushend.sty**

#### § 286 Package **flushend**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

`flushend` (*Pkg*) `flushend` is ignored.

**for HTML output:** Discard all options for `lwarp-flushend`:

```

1 \LWR@ProvidesPackageDrop{flushend}[2021/10/04]

2 \newcommand*\flushend{}
3 \newcommand*\raggedend{}
4 \newcommand*\flushcolsend{}
5 \newcommand*\raggedcolsend{}
6 \newtoks\atColsBreak \atColsBreak={ }
7 \newtoks\atColsEnd \atColsEnd={ }
8 \newcommand*\showcolsendrule{}

```

---

### File 175 **lwarp-fnbreak.sty**

#### § 287 Package **fnbreak**

`fnbreak` (*Pkg*) `fnbreak` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

```

2 \newcommand*\fnbreakverbose{}
3 \newcommand*\fnbreaknonverbose{}
4 \newcommand*\fnbreaklabel{}
5 \newcommand*\fnbreaknolabel{}

```

---

File 176 **lwarp-fncychap.sty**

§ 288 Package **fncychap**

*(Emulates or patches code by ULF A. LINDGREN.)*

fncychap (*Pkg*) fncychap is ignored.

**for HTML output:** Discard all options for lwarp-fncychap:

```
1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}
```

---

File 177 **lwarp-fnlineno.sty**

§ 289 Package **fnlineno**

fnlineno (*Pkg*) fnlineno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 178 **lwarp-fnpara.sty**

§ 290 Package **fnpara**

fnpara (*Pkg*) fnpara is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 179 **lwarp-fnpos.sty**

§ 291 Package **fnpos**

(Emulates or patches code by HIROSHI NAKASHIMA.)

fnpos (*Pkg*) fnpos is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

```
2 \newcommand*\makeFNbottom{}
3 \newcommand*\makeFNmid{}
4 \newcommand*\makeFNbelow{}
5 \newcommand*\makeFNabove{}

```

---


File 180 **lwarp-fontawesome.sty**

§ 292 Package **fontawesome**

(Emulates or patches code by XAVIER DANAUX.)

fontawesome (*Pkg*) fontawesome is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler syntax warning** If using PDF L<sup>A</sup>T<sub>E</sub>X, *poppler* may issue a syntax warning regarding parsing a ligature component. X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X may be used to avoid this warning.

In the following, the general strategy is to intercept `\symbol` and embed it inside a `lateximage`. These changes are done inside a local group.

For PDF L<sup>A</sup>T<sub>E</sub>X, the `alt` tag includes the icon (symbol) number. For X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X, the `alt` tag is generic.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

```
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*\LWR@fontawesome@xelatex@symbol[1]{%
9 \LWR@findcurrenttextcolor%
10 \begin{lateximage}*[icon]%
11 [fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
12 \csuse{\LWR@font@size}%
13 \LWR@orig@FA%
14 \LWR@orig@symbol{#1}%
15 \end{lateximage}%
16 }
17

```

```

18 \RenewDocumentCommand{\FA}{}{%
19 \LetLtxMacro\symbol\LWR@fontawesome@xelatex@symbol%
20 }
21
22 \else
23
24 \newcommand*{\LWR@fontawesome@symbolX}[2]{%
25 \LWR@findcurrenttextcolor%
26 \begin{lateximage}*[icon #1]?%
27 [fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
28 \csuse{\LWR@font@size}%
29 \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
30 \LWR@orig@symbol{#1}%
31 \end{lateximage}%
32 }
33
34 \newcommand*{\LWR@fontawesome@symbolone}[1]{%
35 \LWR@fontawesome@symbolX{#1}{one}%
36 }
37
38 \newcommand*{\LWR@fontawesome@symboltwo}[1]{%
39 \LWR@fontawesome@symbolX{#1}{two}%
40 }
41
42 \newcommand*{\LWR@fontawesome@symbolthree}[1]{%
43 \LWR@fontawesome@symbolX{#1}{three}%
44 }
45
46 \renewrobustcmd\FAone{%
47 \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
48 }
49
50 \renewrobustcmd\FAtwo{%
51 \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
52 }
53
54 \renewrobustcmd\FAthree{%
55 \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
56 }
57 \fi

```

---

File 181 **lwarp-fontawesome5.sty**

§ 293 Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

fontawesome5 (*Pkg*) fontawesome5 is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The `alt` tag has the name of the icon.

**for HTML output:** 1\LWR@ProvidesPackagePass{fontawesome5}[2022/05/02]

This used to contain code, but now it is split into the related two packages.

File 182 **lwarp-fontawesome5-generic-helper.sty**

§ 294 Package **fontawesome5-generic-helper**

*(Emulates or patches code by MARCEL KRÜGER.)*

fontawesome5-generic-helper (Pkg) fontawesome5-generic-helper is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome5-generic-helper}[2022/05/02]
2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][fontawesome5-generic-helper]{\fontawesome_use_icon:nn}
5 {0260A9C94303C43957AAEBEA2B4D3DB1}
6
7 \cs_set:Nn\fontawesome_use_icon:nn{
8 \LWR@findcurrenttextcolor
9 \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{
10 \begin{lateximage}*[#2]?% lwarp
11 [fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor}% lwarp
12 \csuse{\LWR@font@size}% lwarp
13 \bool_if:NTF\c__fontawesome_fixed_bool{
14 \makebox[1.5em][c]
15 }{
16 \use:n
17 }
18 {
19 \exp_last_unbraced:Nv
20 __fontawesome_icon_at:nnnn
21 {c__fontawesome_slot_#2_tl}
22 {#1}{#2}
23 }
24 \end{lateximage}% lwarp
25 }{
26 \msg_error:nnxx{fontawesome5}{icon-not-found}{#2}{#1}
27 }
28 }
29 \ExplSyntaxOff

```

File 183 **lwarp-fontawesome5-utex-helper.sty**

§ 295 Package **fontawesome5-utex-helper**

*(Emulates or patches code by MARCEL KRÜGER.)*

fontawesome5-utex-helper (Pkg) fontawesome5-utex-helper is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.



The alt tag has the name of the icon.

for HTML output:

```

1 \LWR@ProvidesPackagePass{fontawesome5-utex-helper}[2022/05/02]
2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][fontawesome5-utex-helper]{\fontawesome_use_icon:nn}
5 {8452FF2BF0A317552B0920628ADD8C18}
6
7 \cs_set:Nn\fontawesome_use_icon:nn{
8 \group_begin:
9 \LWR@findcurrenttextcolor
10 \usefont
11 {TU}
12 {fontawesome\c__fontawesome_kind_tl}
13 {#1}
14 {n}
15 \bool_set:Nn \l__fontawesome_duotone_bool {
16 \str_if_eq_p:ee {#1} {duotone}
17 }
18 \int_set:Nn\l_tmpa_int{
19 __fontawesome_glyphindex:n{
20 #2
21 \bool_if:NT \l__fontawesome_duotone_bool { -primary }
22 }
23 }
24 \int_compare:nNnT{\l_tmpa_int}={0}{
25 \fontseries{solid}
26 \selectfont
27 \bool_set_false:N \l__fontawesome_duotone_bool
28 \int_set:Nn\l_tmpa_int{__fontawesome_glyphindex:n{#2}}
29 \int_compare:nNnTF{\l_tmpa_int}={0}{
30 \fontfamily{fontawesomebrands}
31 \fontseries{regular}
32 \selectfont
33 \int_set:Nn\l_tmpa_int{__fontawesome_glyphindex:n{#2}}
34 \int_compare:nNnT{\l_tmpa_int}={0}{
35 \msg_error:nxxx{fontawesome5}{icon-not-found}{#2}{#1}
36 }
37 }{
38 \msg_warning:nxxx{fontawesome5}{style-substitution}{#2}{#1}
39 }
40 }
41 \begin{lateximage}*[#2]?% lwarp
42 [fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]% lwarp
43 \csuse{\LWR@font@size}% lwarp
44 \bool_if:NnTF\c__fontawesome_fixed_bool{
45 \makebox[1.5em][c]
46 }{
47 \use:n
48 }
49 {
50 \bool_if:NnTF \l__fontawesome_duotone_bool {
51 __fontawesome_glyph:w \l_tmpa_int
52 \int_set:Nn\l_tmpa_int{ __fontawesome_glyphindex:n{ #2-secondary } }
53 \int_compare:nNnF { \l_tmpa_int } = { 0 } {
54 \llap {
55 \l_fontawesome_duotone_secondary_style_tl
56 { __fontawesome_glyph:w \l_tmpa_int }
57 }

```

```

58 }
59 % \ooalign {
60 % \hss _fontawesome_glyph:w \l_tmpa_int \hss \cr
61 % \hss
62 % \int_set:Nn\l_tmpa_int{ _fontawesome_glyphindex:n{ #2-secondary } }
63 % \int_compare:nNnF { \l_tmpa_int } = { 0 } {
64 % \color{gray}_fontawesome_glyph:w \l_tmpa_int
65 % }
66 % \hss \cr
67 % }
68 } {
69 _fontawesome_glyph:w \l_tmpa_int
70 }
71 }
72 \end{lateximage}% lwarp
73 \group_end:
74 }
75 \ExplSyntaxOff

```

---

File 184 **lwarp-fontaxes.sty**

§ 296 Package **fontaxes**

(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)

fontaxes (*Pkg*) fontaxes is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the lwarp core. Swashes and figure styles are ignored for HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]
2 \ifdef{\LWR@HTML@swshape}{}{% duplicated by nfssect-cfr
3 \newcommand{\LWR@HTML@swshape}{}
4 \LWR@formatted{swshape}
5
6 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7 \LWR@formatted{textsw}
8
9 \FilenameNullify{%
10 \LetLtxMacro\swshape\@empty%
11 \LetLtxMacro\textsw\firstofone%
12 }
13 }

```

---

File 185 **lwarp-fontenc.sty**

§ 297 Package **fontenc**

fontenc (*Pkg*) If using PDF L<sup>A</sup>T<sub>E</sub>X, lwarp used to require fontenc be loaded before lwarp, but now lwarp itself loads \fontenc with T1 encoding, which lwarp requires. fontenc is now allowed to be loaded with another encoding after lwarp.

lwarp-fontenc is no longer necessary, but is still provided to overwrite older versions.

for HTML output: 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]

---

File 186 **lwarp-footmisc.sty**

§ 298 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

footmisc (*Pkg*) footmisc is emulated.

lwarp incidentally happens to emulate the stable option.

1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]

Some nullified commands:

```

2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNsymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker}{3sp}
17 \providecommand*\multfootsep}{,}

```

Using `cleveref`. `\labelcref` only prints the number of the object, not its type.

```
18 \providecommand*\footref}[1]{\labelcref{#1}}
```

The following work as-is:

```

19 \newcommand\mpfootnotemark{%
20 \ifnextchar[%
21 \xmpfootnotemark%
22 {%
23 \stepcounter\mpfn%
24 \protected@xdef\thempfn{\thempfn}%
25 \@footnotemark%
26 }%
27 }
28 \def\xmpfootnotemark[#1]{%
29 \begingroup%
30 \csname c@\mpfn\endcsname #1\relax%
31 \unrestored@protected@xdef\thempfn{\thempfn}%
32 \endgroup%
33 \@footnotemark%
34 }

```

File 187 **lwarp-footnote.sty**

§ 299 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

footnote (*Pkg*) footnote is used with minor patches.

**for HTML output:** footnote patches `\@makefn` in a strange way. It must be restored to the expected definition before loading footnote, then replaced again after.

```

1 \long\def\@makefn#1{\@thefnmark~#1}
2
3 \LWR@ProvidesPackagePass{footnote}[1997/01/28]
4
5 \long\def\@makefn#1{\@thefnmark~{#1}}

6 \VerifyCommand[lwarp][footnote]{\spewnotes}{BCC4919F5404BADA8F1CF486E5709072}
7
8 \def\spewnotes{%
9 \endgroup%
10 \if@savingnotes\else\ifvoid\fn@notes\else\beginngroup%
11 \let\@makefn\@empty%
12 \let\@finalstrut\@gobble%
13 \let\rule\@gobbletwo%
14 \booltrue{LWR@spewingnotes}% lwarp
15 \@footnotetext{\unvbox\fn@notes}%
16 \endgroup\fi\fi%
17 }
18 \let\endsavenotes\spewnotes
19
20 \VerifyCommand[lwarp][footnote]{\fn@fntext}{4C750987515F28FE665A08AB710193BA}
21
22 \def\fn@fntext#1{%
23 \ifx\ifmeasuring@\@undefined%
24 \expandafter\@secondoftwo\else\expandafter\@iden%
25 \fi%
26 {\ifmeasuring@\expandafter\@gobble\else\expandafter\@iden\fi}%
27 {%
28 \global\setbox\fn@notes\ vbox{%
29 \unvbox\fn@notes%
30 \LWR@htmltagc{\LWR@tagregularparagraph}% lwarp
31 \LWR@originewline% lwarp
32 \fn@startnote%
33 \@makefn#1%
34 \rule\z@\footnotesep%
35 \ignorespaces%
36 #1%
37 \@finalstrut\strutbox%
38 }%
39 \fn@endnote%
40 }%
41 }%
42 }

```

Removed print-version formatting:

```

43 \VerifyCommand[lwarp][footnote]{\fn@startnote}{D101A3D1B9653A6FDD7E9CF37BD5A4DD}
44
45 \def\fn@startnote{%
46 % \@parboxrestore%
47 \protected@edef\@currentlabel{\csname p@\empfn\endcsname\@thefnmark}%
48 % \color@begingroup% *** conflicts with lwarp
49 }
50
51 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
52 \def\fn@endnote{%
53 \LWR@orignobreakspace\LWR@orignewline%
54 \LWR@htmltagc{/\LWR@tagregularparagraph}\LWR@orignewline%
55 \LWR@orignobreakspace\LWR@orignewline%
56 }

```

Removed print-version formatting:

```

57 \VerifyCommand[lwarp][footnote]{\fn@startfntext}{7270AD27C28391C41DA1FE47C49B5E7A}
58
59 \def\fn@startfntext{%
60 \setbox\z@\vbox\bgroup%
61 \LWR@htmltagc{\LWR@tagregularparagraph}% lwarp
62 \LWR@orignewline% lwarp
63 \fn@startnote%
64 \fn@prefntext% Req'd for numbering.
65 % \rule\z@\footnotesep%
66 \ignorespaces%
67 }
68

```

Removed print-version formatting, added closing paragraph tag:

```

69 \VerifyCommand[lwarp][footnote]{\fn@endfntext}{17BC1D2CD9A84BAFFBE765CC1618C36D}
70
71 \def\fn@endfntext{%
72 \fn@postfntext%
73 \LWR@orignobreakspace\LWR@orignewline%
74 \LWR@htmltagc{/\LWR@tagregularparagraph}%
75 \LWR@orignewline%
76 \egroup%
77 \begingroup%
78 \let\@makefntext\@empty%
79 \let\@finalstrut\@gobble%
80
81 \LetLtxMacro\rule\@gobbletwo%
82 \booltrue{LWR@spewingnotes}% lwarp
83 \@footnotetext{\unvbox\z}%
84 }

```

These have been redefined, so re-\let them again:

```

85 \let\endfootnote\fn@endfntext
86 \let\endfootnotetext\endfootnote

```

---

File 188 **lwarp-footnotebackref.sty**

§ 300 Package **footnotebackref**

footnotebackref (*Pkg*) footnotebackref is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 189 **lwarp-footnotehyper.sty**

§ 301 Package **footnotehyper**

footnotehyper (*Pkg*) footnotehyper is a hyperref-safe version of footnote. For lwarp, footnotehyper is emulated.

**for HTML output:** Discard all options for lwarp-footnotehyper:

```
1 \RequirePackage{footnote}
2
3 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 190 **lwarp-footnoterange.sty**

§ 302 Package **footnoterange**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

footnoterange (*Pkg*) footnoterange is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

---

File 191 **lwarp-footnpag.sty**

§ 303 Package **footnpag**

footnpag (*Pkg*) footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

---

File 192 **lwarp-foreign.sty**

§ 304 Package **foreign**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

`foreign` (*Pkg*) `foreign` is patched for use by `lwarp`.


**for HTML output:** 1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]  
2 \renewcommand\foreignabbrfont{\emph}

File 193 **lwarp-forest.sty**

§ 305 Package **forest**

(Emulates or patches code by SAŠO ŽIVANOVIĆ.)

`forest` (*Pkg*) `forest` is patched for use by `lwarp`.

 `\Forest*` The starred version of the macro `\Forest*` is not supported. `lwarp` encases each `lateximage` in an environment, so the global results of the starred `\Forest*` are lost.

**for HTML output:** 1 \LWR@ProvidesPackagePass{forest}[2017/07/14]  
2 \BeforeBeginEnvironment{forest}{%  
3 \begin{lateximage}[-forest~\PackageDiagramAltText]?%  
4 }  
5  
6 \AfterEndEnvironment{forest}{\end{lateximage}}  
7  
8 \VerifyCommand[lwarp][forest]{\Forest}{D44A6D1EAFFC86653905CC666F563E6D}  
9  
10 \RenewDocumentCommand{\Forest}{s D(){} m}{%  
11 \forest@config{#2}%  
12 \IfBooleanTF{#1}{%  
13 \PackageError{lwarp-forest}%  
14 {\protect\Forest\* is not supported}%  
15 {\Lwarp uses an environment for images,\MessageBreak  
16 but \protect\Forest\* cannot work in an environment.}%  
17 \let\forest@next\forest@env%  
18 }{\let\forest@next\forest@group@env}%  
19 \begin{lateximage}[-forest~\PackageDiagramAltText]?% \lwrap  
20 \forest@next{#3}%  
21 \end{lateximage}% \lwrap  
22 }

File 194 **lwarp-fouridx.sty**

§ 306 Package **fouridx**

(Emulates or patches code by STEFAN KARRMANN.)

`fouridx` (*Pkg*) `fouridx` works as-is with `svg math`, and is emulated for `MATHJAX`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]  
2 \begin{warpMathJax}  
3 \CustomizeMathJax{%

```

4 \newcommand{\fourIdx}[5]{%
5 \vphantom{#5}^{\hphantom{#2}#1}_{\hphantom{#1}#2}{#5}^{\#3}_{#4}%
6 }%
7 }
8 \end{warpMathJax}

```


---

File 195 **lwarp-fourier.sty**

§ 307 Package **fourier**

(Emulates or patches code by MICHEL BOVANI.)

`fourier` (*Pkg*) `fourier` is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \IfPackageLoadedWithOptionsTF{fourier}{sloped}
11 {
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \LWR@mathjax@addgreek@u@it*{other}{}
14 }% sloped
15 {% not sloped
16 \IfPackageLoadedWithOptionsTF{fourier}{upright}
17 {% upright option
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 }
23 {% neither sloped nor upright
24 \LWR@mathjax@addgreek@l@up{other}{}
25 \LWR@mathjax@addgreek@u@it*{other}{}
26 }
27 }
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}

```



lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}
36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45 \mathrel{\LWROverlaysymbols{-}{\unicode{x02AFD}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdwn}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiintop\oiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wide0arc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

---

File 196 **lwarp-framed.sty**

§ 308 Package **framed**

*(Emulates or patches code by DONALD ARSENEAU.)*

framed (*Pkg*) **framed** is supported and patched by **lwarp**.

**for HTML output:** Accept all options for **lwarp-framed**:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2
3 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

4 \renewenvironment{framed}
5 {%
6 \LWR@forcenewpage
7 \BlockClass{framed}%
8 }
9 \endBlockClass}
10
11 \renewenvironment{oframed}
12 {%

```

```

13 \LWR@forcenewpage
14 \BlockClass{framed}%
15 }
16 {\endBlockClass}
17
18
19 \renewenvironment{shaded}
20 {%
21 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
22 \LWR@forcenewpage
23 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
24 }
25 {\endBlockClass}
26
27 \renewenvironment{shaded*}
28 {%
29 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
30 \LWR@forcenewpage
31 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
32 }
33 {\endBlockClass}
34
35
36 \renewenvironment{leftbar}{%
37 \LWR@forcenewpage
38 \BlockClass{framedleftbar}
39 \def\FrameCommand{%
40 \MakeFramed {}
41 }%
42 {\endMakeFramed\endBlockClass}
43
44
45 \renewenvironment{snugshade}
46 {%
47 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
48 \LWR@forcenewpage
49 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
50 }
51 {\endBlockClass}
52
53 \renewenvironment{snugshade*}
54 {%
55 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
56 \LWR@forcenewpage
57 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
58 }
59 {\endBlockClass}
60
61 \let\oframed\framed
62 \let\endoframed\endframed
63
64
65 \RenewEnviron{titled-frame}[1]{%
66 \CustomFBox{#1}{0pt}{0pt}{0pt}{0pt}{\BODY}
67 }

```

\CustomFBox

{<toptitle>} {<bottitle>} {<thicknesstop>} {<bottom>} {<left>} {<right>} {<text contents>}

```

68 \renewcommand{\CustomFBox}[7]{%
69 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
70 \LWR@forcenewpage
71 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
72 \ifthenelse{\isempty{#1}}{\}% not empty
73 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
74 \textcolor{TFTitleColor}{\textbf{#1}}%
75 \end{BlockClass}%
76 }% not empty
77
78 #7
79
80 \ifthenelse{\isempty{#2}}{\}% not empty
81 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
82 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
83 \textcolor{TFTitleColor}{\textbf{#2}}%
84 \end{BlockClass}%
85 }% not empty
86 \end{BlockClass}%
87 }

```

\TitleBarFrame

```

[<marker>] {<title>} {<contents>}

```

```

88 \renewcommand\TitleBarFrame[3][{}]{%
89 \CustomFBox%
90 {#2}{}%
91 \fboxrule\fboxrule\fboxrule\fboxrule%
92 {#3}%
93 }

94 \renewcommand{\TF@Title}[1]{#1}

```

Env MakeFramed

```

{<settings>}

```

```

95 \let\MakeFramed\relax
96 \let\endMakeFramed\relax
97
98 \NewEnviron{MakeFramed}[1]{%
99 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
100 }

```

\fb@put@frame

```

{<frame cmd no split>} {<frame cmd split>}

```

```

101 \renewcommand*\fb@put@frame}[2]{%
102 \relax%
103 \@tempboxa%
104 }

```

---

File 197 **lwarp-froufrou.sty**

§ 309 Package **froufrou**
*(Emulates or patches code by NELSON LAGO.)*

froufrou (*Pkg*) **froufrou** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{froufrou}[2020/12/22]

```

2 \ExplSyntaxOn
3 \xpretocmd{\setfroufrou}
4 {\edef\LWR@latestfroufrou{\detokenize{#1}}}
5 {}
6 {\LWR@patcherror{froufrou}{setfroufrou}}
7 \ExplSyntaxOff
8
9 \VerifyCommand[lwarp][froufrou]{\froufrou}{E60D7F93008BB892149BBBC2E09983D6}
10
11 \RenewDocumentCommand{\froufrou}{s O{}}{%
12 \nopagebreak[4]\par
13
14 \IfBooleanTF{#1}{\@afterindenttrue}{\@afterindentfalse}
15
16 \nopagebreak[4]\@froufrou spacebefore\nopagebreak[4]
17
18 \bgroup
19 \setfroufrou{#2}%
20 \normalsize
21 \ifdefvoid{setstretch}{\setstretch{\setspace@singlespace}}% normally 1
22 \setlength{\parskip}{0pt}
23 \noindent\centering\bgroup%
24 \begin{center}%
25 \begin{lateximage}*[froufrou][\LWR@latestfroufrou]%
26 \@froufrouOrnament%
27 \end{lateximage}%
28 \end{center}%
29 \egroup\par
30 \egroup
31
32 \nopagebreak[4]\@froufrou spaceafter\nopagebreak[4]
33
34 \@froufrouFixSpacingAfter
35
36 \nopagebreak[3]
37
38 \@afterheading
39 }

```

---

File 198 **lwarp-ftcap.sty**

§ 310 Package **ftcap**

ftcap (*Pkg*) ftcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 199 **lwarp-ftnright.sty**

§ 311 Package **ftnright**

ftnright (*Pkg*) ftnright is ignored.

**for HTML output:**

Discard all options for `lwarp-ftnright`:

```
1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]
```

---

File 200 **lwarp-fullminipage.sty**

§ 312 Package **fullminipage**

`fullminipage (Pkg)` `fullminipage` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]`

```
2 \newenvironment{fullminipage}[1][{}]{}
```

---

File 201 **lwarp-fullpage.sty**

§ 313 Package **fullpage**

`fullpage (Pkg)` `fullpage` is ignored.

**for HTML output:** Discard all options for `lwarp-fullpage`:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

---

File 202 **lwarp-fullwidth.sty**

§ 314 Package **fullwidth**

*(Emulates or patches code by MARCO DANIEL.)*

`fullwidth (Pkg)` `fullwidth` is emulated.

A minipage is used, of no HTML width.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]`

```
2 \newenvironment*{fullwidth}[1][{}]{%
3 \minipagefullwidth%
4 \minipage{\linewidth}%
5 }
6 {%
7 \endminipage%
8 }
```

---

File 203 **lwarp-fvextra.sty**

§ 315 Package **fvextra**

*(Emulates or patches code by GEOFFREY M. POORE.)*

fvextra (*Pkg*) fvextra is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fvextra}[2025/02/09]

If line numbers on the right side are used along with `breaklines`, the line numbers will not be aligned.

```
2 \define@booleankey{FV}{obeytabs}%
3 % {\let\FV@ObeyTabsInit\FV@@ObeyTabsInit}%
4 {\let\FV@ObeyTabsInit\relax}% lwarp
5 {\let\FV@ObeyTabsInit\relax}
```

`tabcolor` causes extra HTML tags, destroying the verbatim text alignment, so `tabcolor` is ignored.

```
6 \define@key{FV}{tabcolor}{}%

7 \define@booleankey{FV}{showtabs}%
8 {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
9 {\let\FV@TabChar\relax}
10
11 \newbool{LWR@FV@breaklines}
12
13 \define@booleankey{FV}{breaklines}%
14 {\boolfalse{FV@breaklines}%
15 \booltrue{LWR@FV@breaklines}% lwarp
16 % \let\FV@ListProcessLine\FV@ListProcessLine@Break}%
17 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}% lwarp
18 {\boolfalse{FV@breaklines}%
19 \boolfalse{LWR@FV@breaklines}% lwarp
20 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
21 % \fvset{breaklines}
22
23 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
24 \fvset{breakanywheresymbolpre={}}
25
26 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
27 \fvset{breakanywheresymbolpost={}}
28
29 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
30 \fvset{breakbeforesymbolpre={}}
31
32 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
33 \fvset{breakbeforesymbolpost={}}
34
35 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
36 \fvset{breakaftersymbolpre={}}
37
38 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
39 \fvset{breakaftersymbolpost={}}
40
41 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
42
43 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
44
45 \fvset{breaksymbolleft={}}
46
47 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}
48 \fvset{breaksymbolright={}}
```

Modified to insert a fixed-width space (`\nobreakspace`) to indent the left margin on indented code, but also allow a line break if needed (`\allowbreak`), to allow for break lines.

```

49 \def\FV@DefFVSpace{%
50 \ifbool{FV@showspaces}%
51 {%
52 \def\FV@Space{%
53 \FV@SpaceColor{\FancyVerbSpace}%
54 \allowbreak%
55 }%
56 }%
57 {\def\FV@Space{\nobreakspace\allowbreak}}%
58 }

```

`\FancyVerbSpace`

Force the use of a visible space instead of an empty box. From `fancyvrb`.

```

59 \ifxetexorluatex
60 \def\FancyVerbSpace{\textvisiblespace}
61 \else
62 \@ifundefined{verbvisiblespace}%
63 {%
64 \@ifundefined{textvisiblespace}%
65 {\begingroup\catcode`\ =12 \gdef\FancyVerbSpace{\tt } \endgroup}
66 {\def\FancyVerbSpace{\textvisiblespace}}
67 }%
68 {\def\FancyVerbSpace{\verbvisiblespace}}
69 \fi

```

`\LWR@currentFVbackstyle`

Contains the style text for the background of the current environment. This is defined in `lwarp-fancyvrb`.

Figures out the style text for the background of the current environment. This is initially defined in `lwarp-fancyvrb`, and enhanced here.

`\LWR@find@currentFVbackstyle`

```

70 \renewcommand*{\LWR@find@currentFVbackstyle}{%
71 \ifundef{\FancyVerbBackgroundColor}%
72 {%
73 \renewcommand*{\LWR@currentFVbackstyle}{}%
74 }%
75 {%
76 \protect\colorlet{\LWR@current@color}{\FancyVerbBackgroundColor}%
77 \protect\convertcolorspec%
78 {named}{\LWR@current@color}{HTML}%
79 \LWR@currentFVbackcolor\relax%
80 \renewcommand*{\LWR@currentFVbackstyle}{%
81 background:\LWR@origpound\LWR@currentFVbackcolor ; %
82 }%
83 }%
84 }%

```

`\FV@BGColor@List`

```

85 \def\FV@BGColor@List#1{%
86 \ifx\FancyVerbBackgroundColor\relax
87 \expandafter\@firstoftwo
88 \else
89 \expandafter\@secondoftwo

```

```

90 \fi
91 {#1}%
92 {%
93 % \setlength{\FV@TmpLength}{\fboxsep}%
94 % \setlength{\fboxsep}{0pt}%
95 % \colorbox{\FancyVerbBackgroundColor}{%
96 % \setlength{\fboxsep}{\FV@TmpLength}%
97 % #1% lwarp
98 % \rlap{\FancyVerbBackgroundColorVPhantom\strut#1}%
99 % \hspace{\linewidth}%
100 % \ifx\FV@RightListFrame\relax\else
101 % \hspace{-\FV@FrameSep}%
102 % \hspace{-\FV@FrameRule}%
103 % \fi
104 % \ifx\FV@LeftListFrame\relax\else
105 % \hspace{-\FV@FrameSep}%
106 % \hspace{-\FV@FrameRule}%
107 % \fi%
108 % }%
109 % \hss%
110 }}

```

{*text*}

\FV@ListProcessLine@NoBreak

Modified to always allow line wrapping because added HTML tags may make run off the end of the line in the PDF output file before conversion to HTML.

```

111 \VerifyCommand[lwarp][fvextra]{\FV@ListProcessLine@NoBreak}
112 {1BD7CF18A442D2F988127C6BE726517B}
113
114 \def\FV@ListProcessLine@NoBreak#1{%
115 % \hbox to \hsize{%
116 % \kern\leftmargin
117 % \hbox to \linewidth{%
118 % \FV@LeftListNumber%
119 % \FV@LeftListFrame%
120 % \FV@BGColor@List%
121 % \FancyVerbFormatLine%
122 % \FancyVerbHighlightLine%
123 % \FV@ObeyTabs{\FancyVerbFormatText{#1}}}}%\hss
124 % \FV@RightListFrame%
125 % \FV@RightListNumber%
126 % }%
127 % \hss}%
128 \null\par% lwarp
129 \FV@bgcoloroverlap%
130 }

131 \newcommand*\LWR@FV@linethensep{%
132 \ifbool{LWR@FV@breaklines}%
133 {\theFancyVerbLine\kern\FV@NumberSep}%
134 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}%
135 }
136
137 \newcommand*\LWR@FV@sephenline{%
138 \ifbool{LWR@FV@breaklines}%
139 {\kern\FV@NumberSep\theFancyVerbLine}%
140 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}%
141 }
142

```



```

143 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@left}
144 {57A16473A8AA4214529F6BABEC435311}
145
146 \xpatchcmd{\FV@Numbers@left}%
147 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
148 {\LWR@FV@linethensep}
149 {}
150 {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
151
152 \xpatchcmd{\FV@Numbers@left}%
153 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
154 {\LWR@FV@linethensep}
155 {}
156 {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
157
158 \xpatchcmd{\FV@Numbers@left}%
159 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
160 {\LWR@FV@linethensep}
161 {}
162 {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
163
164 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@right}
165 {6D0F98326BCB22695874D94BEC12E32F}
166
167 \xpatchcmd{\FV@Numbers@right}%
168 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
169 {\LWR@FV@septhenline}
170 {}
171 {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
172
173 \xpatchcmd{\FV@Numbers@right}%
174 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
175 {\LWR@FV@septhenline}
176 {}
177 {\LWR@patcherror{fvextra}{FV@Numbers@right B}}
178
179 \xpatchcmd{\FV@Numbers@right}%
180 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
181 {\LWR@FV@linethensep}
182 {}
183 {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
184
185 \VerifyCommand[lwarp][fvextra]{\FV@Numbers@both}
186 {C349DC2B800D5DD085FFB7620A6289EA}
187
188 \xpatchcmd{\FV@Numbers@both}%
189 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
190 {\LWR@FV@linethensep}
191 {}
192 {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
193
194 \xpatchcmd{\FV@Numbers@both}%
195 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
196 {\LWR@FV@linethensep}
197 {}
198 {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
199
200 \xpatchcmd{\FV@Numbers@both}%
201 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
202 {\LWR@FV@linethensep}

```

```

203 {}
204 {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
205
206 \xpatchcmd{\FV@Numbers@both}%
207 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
208 {\LWR@FV@septhenline}
209 {}
210 {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
211
212 \xpatchcmd{\FV@Numbers@both}%
213 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
214 {\LWR@FV@septhenline}
215 {}
216 {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
217
218 \xpatchcmd{\FV@Numbers@both}%
219 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
220 {\LWR@FV@linethensep}
221 {}
222 {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

`\FVC@SaveVerb@Extra@ii`      `{\langle name \rangle}{\langle raw text \rangle}{\langle text \rangle}`

Modified to add `\LWR@HTMLsanitize@use@tmb` to the stored macro. This is used on recall to sanitize for HTML unless in a `lateximage`.

```

223 \VerifyCommand[lwarp][fvextra]{\FVC@SaveVerb@Extra@ii}
224 {BCE88217BA577F70BAC8158E110E404C}
225
226 \def\FVC@SaveVerb@Extra@ii#1#2#3{%
227 \global\let\FV@AfterSave\FancyVerbAfterSave
228 \endgroup
229 \@namedef{FV@SV@#1}{#3}%
230 \@namedef{FV@SV@#1}{\LWR@HTMLsanitize@use@tmb{#3}}% lwarp
231 \@namedef{FV@SVRaw@#1}{#2}%
232 \@namedef{FV@SVRaw@#1}{\LWR@HTMLsanitize@use@tmb{#2}}% lwarp
233 \FV@AfterSave}%

```

`\FVC@Verb@Extra@ii`      `{\langle text \rangle}`

Adds the opening and closing tags.

```

234 \VerifyCommand[lwarp][fvextra]{\FVC@Verb@Extra@ii}
235 {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
236
237 \def\FVC@Verb@Extra@ii#1{%
238 \def\tmpb{#1}% lwarp
239 \ifbool{LWR@verbtags}% lwarp
240 {\LWR@htmltag{span class=\textquotedbl{}fancyvrb\textquotedbl}}% lwarp
241 {}% lwarp
242 \LWR@HTMLsanitize@tmb% lwarp
243 \ifx\FancyVerbBackgroundColor\relax
244 \expandafter\@firstoftwo
245 \else
246 \expandafter\@secondoftwo
247 \fi
248 {\ifbool{FV@breaklines}%
249 % {\FV@InsertBreaks{\FancyVerbFormatInline}{#1}}%
250 % {\mbox{\FancyVerbFormatInline{#1}}}%
251 {\FV@InsertBreaks{\FancyVerbFormatInline}{\tmpb}}% lwarp

```

```

252 {\mbox{\FancyVerbFormatInline{\tmpb}}}% lwarp
253 {\setlength{\FV@TmpLength}{\fboxsep}%
254 \ifx\FancyVerbBackgroundColorPadding\relax
255 \setlength{\fboxsep}{0pt}%
256 \else
257 \setlength{\fboxsep}{\FancyVerbBackgroundColorPadding}%
258 \fi
259 \colorbox{\FancyVerbBackgroundColor}{%
260 \setlength{\fboxsep}{\FV@TmpLength}%
261 \FancyVerbBackgroundColorVPhantom\FancyVerbFormatInline{#1}}}%
262 \FancyVerbBackgroundColorVPhantom\FancyVerbFormatInline{\tmpb}}% lwarp
263 \ifbool{LWR@verbtags}% lwarp
264 {\LWR@htmltag{/span}}% lwarp
265 {}% lwarp
266 \endgroup}

```

`\FV@UseVerb@Extra``{\text}`

Adds the opening and closing tags.

```

267 \VerifyCommand[lwarp][fvextra]{\FV@UseVerb@Extra}
268 {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
269
270 \let\FV@UseVerb@Extra\FVC@Verb@Extra@ii%

```

`\FVC@EscVerb@ii``{\text}`

Adds the opening and closing tags.

```

271 \VerifyCommand[lwarp][fvextra]{\FVC@EscVerb@ii}
272 {C81AC0F7DFE7FBB55CF8B5B7F24FA56A}
273
274 \let\FVC@EscVerb@ii\FVC@Verb@Extra@ii%

```

`\FVB@VerbatimWrite`

Disable santizing HTML while writing the file. HTML will be sanitized on `\VerbatimInput`.

```

275 \VerifyCommand[lwarp][fvextra]{\FVB@VerbatimWrite}
276 {B092E8AB57DB2ABBA815BC39DB5256DC}
277
278 \xpatchcmd{\FVB@VerbatimWrite}
279 {\FV@Scan}
280 {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
281 {}
282 {\LWR@patcherror{fvextra}{FVB@VerbatimWrite}}

```

`\FVB@VerbatimBuffer`

Disable santizing HTML while writing the buffer. HTML will be sanitized on `\VerbatimInsertBuffer`.

```

283 \VerifyCommand[lwarp][fvextra]{\FVB@VerbatimBuffer}
284 {C93C8D3CFD5AD692F8A1A202F07FD771}
285
286 \xpatchcmd{\FVB@VerbatimBuffer}
287 {\FV@Scan}
288 {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
289 {}
290 {\LWR@patcherror{fvextra}{FVB@VerbatimBuffer}}

```

`\VerbatimInsertBuffer@def@FV@Line`

```

291 \VerifyCommand[lwarp][fvextra]{\VerbatimInsertBuffer@def@FV@Line}
292 {5C6EACB0FB4432BEA081C784456845CD}
293
294 \def\VerbatimInsertBuffer@def@FV@Line#1{%
295 \FVExtraRetokenizeVArg{\def\FV@Line}{#1}%
296 \LetLtxMacro\tmpb\FV@Line% lwarp
297 \LWR@HTMLSanitize@tmpb% lwarp
298 \LetLtxMacro\FV@Line\tmpb% lwarp
299 }%

```

---

File 204 **lwarp-fwlw.sty**

§ 316 Package **fwlw**

`fwlw` (*Pkg*) `fwlw` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fwlw}

2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

---

File 205 **lwarp-gensymb.sty**

§ 317 Package **gensymb**

*(Emulates or patches code by WALTER SCHMIDT.)*

`gensymb` (*Pkg*) `gensymb` works as-is for SVG math, and uses the MATHJAX package.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{gensymb}}
4 \end{warpMathJax}

```

---

File 206 **lwarp-gentombow.sty**

§ 318 Package **gentombow**

`gentombow` (*Pkg*) `gentombow` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

---

File 207 **lwarp-geometry.sty**

§ 319 Package **geometry**

*(Emulates or patches code by HIDEO UMEKI.)*

`geometry (Pkg)` `geometry` is preloaded by `lwarp`, but must be nullified as seen by the user's source code.

**for HTML output:** Discard all options for `lwarp-geometry`:

```
1 \LWR@ProvidesPackageDropA{geometry}{2018/04/16}
```

If `geometry` is never loaded by the user, it will be loaded by `lwarp \AtBeginDocument`. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with `reset` prepended. `\AtEndPreamble` `lwarp` will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\@ptionlist{\@currname.\@currentt}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{ }% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*{\geometry}[1]{}
7 \renewcommand*{\newgeometry}[1]{}
8 \renewcommand*{\restoregeometry}{}
9 \renewcommand*{\savegeometry}[1]{}
10 \renewcommand*{\loadgeometry}[1]{}

```


---

File 208 **lwarp-ghsystem.sty**

§ 320 Package **ghsystem**

*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

`ghsystem (Pkg)` `ghsystem` is patched for use by `lwarp`.

 `\ghspic images` Images must be provided in SVG format, unless `JPG` is specified. It is recommended to create a local `images` directory, copy into it the relevant `PDF` `ghsystem` images, and then convert them with

```
Enter => lwarpmk pdftosvg images/*.pdf
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]

```
2 \ExplSyntaxOn
3
```

```

4 \VerifyCommand[lwarp][ghsystem]{\ghsystem_filler:n}{2B8CCE2EC0EC4AB8FA4C4E4A68FFCE70}
5
6 \cs_set_protected:Npn \ghsystem_filler:n #1
7 { \emph { \textless #1 \textgreater } }
8
9 \VerifyCommand[lwarp][ghsystem]{\ghsystem_pic:n}{950F001D9FCDAFF7A9154739DC8025BB}
10
11 \cs_set_protected:Npn \ghsystem_pic:n #1
12 {
13 __ghsystem_includegraphics:xn
14 {
15 scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
16 width = 1.25cm
17 \exp_not:V \l__ghsystem_picture_includegraphics_tl
18 }
19 { ghsystem_ #1 . \l__ghsystem_picture_type_tl }
20 }
21
22 \ExplSyntaxOff

```

---

File 209 **lwarp-gindex.sty**

§ 321 Package **gindex**

*(Emulates or patches code by JAVIER BEZOS.)*

`gindex (Pkg)` `gindex` is patched for use by `lwarp`.

See section [8.6.16](#).

**for HTML output:** `1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]`

Set the index page and range separators. These are set `\AtBeginDocument` to allow the user to change them. They are then protected so that the `lwarp` core looks for the tokens instead of their expanded contents, since the `*.ind` files will contain `\indexpagesep` and `\indexrangesep` instead of their literal contents. Finally, `lwarp` is told of the `gindex` macros.

```

2 \AtBeginDocument{
3 \robustify{\indexpagesep}
4 \robustify{\indexrangesep}
5 \renewcommand*{\IndexPageSeparator}{\indexpagesep}
6 \renewcommand*{\IndexRangeSeparator}{\indexrangesep}
7 }

```

`\hyperindexref` is added:

```

8 \def\addindexitem#1#2{%
9 \indexflushitem
10 \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}
11
12 \def\addindexsubitem#1#2{%
13 \stepcounter{indexsubitems}%
14 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}
15
16 \def\addindexsubsubitem#1#2{%
17 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}

```

Uses a `<div>` of class `indexheading`:

```
18 \renewcommand\indexheading[1]{%
19 \begin{BlockClass}{indexheading}
20 \MakeUppercase{#1}%
21 \end{BlockClass}
22 }
```

---

File 210 **lwarp-gloss.sty**

§ 322 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

`gloss (Pkg)` **gloss** is patched for use by `lwarp`.

To process the HTML glossary:

```
bibtex <projectname>_html.gls
```

**for HTML output:** `1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]`

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
2 \VerifyCommand[lwarp][gloss]{\gls@gloss@iii}{96590CC8FAE12295596B9F664BE4AF8C}
3
4 \xpatchcmd{\gls@gloss@iii}
5 {\thepage}
6 {\theLWR@previousautopagelabel}
7 {}
8 {\LWR@patcherror{gloss}{gls@gloss@iii}}
9
10 \VerifyCommand[lwarp][gloss]{\gls@page@i}{C05FCEACF0A1F96FC09A218684543574}
11
12 \def\gls@page@i#1#2{%
13 \endgroup%
14 \global\@namedef{gls#1}{\nameref{\BaseJobname-autopage-#2}}}%
```

---

File 211 **lwarp-glossaries.sty**

§ 323 Package **glossaries**

(Emulates or patches code by NICOLA L.C. TALBOT.)


`glossaries (Pkg)` *lwarpmk* has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the `glossaries` package using that package's *makeglossaries* program.

`GlossaryCmd (Opt)`

Default: `makeglossaries`

`printglossary (Opt)` [] The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

`htmlglossary (Opt)` []

 **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
 GlossaryCmd={perl makeglossaries},
] {lwarp}
```

*xindy* language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
 GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options The glossaries may be placed in a numbered or unnumbered section, given a toc entry, and placed inline or on their own HTML page:

**Numbered section, on its own HTML page:**

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

**Unnumbered section, inline with the current HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

**Unnumbered section, on its own HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style** The default `style=item` option for glossaries conflicts with `lwarp`, so the style is forced to `index` instead.

⚠ **number list** The page number list in the printed form would become `\namerrefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

**for HTML output:**

```
1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix toc pointing to the previous page:

```
7 \VerifyCommand[lwarp][glossaries]{\@pglossarysection}{129DC9CFB9484FC34C7B81E32BBB0452}
8
9 \renewcommand*{\@pglossarysection}[2]{%
10 \glsclearpage
11 \LWR@phantomsection
12 \ifdefempty\@glossarysecstar
13 {%
```



```

14 \csname\@glossarysec\endcsname{#2}%
15 }%
16 {%

```

In the original, the toc entry was made before the section, thus linking to the phantomsection in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the toc entry is made after the section is created:

```

17 \csname\@glossarysec\endcsname*{#2}%
18 \@gls@toc{#1}{\@glossarysec}% Moved after the previous line.
19 }%
20 \@glossaryseclabel
21 }

```

lwarp's sectioning commands cannot handle robust macros when splitting HTML into named filenames. glossaries uses \translate in sectioning names, and \translate is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of \translatelet.

```

22 \newcommand*\LWR@comp@glossaryname{\translate{Glossary}}
23
24 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
25 \translatelet\LWR@translatetemp{Glossary}
26 \edef\glossaryname{\LWR@translatetemp}
27 }{}
28
29 \newcommand*\LWR@comp@acronymname{\translate{Acronym}}
30
31 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
32 \translatelet\LWR@translatetemp{Acronym}
33 \edef\acronymname{\LWR@translatetemp}
34 }{}
35
36 \newcommand*\LWR@comp@glsymbolsgroupname{\translate{Symbols (glossaries)}}
37
38 \ifdefstrequal{\glsymbolsgroupname}{\LWR@comp@glsymbolsgroupname}{
39 \translatelet\LWR@translatetemp{Symbols (glossaries)}
40 \edef\glsymbolsgroupname{\LWR@translatetemp}
41 }{}
42
43 \newcommand*\LWR@comp@glsnumbersgroupname{\translate{Numbers (glossaries)}}
44
45 \ifdefstrequal{\glsnumbersgroupname}{\LWR@comp@glsnumbersgroupname}{
46 \translatelet\LWR@translatetemp{Numbers (glossaries)}
47 \edef\glsnumbersgroupname{\LWR@translatetemp}
48 }{}

```

---

File 212 **lwarp-gmeometric.sty**

§ 324 Package **gmeometric**

gmeometric (*Pkg*) gmeometric is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]
2 \RequirePackageWithOptions{geometry}

```

File 213 **lwarp-graphics.sty**

§ 325 Package **graphics**

(Emulates or patches code by D. P. CARLISLE.)

graphics (*Pkg*) graphics is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

### § 325.1 Graphics extensions

\DeclareGraphicsExtensions {*list*}

\AtBeginDocument allow SVG files instead of PDF:

```
2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }
```

Inside a lateximage, allow PDF instead of SVG:

```
7 \ifpdf
8 \appto\LWR@restoreorigformatting{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12 \ifXeTeX
13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16 \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20 \fi
21 \fi
```

### § 325.2 Length conversions and graphics options



**whitespace**

A scaled image in L<sup>A</sup>T<sub>E</sub>X by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to “inlineimage” unless changed by a `class=xyx` option.

```
22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*{\LWR@igwidthstyle}{}
25 \newcommand*{\LWR@igheightstyle}{}
26 \newcommand*{\LWR@igorigin}{}

```

```

27 \newcommand*\LWR@igangle{}
28 \newcommand*\LWR@igxscale}{1}
29 \newcommand*\LWR@igyyscale}{1}
30
31 \newbool\LWR@igkeepaspectratio}
32 \boolfalse\LWR@igkeepaspectratio}
33
34 \newcommand*\LWR@igclass}{inlineimage}

35 \newcommand*\LWR@igalt}{\ImageAltText}

```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

36 \define@key{igraph}{width}{%
37 \setlength{\LWR@igwidth}{#1}%
38 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}%
39 {%

```

Default to use the converted fixed length given:

```

40 \renewcommand*\LWR@igwidthstyle}{width:\LWR@printlength{\LWR@igwidth}}%

```

If ex or em dimensions were given, use those instead:

```

41 \IfEndWith{#1}{ex}%
42 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes ex
43 {}% not ex
44 \IfEndWith{#1}{em}%
45 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes em
46 {}% not em
47 \IfEndWith{#1}{\}%
48 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes percent
49 {}% not percent
50 \IfEndWith{#1}{px}%
51 {\renewcommand*\LWR@igwidthstyle}{width:#1}}% yes px
52 {}% not px
53 }{}% end of length > 0pt
54 }

```

If an optional height was given, set an HTML style:

```

55 \define@key{igraph}{height}{%
56 \setlength{\LWR@igheight}{#1}%
57 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}%
58 {%

```

Default to use the converted fixed length given:

```

59 \renewcommand*\LWR@igheightstyle}{%
60 height:\LWR@printlength{\LWR@igheight} % extra space
61 }%

```

If ex or em dimensions were given, use those instead:

```

62 \IfEndWith{#1}{ex}%

```

```

63 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes ex
64 {}% not ex
65 \IfEndWith{#1}{em}%
66 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes em
67 {}% not em
68 \IfEndWith{#1}{\}%
69 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes percent
70 {}% not percent
71 \IfEndWith{#1}{px}%
72 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes px
73 {}% not px
74 }{}% end of length > 0pt
75 }

```

Handle keepaspectratio key:

```

76 \define@key{igraph}{keepaspectratio}[false]{%
77 \booltrue{LWR@igkeepaspectratio}%
78 }

```

Handle origin key:

```

79 \define@key{igraph}{origin}[c]{%
80 \renewcommand*\LWR@igorigin}{#1}%
81 }

```

Handle angle key:

```

82 \define@key{igraph}{angle}{\renewcommand*\LWR@igangle}{#1}}

```

Handle class key:

```

83 \define@key{igraph}{class}{\renewcommand*\LWR@igclass}{#1}}

```

Handle alt key:

```

84 \define@key{igraph}{alt}{\renewcommand*\LWR@igalt}{#1}}

```

It appears that `graphicx` does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```

85 \define@key{igraph}{scale}{%
86 \ifthenelse{\equal{#1}{1}}{}{% must expand #1
87 \PackageNote{lwarp}{%
88 It is recommended to use ``[width=xx\protect\linewidth]'\MessageBreak
89 instead of ``[scale=yy]'\,%
90 }%
91 }%
92 \renewcommand*\LWR@igxscale}{#1}%
93 \renewcommand*\LWR@igyscale}{#1}%
94 }

```

Numerous ignored keys:

```

95 \define@key{igraph}{bb}{}
96 \define@key{igraph}{bblx}{}
97 \define@key{igraph}{bblly}{}
98 \define@key{igraph}{bburx}{}

```

```

99 \define@key{igraph}{bbury}{}
100 \define@key{igraph}{natwidth}{}
101 \define@key{igraph}{natheight}{}
102 \define@key{igraph}{hiresbb}[true]{}
103 \define@key{igraph}{viewport}{}
104 \define@key{igraph}{trim}{}
105 \define@key{igraph}{totalheight}{}
106 \define@key{igraph}{clip}[true]{}
107 \define@key{igraph}{draft}[true]{}
108 \define@key{igraph}{type}{}
109 \define@key{igraph}{ext}{}
110 \define@key{igraph}{read}{}
111 \define@key{igraph}{command}{}

```

New in v1.1a:

```

112 \define@key{igraph}{quite}{}
113 \define@key{igraph}{page}{}
114 \define@key{igraph}{pagebox}{}
115 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```

116 \define@key{igraph}{decodearray}{}

```

### § 325.3 **Printing HTML styles**

`\LWR@rotstyle`

`{\langle prefix \rangle}{\langle degrees \rangle}`

Prints the rotate style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform: rotate` style.

```

117 \newcommand*\LWR@rotstyle[2]{%
118 \edef\LWR@tempone{#2}%
119 \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
120 #1transform: rotate(\arabic{LWR@tempcountone}deg); % space
121 }

```

`\LWR@scalestyle`

`{\langle prefix \rangle}{\langle xscale \rangle}{\langle yscale \rangle}`

Prints the scale style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform: scale` style.

```

122 \newcommand*\LWR@scalestyle[3]{%
123 #1transform: scale(#2,#3);
124 }

```

§ 325.4 **\includegraphics**`\LWR@opacity`For HTML, used only for `\includegraphics`.`\LWR@opacity` may be set by the `transparent` package.

```
125 \def\LWR@opacity{1}
```

`\LWR@imagesizebox`

Used to determine the actual image size if needed.

```
126 \newsavebox{\LWR@imagesizebox}
```

`\LWR@HTML@Gin@setfile``{\langle w \rangle}{\langle h \rangle}{\langle filename \rangle}` Sets the parsed filename for HTML output.

```
127 \newcommand*\LWR@HTML@Gin@setfile[3]{%
128 \xdef\LWR@parsedfilename{#3}%
129 }
```

`class (Key) []` CSS class for the image.Define the new class key for the print-mode version of `\includegraphics`, which is enabled inside a `lateximage`.

```
130 \AtBeginDocument{
131 \define@key{Gin}{class}{}
132 }
```

`\LWR@replaceEPSSVG`Usually, references to EPS files become SVG files, but if the `epstopdf` package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```
133 \AtBeginDocument{
134 \IfPackageLoadedTF{epstopdf}
135 {
136 \newcommand*\LWR@replaceEPSSVG{}
137 }{%
138 \newcommand*\LWR@replaceEPSSVG{%
139 \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
140 \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
141 }
142 }%
143 }
```

\* [`\langle 2: options \rangle`] [`\langle 3: options \rangle`] [`\langle 4: filename \rangle`]`\LWR@ig@useactualimagesize`

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```
144 \newcommand*\LWR@ig@useactualimagesize[4]{%
145 \begingroup%
146 \LWR@restoreorigformatting%
147 \ifpdf%
148 \appto\LWR@restoreorigformatting{%
149 \DeclareGraphicsExtensions{%
150 .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
151 }%
152 }%
153 \else% \ifpdf
154 \ifXeTeX%
```

```

155 \appto\LWR@restoreorigformatting{%
156 \DeclareGraphicsExtensions{%
157 .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
158 }%
159 }%
160 \else%
161 \appto\LWR@restoreorigformatting{%
162 \DeclareGraphicsExtensions{%
163 .eps, .EPS, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
164 }%
165 }%
166 \fi%
167 \fi% \ifpdf

```

For a word processor, do not use rotation:

```

168 \ifbool{FormatWP}{\define@key{Gin}{angle}{}}{}%
169 \IfBooleanTF{#1}%
170 {% starred
171 \IfValueTF{#3}%
172 {%
173 \global\abox{\LWR@imagesizebox}{%
174 \LWR@originincludegraphics*[#2][#3]{#4}%
175 }%
176 }%
177 {%
178 \IfValueTF{#2}%
179 {%
180 \global\abox{\LWR@imagesizebox}{%
181 \LWR@originincludegraphics*[#2]{#4}%
182 }%
183 }%
184 \global\abox{\LWR@imagesizebox}{%
185 \LWR@originincludegraphics*{#4}%
186 }%
187 }%
188 }%
189 }% starred
190 {% not starred
191 \IfValueTF{#3}%
192 {%
193 \global\abox{\LWR@imagesizebox}{%
194 \LWR@originincludegraphics[#2][#3]{#4}%
195 }%
196 }%
197 {%
198 \IfValueTF{#2}%
199 {%
200 \global\abox{\LWR@imagesizebox}{%
201 \LWR@originincludegraphics[#2]{#4}%
202 }%
203 }%
204 \global\abox{\LWR@imagesizebox}{%
205 \LWR@originincludegraphics{#4}%
206 }%
207 }%
208 }%
209 }% not starred
210 \endgroup%
211 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%

```

```

212 \global\renewcommand*{\LWR@igwidthstyle}{%
213 width:\LWR@printlength{\LWR@igwidth}%
214 }%
215 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
216 \global\renewcommand*{\LWR@igheightstyle}{%
217 height:\LWR@printlength{\LWR@igheight}%
218 }%
219 }

```

\LWR@ightmltag

For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

220 \newcommand*{\LWR@ightmltag}{%
221 img\LWR@indentHTML%
222 src=\textquotedbl%
223 \detokenize\expandafter{\LWR@parsedfilename}%
224 \textquotedbl\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

225 \ifthenelse{
226 \NOT\equal{\LWR@igwidthstyle}{ } \OR
227 \NOT\equal{\LWR@igheightstyle}{ } \OR
228 \NOT\equal{\LWR@igorigin}{ } \OR
229 \NOT\equal{\LWR@igangle}{ } \OR
230 \NOT\equal{\LWR@igxscale}{1} \OR
231 \NOT\equal{\LWR@igyscale}{1}
232 }%
233 {%
234 style=\textquotedbl\LWR@indentHTML
235 \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{ }}%
236 {\LWR@igwidthstyle;\LWR@indentHTML}{ }%
237 \ifthenelse{\NOT\equal{\LWR@igheightstyle}{ }}%
238 {\LWR@igheightstyle;\LWR@indentHTML}{ }%
239 \ifthenelse{\NOT\equal{\LWR@igorigin}{ }}%
240 {%
241 transform-origin: \LWR@originnames{\LWR@igorigin};%
242 \LWR@indentHTML%
243 }{%
244 \ifthenelse{\NOT\equal{\LWR@igangle}{ }}%
245 {%
246 \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
247 \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
248 \LWR@rotstyle}{\LWR@igangle }\LWR@indentHTML
249 }{%
250 \ifthenelse{%
251 \NOT\equal{\LWR@igxscale}{1}\OR%
252 \NOT\equal{\LWR@igyscale}{1}%
253 }%
254 {%
255 \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
256 \LWR@indentHTML
257 \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
258 \LWR@indentHTML
259 \LWR@scalestyle}{\LWR@igxscale}{\LWR@igyscale}%
260 \LWR@indentHTML
261 }{%
262 %
263 \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%

```



```

264 {opacity:\LWR@opacity;\LWR@indentHTML}{}%
265 %
266 \textquotedbl\LWR@indentHTML%
267 }{%

```

Set the class and alt tag:

```

268 class=\textquotedbl\LWR@igclass\textquotedbl\LWR@indentHTML%
269 alt=\textquotedbl\AltTextOpen\LWR@igalt\AltTextClose\textquotedbl\ \LWR@orignewline%
270 }% end of image tags

```

`\LWR@includegraphicsb`

\* [*2: options*] [*3: options*] [*4: filename*]

graphics syntax is `\includegraphics * [llx, lly] [urx, ury] {filename}`

graphicx syntax is `\includegraphics [key values] {filename}`

If #3 is empty, only one optional argument was given, thus `graphicx` syntax.

If using `\epsfig` or `\psfig` from the `epsfig` package, #4 will be `\LWR@epsfig@filename`, which will have been set by the `file` or `figure` keys. Therefore, #4 must not be used until after the keys have been processed.

```

271 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
272 {%

```

Start the image tag on a new line, allow PDF output word wrap:

```

273 \LWR@orignobreakspace \LWR@orignewline%

```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```

274 \begin{LWR@setvirtualpage}%

```

For correct em sizing during the width and height conversions:

```

275 \large%

```

Temporarily prevent underfull `\hbox` warnings.

```

276 \hbadness=10000\relax%

```

Reset some defaults, possibly will be changed below if options were given:

```

277 \setlength{\LWR@igwidth}{0pt}%
278 \setlength{\LWR@igheight}{0pt}%
279 \renewcommand*\LWR@igwidthstyle{}%
280 \renewcommand*\LWR@igheightstyle{}%
281 \renewcommand*\LWR@igorigin{}%
282 \renewcommand*\LWR@igangle{}%
283 \renewcommand*\LWR@igxscale{1}%
284 \renewcommand*\LWR@igyscale{1}%
285 \renewcommand*\LWR@igclass{inlineimage}%
286 \boolfalse{LWR@igkeepaspectratio}%

```

```

287 \ifdefvoid{\LWR@ThisAltText}{%
288 \edef\LWR@igalt{\ImageAltText}%
289 }{%
290 \edef\LWR@igalt{\LWR@ThisAltText}%
291 }%

```

If #3 is empty, only one optional argument was given, thus `graphicx` syntax:

```

292 \IfValueF{#3}{%
293 \IfValueTF{#2}%
294 {\setkeys{igraph}{#2}}%

```

```

295 {\setkeys{igraph}{}}%
296 }%

```

Fully expand and detokenize the filename, changing the file extension to .svg if necessary.

Note that uppercase file extensions are detected and reported as lowercase, so `lwarp` can only report to the browser lowercase extensions, so all images must have lowercase file extensions.

```

297 \begingroup%
298 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
299 \edef\LWR@tempone{#4}%

```

PDF extensions are removed to allow a search for another graphics format such as SVG or PNG.

```

300 \StrSubstitute{\LWR@tempone}{.pdf}{}[LWR@tempone]%
301 \StrSubstitute{\LWR@tempone}{.PDF}{}[LWR@tempone]%
302 \LWR@replaceEPSSVG%
303 \xdef\LWR@parsedfilename{\LWR@tempone}%
304 \Gin@include@graphics{\detokenize\expandafter{\LWR@parsedfilename}}%
305 \endgroup%
306 \filename@parse{\LWR@parsedfilename}%

```

Remove doubled // in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```

307 \StrSubstitute{\LWR@parsedfilename}{//}{/}[LWR@parsedfilename]%
308 \LWR@traceinfo{LWR@parsedfilename is \LWR@parsedfilename}%

```

If formatting for a word processor, or if using `keepaspectratio`, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

309 \ifbool{expr{
310 bool {FormatWP} or
311 bool {LWR@igkeepaspectratio}
312 }}{\LWR@ig@useactualimagesize{#1}{#2}{#3}{#4}}{}%

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```

313 \LWR@traceinfo{LWR@includegraphicsb: about to create href}%
314 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
315 \LWR@href@partsanitized{\LWR@parsedfilename}%
316 {% start of href
317 \LWR@traceinfo{LWR@includegraphicsb: about to LWR@htmltag}%
318 \LWR@htmltag{\LWR@ig@htmltag}%
319 }% end of href

```

Return to original page size and font size:

```

320 \end{LWR@setvirtualpage}%

```

Clear the single-use alt text:

```

321 \gdef\LWR@ThisAltText{}%
322 \LWR@traceinfo{LWR@includegraphicsb done}%
323 }

```

`\includegraphics [⟨key=val⟩] {⟨filename⟩}`

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```

324 \AtBeginDocument{
325
326 \LWR@traceinfo{Patching includegraphics.}
327
328 \LetLtxMacro\LWR@originincludegraphics\includegraphics

329 \renewrobustcmd*\includegraphics}
330 {%

```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```

331 \LWR@traceinfo{includegraphics}%
332 \LWR@ensuredoingapar%
333 \LWR@includegraphicsb%
334 }% includegraphics
335 }% AtBeginDocument

```

### § 325.5 Boxes

`\LWR@rotboxorigin`

Holds the origin key letters.

```
336 \newcommand*\LWR@rotboxorigin{}
```

`\LWR@originname`

`{<letter>}`

Given one L<sup>A</sup>T<sub>E</sub>X origin key value, translate into an HTML origin word:

```

337 \newcommand*\LWR@originname[1]{%
338 \ifthenelse{\equal{#1}{t}}{top}{}%
339 \ifthenelse{\equal{#1}{b}}{bottom}{}%
340 \ifthenelse{\equal{#1}{c}}{center}{}%
341 \ifthenelse{\equal{#1}{l}}{left}{}%
342 \ifthenelse{\equal{#1}{r}}{right}{}%
343 }

```

`\LWR@originnames`

`{<letters>}`

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

```

344 \newcommand*\LWR@originnames[1]{%
345 \StrChar{#1}{1}[\LWR@strresult]%
346 \LWR@originname{\LWR@strresult}
347 \StrChar{#1}{2}[\LWR@strresult]%
348 \LWR@originname{\LWR@strresult}
349 }

```

Handle the origin key for `\rotatebox`:

```

350 \define@key{krotbox}{origin}{%
351 \renewcommand*\LWR@rotboxorigin{#1}%
352 }

```

These keys are ignored:

```

353 \define@key{krotbox}{x}{}
354 \define@key{krotbox}{y}{}
355 \define@key{krotbox}{units}{}

```

`\rotatebox` [*⟨keyval list⟩*] [*⟨angle⟩*] [*⟨text⟩*]

```
356 \AtBeginDocument{
```

The HTML version:

```
357 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%
```

Reset the origin to “none-given”:

```
358 \renewcommand*\LWR@rotboxorigin{}
```

Process the optional keys, which may set `\LWR@rotateboxorigin`:

```
359 \setkeys{krotbox}{#1}%
```

Select inline-block so that HTML will transform this span:

```
360 \LWR@htmltagc{%
361 span\LWR@indentHTML
362 style=\textquotedbl\LWR@indentHTML
363 display: inline-block;\LWR@indentHTML
```

If an origin was given, translate and print the origin information:

```
364 \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{}}%
365 {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
366 {}%
```

Print the rotation information:

```
367 \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
368 \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
369 \LWR@rotstyle{}{#2}\textquotedbl\LWR@orignewline%
370 }\LWR@orignewline%
```

Print the text to be rotated:

```
371 \begin{LWR@nestspan}%
372 #3%
```

Close the span:

```
373 \LWR@htmltagc{/span}%
374 \end{LWR@nestspan}%
375 }
```

The high-level interface:

```
376 \LWR@formatted{rotatebox}
377
378 }% AtBeginDocument
```

`\scalebox` [*⟨h-scale⟩*] [*⟨v-scale⟩*] [*⟨text⟩*]

```
379 \AtBeginDocument{
```

The HTML version:

```
380 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
381 \LWR@htmltagc{%
382 span\LWR@indentHTML
383 style=\textquotedbl\LWR@indentHTML
384 display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
385 \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
386 \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
387 \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}}
388 \textquotedbl\LWR@originewline
389 }\LWR@originewline%
```

Print the text to be scaled:

```
390 \begin{LWR@nestspan}%
391 #3%
```

Close the span:

```
392 \LWR@htmltagc{/span}%
393 \end{LWR@nestspan}%
394 }
```

The high-level interface:

```
395 \LWR@formatted{scalebox}
396
397 }% AtBeginDocument
```

`\reflectbox {<text>}`

```
398 \AtBeginDocument{
399
400 \newcommand{\LWR@HTML@reflectbox}[1]{%
401 \scalebox{-1}[1]{#1}%
402 }% \reflectbox
403
404 \LWR@formatted{reflectbox}
405
406 }% AtBeginDocument
```

`\resizebox {<h-length> } {<v-length> } {<text>}`

Simply prints its text argument.

```
407 \AtBeginDocument{
408
409 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
410 #4%
411 }
```

```

412
413 \LWR@formatted{resizebox}
414
415 }% AtBeginDocument

```

---

File 214 **lwarp-graphicx.sty**

§ 326 Package **graphicx**

`graphicx (Pkg)` `graphicx` is emulated.

`graphicx` loads `graphics`, which also loads `lwarp-graphics`, which remembers the original `graphics` definitions for use inside a `lateximage`, and then patches them `\AtBeginDocument` for HTML output.

`lwarp-graphics` handles the syntax of either `graphics` or `graphicx`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]`

---

File 215 **lwarp-grffile.sty**

§ 327 Package **grffile**

`grffile (Pkg)` `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.



**matching PDF and SVG**

`lwarp-grffile` now exists as a placeholder since `grffile` used to be emulated by `lwarp`, and thus older versions of `lwarp-grffile` may exist and should be overwritten by this newer version.

**for HTML output:** `1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]`

---

File 216 **lwarp-grid.sty**

§ 328 Package **grid**

`grid (Pkg)` `grid` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]`

`2 \newenvironment*{gridenv}{}{}`

---

File 217 **lwarp-grid-system.sty**

§ 329 Package **grid-system**

*(Emulates or patches code by MARCUS BITZL.)*

grid-system (*Pkg*) **grid-system** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]

(\ifdef is in case the older syntax is removed.)

```
2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}
3
4 \ifdef{\endrow}{
5 \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}
6 }{}
7
8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}
```

---

File 218 **lwarp-gridset.sty**

§ 330 Package **gridset**

gridset (*Pkg*) **gridset** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]

```
2 \newcommand*\gridbase{}
3 \newcommand*\gridinterval{}
4 \newcommand*\SavePos[1]{}
5 \ifLuaTeX
6 \else
7 \let\savepos\SavePos
8 \fi
9 \newcommand*\vskipnextgrid{}
10 \newcommand*\thegridinfo[1]{(thegridinfo)}
11 \newcommand*\theuserinfo[1]{(theuserinfo)}
12 \newcommand*\theypos[1]{(theypos)}
```

---

File 219 **lwarp-hang.sty**

§ 331 Package **hang**

(Emulates or patches code by ANDREAS NOLDA.)

hang (*Pkg*) **hang** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

```
2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*\LWR@findhangingleftmargin}{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
```

```

11
12 \newenvironment{hangingpar}
13 {
14 \LWR@findhangingleftmargin%
15 \BlockClass[%
16 \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17 \LWR@print@embox{text-indent:-\LWR@printlength{\hangingindent}}%
18]%
19 {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25 \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
26 \renewcommand*\LWR@printopenlist{%
27 \LWR@findhangingleftmargin%
28 ul % space
29 class=\textquotedbl{}hanging\textquotedbl{} % space
30 style=\textquotedbl%
31 \LWR@print@embox{list-style-type:none;} % extra space
32 \LWR@print@embox{%
33 margin-left:\LWR@printlength{\LWR@templengthone}%
34 } ; % extra space
35 \LWR@print@embox{%
36 text-indent:-\LWR@printlength{\hangingindent}%
37 }%
38 \textquotedbl%
39 }%
40 \LetLtxMacro\item\LWR@itemizeitem%
41 \list{}{}%
42 }
43 {\endlist}
44
45 \newenvironment{compacthang}
46 {\hanginglist}
47 {\endhanginglist}
48
49 \newlength{\labeledleftmargin}
50 \setlength{\labeledleftmargin}{0em}
51
52 \newenvironment{labeledpar}[2]
53 {%
54 \BlockClass[%
55 \LWR@findhangingleftmargin%
56 \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
57 \LWR@print@embox{text-indent:-\LWR@printlength{\hangingindent}}%
58]{labeledpar}%
59 \InlineClass{labeledparlabel}{#2}%
60 }
61 {\endBlockClass}
62
63 \newenvironment{labeledlist}[1]
64 {\hanginglist}
65 {\endhanginglist}
66
67 \newenvironment{compactlabel}[1]
68 {\hanginglist}
69 {\endhanginglist}

```



---

File 220 **lwarp-hanging.sty**

§ 332 Package **hanging**

hanging (*Pkg*) hanging is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```
2 \IfClassLoadedTF{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 {}}
```

\hangpara

```
{\langle indent \rangle} {\langle afternum \rangle}
```

**Use hangparas instead.**

```
9 \newcommand*{\hangpara}[2]{}
```

Env hangparas

```
{\langle indent \rangle} {\langle afternum \rangle}
```

```
10 \newenvironment*{hangparas}[2]
```

```
11 {%
```

```
12 \BlockClass[%
```

```
13 \LWR@print@embox{margin-left:\LWR@printlength{#1}} ; %
```

```
14 \LWR@print@embox{text-indent:-\LWR@printlength{#1}}%
```

```
15]%
```

```
16 {hangingpar}%
```

```
17 }
```

```
18 \endBlockClass}
```

Env hangpunct

```
19 \newenvironment*{hangpunct}
```

```
20 {\BlockClass{hangpunct}}
```

```
21 \endBlockClass}
```

```
22 \newcommand{\nhpt}{.}
```

```
23 \newcommand{\nhlq}{'}
```

```
24 \newcommand{\nhrq}{'}
```

---

File 221 **lwarp-hepunits.sty**

§ 333 Package **hepunits**

*(Emulates or patches code by ANDY BUCKLEY.)*

hepunits (*Pkg*) hepunits is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\@yes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}
37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltsq}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\TeV\electronvoltc}
45 \CustomizeMathJax{\let\Vcsq\electronvoltsq}
46
47 \ifx\@HEPopt@noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\TeV}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\TeV}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\TeV}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\TeV}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\TeV}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\TeVc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\TeVc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\TeVc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\TeVc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\TeVc}}
58 \CustomizeMathJax{\newcommand{\meVcsq}{\milli\TeVcsq}}
59 \CustomizeMathJax{\newcommand{\keVcsq}{\kilo\TeVcsq}}
60 \CustomizeMathJax{\newcommand{\MeVcsq}{\mega\TeVcsq}}
61 \CustomizeMathJax{\newcommand{\GeVcsq}{\giga\TeVcsq}}

```

```

62 \CustomizeMathJax{\newcommand{\TeVcsq}{\tera\TeVcsq}}
63 \fi
64 \end{warpMathJax}

```

File 222 **lwarp-hhline.sty**

§ 334 Package **hhline**

*(Emulates or patches code by DAVID CARLISLE.)*

hhline (*Pkg*) **hhline** is patched for use by **lwarp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double `\hline`. If none, the result is a single `\hline`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

2 \newrobustcmd*{\LWR@HTML@hhline}[1]{%
3 \edef\LWR@tempone{\detokenize\expandafter{#1}}%
4 \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*{\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}

```

For **MATHJAX**. A simple `\hline` is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}

```

File 223 **lwarp-hhtensor.sty**

§ 335 Package **hhtensor**

*(Emulates or patches code by HARALD HARDERS.)*

hhtensor (*Pkg*) **hhtensor** is used as-is, and emulated for **MATHJAX**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

2 \begin{warpMathJax}
3 \iftensor@bold
4 \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5 \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6 \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8 \iftensor@uline
9 \CustomizeMathJax{\newcommand{\vec}[1]{\ushort{#1}}}
10 \CustomizeMathJax{\newcommand{\matr}[1]{\ushortd{#1}}}
11 \CustomizeMathJax{\newcommand{\tens}[2]{
12 \underset{
13 \raise{.5ex}{\underset{#2}{\sim}}

```

```

14 }{#1}
15 }}
16 \else
17 \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18 \CustomizeMathJax{\newcommand{\tens}[2]{
19 \underset{
20 \raise{.5ex}{\underset{#2}{\sim}}
21 }{#1}
22 }}
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{\mathrm{T}}}
27 \end{warpMathJax}

```

---

File 224 **lwarp-hypbmsec.sty**

§ 336 Package **hypbmsec**

hypbmsec (*Pkg*) hypbmsec is emulated by the lwarp core.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 225 **lwarp-hypcap.sty**

§ 337 Package **hypcap**

hypcap (*Pkg*) hypcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```

2 \newcommand*\capstart{}
3 \newcommand*\hypcapSPACE{}
4 \newcommand*\hypcapredef[1]{}
5 \newcommand*\capstartfalse{}
6 \newcommand*\capstarttrue{}

```

---

File 226 **lwarp-hypdestopt.sty**

§ 338 Package **hypdestopt**

hypdestopt (*Pkg*) hypdestopt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 227 **lwarp-hypernat.sty**

§ 339 Package **hypernat**

hypernat (*Pkg*) hypernat is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

File 228 **lwarp-hyperref.sty**

§ 340 Package **hyperref**

(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

hyperref (*Pkg*) hyperref is emulated.

for HTML output: 1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed  
 2 % \ProvidesPackage{lwarp-#1-#2}% not allowed  
 3 \PackageInfo{lwarp}{%  
 4 Using the lwarp HTML version of package `hyperref',\MessageBreak  
 5 and discarding options except backref, pagebackref.\MessageBreak  
 6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak  
 7 do not attempt to patch lwarp's version of `hyperref'.)\MessageBreak}

The following options are copied from the alphabetic list from the hyperref documentation.

```

8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}
9
10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}
11
12 \define@key{LWR@hyperref}{allbordercolors}[]{}
13 \define@key{LWR@hyperref}{allcolors}[]{}
14 \define@key{LWR@hyperref}{anchorcolor}[]{}
15 \define@key{LWR@hyperref}{backref}[]{}
16 \define@key{LWR@hyperref}{baseurl}[]{}
17 \define@key{LWR@hyperref}{bookmarks}[]{}
18 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
19 \define@key{LWR@hyperref}{bookmarksopen}[]{}
20 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
21 \define@key{LWR@hyperref}{bookmarkstype}[]{}
22 \define@key{LWR@hyperref}{breaklinks}[]{}
23 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
24 \define@key{LWR@hyperref}{citebordercolor}[]{}
25 \define@key{LWR@hyperref}{citecolor}[]{}
26 \define@key{LWR@hyperref}{colorlinks}[]{}
27 \define@key{LWR@hyperref}{debug}[]{}
28 \define@key{LWR@hyperref}{destlabel}[]{}
29 \define@key{LWR@hyperref}{draft}[]{}
30 \define@key{LWR@hyperref}{driverfallback}[]{}
31 \define@key{LWR@hyperref}{dvipdfm}[]{}
32 \define@key{LWR@hyperref}{dvipdfmx}[]{}
33 \define@key{LWR@hyperref}{dvips}[]{}
34 \define@key{LWR@hyperref}{dvipsone}[]{}
35 \define@key{LWR@hyperref}{dviwindo}[]{}
36 \define@key{LWR@hyperref}{encap}[]{}
37 \define@key{LWR@hyperref}{extension}[]{}
38 \define@key{LWR@hyperref}{filebordercolor}[]{}
39 \define@key{LWR@hyperref}{filecolor}[]{}
40 \define@key{LWR@hyperref}{final}[]{}
41 \define@key{LWR@hyperref}{frenchlinks}[]{}
42 \define@key{LWR@hyperref}{hidelinks}[]{}
43 \define@key{LWR@hyperref}{hyperfigures}[]{}

```

```
44 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
45 \define@key{LWR@hyperref}{hyperindex}[]{}
46 \define@key{LWR@hyperref}{hypertex}[]{}
47 \define@key{LWR@hyperref}{hypertexnames}[]{}
48 \define@key{LWR@hyperref}{implicit}[]{}
49 \define@key{LWR@hyperref}{latex2html}[]{}
50 \define@key{LWR@hyperref}{linkbordercolor}[]{}
51 \define@key{LWR@hyperref}{linkcolor}[]{}
52 \define@key{LWR@hyperref}{linktoc}[]{}
53 \define@key{LWR@hyperref}{linktocpage}[]{}
54 \define@key{LWR@hyperref}{menubordercolor}[]{}
55 \define@key{LWR@hyperref}{menucolor}[]{}
56 \define@key{LWR@hyperref}{nativepdf}[]{}
57 \define@key{LWR@hyperref}{naturalnames}[]{}
58 \define@key{LWR@hyperref}{nesting}[]{}
59 \define@key{LWR@hyperref}{next-anchor}[]{}
60 \define@key{LWR@hyperref}{pageanchor}[]{}
61 \define@key{LWR@hyperref}{pagebackref}[]{}
62 \define@key{LWR@hyperref}{pdfauthor}[]{}
63 \define@key{LWR@hyperref}{pdfborder}[]{}
64 \define@key{LWR@hyperref}{pdfborderstyle}[]{}
65 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
66 \define@key{LWR@hyperref}{pdfcreator}[]{}
67 \define@key{LWR@hyperref}{pdfcreationdate}[]{}
68 \define@key{LWR@hyperref}{pdfdirection}[]{}
69 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
70 \define@key{LWR@hyperref}{pdfduplex}[]{}
71 \define@key{LWR@hyperref}{pdffitwindow}[]{}
72 \define@key{LWR@hyperref}{pdfhighlight}[]{}
73 \define@key{LWR@hyperref}{pdfinfo}[]{}
74 \define@key{LWR@hyperref}{pdfkeywords}[]{}
75 \define@key{LWR@hyperref}{pdflang}[]{}
76 \define@key{LWR@hyperref}{pdfmark}[]{}
77 \define@key{LWR@hyperref}{pdfmenubar}[]{}
78 \define@key{LWR@hyperref}{pdfmoddate}[]{}
79 \define@key{LWR@hyperref}{pdfnewwindow}[]{}
80 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}[]{}
81 \define@key{LWR@hyperref}{pdfnumcopies}[]{}
82 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
83 \define@key{LWR@hyperref}{pdfpagelayout}[]{}
84 \define@key{LWR@hyperref}{pdfpagemode}[]{}
85 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
86 \define@key{LWR@hyperref}{pdfpagetransition}[]{}
87 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}[]{}
88 \define@key{LWR@hyperref}{pdfprintarea}[]{}
89 \define@key{LWR@hyperref}{pdfprintclip}[]{}
90 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
91 \define@key{LWR@hyperref}{pdfprintscaling}[]{}
92 \define@key{LWR@hyperref}{pdfproducer}[]{}
93 \define@key{LWR@hyperref}{pdfremotestartview}[]{}
94 \define@key{LWR@hyperref}{pdfstartpage}[]{}
95 \define@key{LWR@hyperref}{pdfstartview}[]{}
96 \define@key{LWR@hyperref}{pdfsubject}[]{}
97 \define@key{LWR@hyperref}{pdftex}[]{}
98 \define@key{LWR@hyperref}{pdftitle}[]{}
99 \define@key{LWR@hyperref}{pdftoolbar}[]{}
100 \define@key{LWR@hyperref}{pdftrapped}[]{}
101 \define@key{LWR@hyperref}{pdfview}[]{}
102 \define@key{LWR@hyperref}{pdfviewarea}[]{}
103 \define@key{LWR@hyperref}{pdfviewclip}[]{}

```

```

104 \define@key{LWR@hyperref}{pdfwindowui}[]{}
105 \define@key{LWR@hyperref}{plainpages}[]{}
106 \define@key{LWR@hyperref}{ps2pdf}[]{}
107 \define@key{LWR@hyperref}{psdextra}[]{}
108 \define@key{LWR@hyperref}{raiselinks}[]{}
109 \define@key{LWR@hyperref}{runbordercolor}[]{}
110 \define@key{LWR@hyperref}{runcolor}[]{}
111 \define@key{LWR@hyperref}{setpagesize}[]{}
112 \define@key{LWR@hyperref}{tex4ht}[]{}
113 \define@key{LWR@hyperref}{textures}[]{}
114 \define@key{LWR@hyperref}{unicode}[]{}
115 \define@key{LWR@hyperref}{urlbordercolor}[]{}
116 \define@key{LWR@hyperref}{urlcolor}[]{}
117 \define@key{LWR@hyperref}{verbose}[]{}
118 \define@key{LWR@hyperref}{vtex}[]{}
119 \define@key{LWR@hyperref}{xetex}[]{}
120
121 \DeclareStringOption[false]{backref}[section]
122
123 \DeclareBoolOption{pagebackref}
124
125 \DeclareDefaultOption{}
126
127 \ProcessKeyvalOptions*\relax

```

Maybe load backref:

```

128 \ifdefstring{\LWR@hyperref@backref}{section}
129 {\RequirePackage{backref}}
130 {}
131
132 \ifdefstring{\LWR@hyperref@backref}{slide}
133 {\RequirePackage{backref}}
134 {}
135
136 \ifdefstring{\LWR@hyperref@backref}{page}
137 {\RequirePackage{backref}}
138 {}
139
140 \ifLWR@hyperref@pagebackref
141 \RequirePackage{backref}
142 \fi

```

Emualted:

```

143 \newdimen\XeTeXLinkMargin
144 \newcommand*{\XeTeXLinkBox}[1]{#1}

145 \LetLtxMacro\href\LWR@href
146 \LetLtxMacro\nolinkurl\LWR@nolinkurl
147 \LetLtxMacro\url\LWR@url
148 \LetLtxMacro\phantomsection\LWR@phantomsection

149 \newcommand*{\hyperbaseurl}[1]{}

```

No application for lwarp:

```

150 \newcommand*{\HyperDestNameFilter}[1]{#1}

```

```
151 \newcommand*\HyperDestLabelReplace}[1]{#1}
152 \newcommand*\HyperDestRename}[2]{}

```

No application for lwarp:

```
153 \newcommand*\hyperget}[2]{}

```

\hyperimage

`{<URL>} {<alt text>}`

Insert an image with ALT text. The given ALT text need not be sanitized because `\&`, `\%`, `\textless`, `\textgreater` are already sanitized.

```
154 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
155 \LWR@ensuredoingapar%
156 \edef\tmpb{#1}%
157 \LWR@HTMLSanitize@tmpb%
158 \LWR@htmltag{%
159 img_src=\textquotedbl\tmpb\textquotedbl\ %
160 alt=\textquotedbl#2\textquotedbl\ %
161 class=\textquotedbl{}hyperimage\textquotedbl%
162 }%
163 \LWR@ensuredoingapar%
164 \endgroup%
165 }
166
167 \newrobustcmd*\hyperimage}{%
168 \begingroup%
169 \LWR@linkcatcodes%
170 \LWR@hyperimageb%
171 }
172

```

\hyperdef

`{<1: category>} {<2: name>} {<3: text>}`

Creates an HTML anchor to `category.name` with the given text.

```
173 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
174 \LWR@ensuredoingapar%
175 \LWR@Label@createtag{#1.#2}%
176 #3%
177 \endgroup%
178 }
179
180 \newcommand*\hyperdef}{%
181 \begingroup%
182 \LWR@linkcatcodes%
183 \LWR@hyperdefb%
184 }
185

```

\LWR@hyperrefb

`{<1: URL>} {<2: category>} {<3: name>} {<4: text>}`

Creates an HTML link to `URL#category.name` with the given text.

```
186 \newcommand{\LWR@hyperreffinish}[1]{%
187 \begingroup%
188 \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
189 #1%
190 \endgroup%
191 \LWR@htmltag{/a}%

```



```

192 }
193
194 \newcommand*\LWR@hyperrefbb}[3]{%
195 \LWR@htmltag{%
196 a href=\textquotedbl%
197 \detokenize\expandafter{#1}\LWR@hashmark%
198 \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
199 \textquotedbl%
200 \LWR@addlinktitle%
201 }%
202 \endgroup%
203 \LWR@hyperreffinish%
204 }
205
206 \newrobustcmd*\LWR@hyperrefb}{%
207 \begingroup%
208 \LWR@linkcatcodes%
209 \LWR@hyperrefbb%
210 }

```

`\LWR@hyperrefc``[\langle label \rangle] \langle text \rangle`Creates text as an HTML link to the  $\LaTeX$  label.

```

211 \NewDocumentCommand{\LWR@hyperrefcb}{0{label}}{%
212 \LWR@startref{#1}%
213 \endgroup%
214 \LWR@hyperreffinish%
215 }
216
217 \newcommand*\LWR@hyperrefc}{%
218 \begingroup%
219 \LWR@linkcatcodes%
220 \LWR@hyperrefcb%
221 }

```

`\hyperref`
`\langle 1: URL \rangle \langle 2: category \rangle \langle 3: name \rangle \langle 4: text \rangle` — or —  
`[\langle 1: label \rangle] \langle 2: text \rangle`

```

222 \DeclareRobustCommand*\hyperref}{%
223 \LWR@ensuredoingapar%
224 \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefbb%
225 }

```

`\hypertarget``\langle name \rangle \langle text \rangle`

Creates an anchor to name with the given text.

```

226 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
227 \label{\LWR-ht-#1}%
228 #2%
229 \endgroup%
230 }
231
232 \newcommand*\hypertarget}{%
233 \LWR@ensuredoingapar%
234 \begingroup%
235 \LWR@linkcatcodes%
236 \LWR@hypertargetb%
237 }

```

`\hyperLink``{\langle name \rangle} {\langle text \rangle}`

Creates a link to the anchor created by `hypertarget`, with the given link text.

Declared because also defined by `memoir`.

```

238 \DeclareDocumentCommand{\LWR@hyperLinkb}{m}{%
239 \ifbool{LWR@insidemathcomment}%
240 {\endgroup}%
241 {\LWR@hyperrefcb[LWR-ht-#1]}%
242 }
243
244 \DeclareDocumentCommand{\hyperLink}{}{%
245 \LWR@ensuredoingapar%
246 \begingroup%
247 \LWR@linkcatcodes%
248 \LWR@hyperLinkb%
249 }
```

`\LWR@nullify@hyperref`

`{\langle 1: URL \rangle} {\langle 2: category \rangle} {\langle 3: name \rangle} {\langle 4: text \rangle}` — or —  
`[\langle 1: label \rangle] {\langle 2: text \rangle}`

```

250 \newcommand{\LWR@nullify@hyperrefb}[2][{}]{%
251
252 \newcommand*\LWR@nullify@hyperref}{%
253 \ifnextchar[\LWR@nullify@hyperrefb\@fourthoffour%
254 }
```

To nullify in a `lateximage` or `svg` math. `\hypertarget` must be left active for references to work, and does not harm.

```

255 \appto\LWR@restoreorigformatting{%
256 \LetLtxMacro\hyperdef\@thirdofthree
257 \LetLtxMacro\hyperLink\@secondoftwo%
258 \LetLtxMacro\hyperref\LWR@nullify@hyperref%
259 }
```

`\autoref``* {\langle label \rangle}`

For HTML, `\cleveref` is used instead.

```

260 \NewDocumentCommand{\autoref}{s m}{%
261 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
262 }
```

`\autopageref``{\langle label \rangle}`

For HTML, `\cleveref` is used instead.

```

263 \NewDocumentCommand{\autopageref}{s m}{%
264 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
265 }
```

Default names:

```

266 \def\equationautorefname{Equation}%
267 \def\footnoteautorefname{footnote}%
268 \def\itemautorefname{item}%
269 \def\figureautorefname{Figure}%
270 \def\tableautorefname{Table}%

```

```

271 \def\partautorefname{Part}%
272 \def\appendixautorefname{Appendix}%
273 \def\chapterautorefname{chapter}%
274 \def\sectionautorefname{section}%
275 \def\subsectionautorefname{subsection}%
276 \def\subsubsectionautorefname{subsubsection}%
277 \def\paragraphautorefname{paragraph}%
278 \def\subparagraphautorefname{subparagraph}%
279 \def\FancyVerbLineautorefname{Line}%
280 \def\theoremautorefname{Theorem}%
281 \def\pageautorefname{page}%

```

```
\pdfstringdef {<macroname>} {<TEXstring>}
```

```
282 \newcommand{\pdfstringdef}[2]{}

```

```
\pdfbookmark [<level>] {<text>} {<name>}
```

```
283 \newcommand{\pdfbookmark}[3][{}]{

```

```
\currentpdfbookmark {<text>} {<name>}
```

```
284 \newcommand{\currentpdfbookmark}[2]{}

```

```
\subpdfbookmark {<text>} {<name>}
```

```
285 \newcommand{\subpdfbookmark}[2]{}

```

```
\belowpdfbookmark {<text>} {<name>}
```

```
286 \newcommand{\belowpdfbookmark}[2]{}

```

```
\texorpdfstring {<TEXstring>} {<PDFstring>}
```

```
287 \let\texorpdfstring\relax
288 \newcommand{\texorpdfstring}[2]{#1}

```

```
{<commands>}
```

```
\pdfstringdefDisableCommands
289 \newcommand{\pdfstringdefDisableCommands}[1]{}

```

```
\hypercalcbp {<dimen>} From hyperref.
```

```
290 \def\hypercalcbp#1{%
291 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
292 }%

```

```
\Acrobatmenu {<menuoption>} {<text>}
```

```
293 \newcommand{\Acrobatmenu}[2]{}

```

```
\TextField [<parameters>] {<label>}
```

```
294 \DeclareRobustCommand{\TextField}[2][{}]{

```

---

|                                 |                                                                                                 |
|---------------------------------|-------------------------------------------------------------------------------------------------|
| <code>\CheckBox</code>          | <code>[\parameters] {\label}</code><br>295 \DeclareRobustCommand{\CheckBox}[2]{}{}              |
| <code>\ChoiceMenu</code>        | <code>[\parameters] {\label} {\choices}</code><br>296 \DeclareRobustCommand{\ChoiceMenu}[3]{}{} |
| <code>\PushButton</code>        | <code>[\parameters] {\label}</code><br>297 \DeclareRobustCommand{\PushButton}[2]{}{}            |
| <code>\Submit</code>            | <code>[\parameters] {\label}</code><br>298 \DeclareRobustCommand{\Submit}[2]{}{}                |
| <code>\Reset</code>             | <code>[\parameters] {\label}</code><br>299 \DeclareRobustCommand{\Reset}[2]{}{}                 |
| <code>\Gauge</code>             | <code>[\parameters] {\label}</code><br>300 \DeclareRobustCommand{\Gauge}[2]{}{}                 |
| <code>\LayoutTextField</code>   | <code>{\label} {\field}</code><br>301 \newcommand*\LayoutTextField[2]{}{}                       |
| <code>\LayoutChoiceField</code> | <code>{\label} {\field}</code><br>302 \newcommand*\LayoutChoiceField[2]{}{}                     |
| <code>\LayoutCheckField</code>  | <code>{\label} {\field}</code><br>303 \newcommand*\LayoutCheckField[2]{}{}                      |
| <code>\MakeRadioField</code>    | <code>{\width} {\height}</code><br>304 \newcommand*\MakeRadioField[2]{}{}                       |
| <code>\MakeCheckField</code>    | <code>{\width} {\height}</code><br>305 \newcommand*\MakeCheckField[2]{}{}                       |
| <code>\MakeTextField</code>     | <code>{\width} {\height}</code><br>306 \newcommand*\MakeTextField[2]{}{}                        |
| <code>\MakeChoiceField</code>   | <code>{\width} {\height}</code><br>307 \newcommand*\MakeChoiceField[2]{}{}                      |
| <code>\MakeFieldButton</code>   | <code>{\text}</code>                                                                            |

```
308 \newcommand{\MakeFieldButton}[1]{}
```

File 229 **lwarp-hyperxmp.sty**

§ 341 Package **hyperxmp**

hyperxmp (*Pkg*) hyperxmp is ignored.

**for HTML output:** Discard all options for lwarp-hyperxmp:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]
2
3 \define@key{LWR@hyperref}{pdfdate}[]{}
4 \define@key{LWR@hyperref}{pdfmetadate}[]{}
5 \define@key{LWR@hyperref}{pdfcopyright}[]{}
6 \define@key{LWR@hyperref}{pdftype}[]{}
7 \define@key{LWR@hyperref}{pdflicenseurl}[]{}
8 \define@key{LWR@hyperref}{pdfauthortitle}[]{}
9 \define@key{LWR@hyperref}{pdfcaptionwriter}[]{}
10 \define@key{LWR@hyperref}{pdfmetalang}[]{}
11 \define@key{LWR@hyperref}{pdfapart}[]{}
12 \define@key{LWR@hyperref}{pdfaconformance}[]{}
13 \define@key{LWR@hyperref}{pdfuapart}[]{}
14 \define@key{LWR@hyperref}{pdfxstandard}[]{}
15 \define@key{LWR@hyperref}{pdfsource}[]{}
16 \define@key{LWR@hyperref}{pdfdocumentid}[]{}
17 \define@key{LWR@hyperref}{pdfinstanceid}[]{}
18 \define@key{LWR@hyperref}{pdfversionid}[]{}
19 \define@key{LWR@hyperref}{pdfrendition}[]{}
20 \define@key{LWR@hyperref}{pdfpublication}[]{}
21 \define@key{LWR@hyperref}{pdfpubtype}[]{}
22 \define@key{LWR@hyperref}{pdfbytes}[]{}
23 \define@key{LWR@hyperref}{pdfnumpages}[]{}
24 \define@key{LWR@hyperref}{pdfissn}[]{}
25 \define@key{LWR@hyperref}{pdfeissn}[]{}
26 \define@key{LWR@hyperref}{pdfisbn}[]{}
27 \define@key{LWR@hyperref}{pdfbookedition}[]{}
28 \define@key{LWR@hyperref}{pdfpublisher}[]{}
29 \define@key{LWR@hyperref}{pdfvolumenum}[]{}
30 \define@key{LWR@hyperref}{pdfissuenum}[]{}
31 \define@key{LWR@hyperref}{pdfpagerange}[]{}
32 \define@key{LWR@hyperref}{pdfdoi}[]{}
33 \define@key{LWR@hyperref}{pdfurl}[]{}
34 \define@key{LWR@hyperref}{pdfidentifier}[]{}
35 \define@key{LWR@hyperref}{pdfsubtitle}[]{}
36 \define@key{LWR@hyperref}{pdfpubstatus}[]{}
37 \define@key{LWR@hyperref}{pdfcontactaddress}[]{}
38 \define@key{LWR@hyperref}{pdfcontactcity}[]{}
39 \define@key{LWR@hyperref}{pdfcontactregion}[]{}
40 \define@key{LWR@hyperref}{pdfcontactpostcode}[]{}
41 \define@key{LWR@hyperref}{pdfcontactcountry}[]{}
42 \define@key{LWR@hyperref}{pdfcontactphone}[]{}
43 \define@key{LWR@hyperref}{pdfcontactemail}[]{}
44 \define@key{LWR@hyperref}{pdfcontacturl}[]{}
45 \define@key{LWR@hyperref}{keeppdfinfo}[]{}
46 \define@key{LWR@hyperref}{pdfauthor}[]{}
47 \define@key{LWR@hyperref}{pdfkeywords}[]{}

```

---

File 230 **lwarp-hyphenat.sty**

§ 342 Package **hyphenat**

hyphenat (*Pkg*) hyphenat is emulated during HTML output, while the print-mode version is used inside a lateximage.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]

2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@originhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@originohyphens\nohyphens
5 \LetLtxMacro\LWRHYNAT@origbshyp\bshyp
6 \LetLtxMacro\LWRHYNAT@origfshyp\fshyp
7 \LetLtxMacro\LWRHYNAT@origdothyp\dothyp
8 \LetLtxMacro\LWRHYNAT@origcolonyhyp\colonyhyp
9 \LetLtxMacro\LWRHYNAT@orighyp\hyp
10
11 \LetLtxMacro\textnhtt\texttt
12 \LetLtxMacro\nhttfamily\ttfamily
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16 \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonyhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro\textnhtt\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro\nhttfamily\LWRHYNAT@originhttfamily%
26 \LetLtxMacro\nohyphens\LWRHYNAT@originohyphens%
27 \LetLtxMacro\bshyp\LWRHYNAT@origbshyp%
28 \LetLtxMacro\fshyp\LWRHYNAT@origfshyp%
29 \LetLtxMacro\dothyp\LWRHYNAT@origdothyp%
30 \LetLtxMacro\colonyhyp\LWRHYNAT@origcolonyhyp%
31 \LetLtxMacro\hyp\LWRHYNAT@orighyp%
32 }

```

---

File 231 **lwarp-idxlayout.sty**

§ 343 Package **idxlayout**

*(Emulates or patches code by THOMAS TITZ.)*

idxlayout (*Pkg*) idxlayout is emulated.

**for HTML output:** Discard all options for lwarp-idxlayout:

```

1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]

```

```
2 \newcommand{\LWR@indexprenote}{}

```

\AtBeginDocument to help with package load order.

```
3 \AtBeginDocument{
4 \preto\printindex{
5
6 \LWR@maybe@orignewpage
7 \LWR@startpars
8
9 \LWR@indexprenote
10
11 }
12 }
```

```
13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
14 \newcommand*\{noindexprenote}{\renewcommand{\LWR@indexprenote}{} }
15
16 \newcommand{\idxlayout}[1]{}
17 \newcommand*\{indexfont}{}
18 \newcommand*\{indexjustific}{}
19 \newcommand*\{indexsubsdelim}{}
20 \newcommand*\{indexstheadcase}{}

```

File 232 **lwarp-ifoddpage.sty**

§ 344 Package **ifoddpage**

*(Emulates or patches code by MARTIN SCHARRER.)*

ifoddpage (*Pkg*) ifoddpage is emulated.

**for HTML output:** Discard all options for lwarp-ifoddpage:

```
1 \LWR@ProvidesPackageDrop{ifoddpage}[2016/04/23]
2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue\oddpageoronesidetrue}
7
8 \def\oddpage@page{1}
9
10 \def\@ifoddpage{%
11 \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpageoroneside{%
15 \expandafter\@firstoftwo
16 }
```

File 233 **lwarp-imakeidx.sty**

§ 345 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

`imakeidx` (*Pkg*) `imakeidx` is patched for use by `lwarp`.

**letter headings** When using `makeindex`, to match the print and HTML output's display of index letter headings, specify the `lwarp.ist` style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the `lwarp.ist` style is used automatically, which displays letter headings. When using `xindy` the default style also displays letter headings.)

**index setup** See section 8.6.19 for how to setup `lwarpmk` to process the indexes with `imakeidx`, both with and without shell escape.

**for HTML output:** 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```
2 \catcode`_ =12%
3 \define@key{imki}{name}{\def\imki@name{#1_html}}
4 \catcode`_ =8%
```

`\printindex`

The HTML version of `\printindex`:

```
5 \catcode`_ =12%
6
7 \renewcommand*\printindex[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{#1}{\imki@jobname}{%
11 \ifundefined{#1@idxfile}{%
12 \imki@error{#1}%
13 }{%
14 \imki@putindex{#1}%
15 }%
16 }{%
17 \ifundefined{#1_html@idxfile}{\imki@error{#1_html}}{\imki@putindex{#1_html}}%
18 }%
19 }
20
21 \catcode`_ =8%
```

`\@index`

The HTML version of `\@index`:

```
22 \VerifyCommand[lwarp][imakeidx]{\@index}{443B697F3326243540BE3FB7665606F6}
23
24 \catcode`_ =12%
25
26 \def\@index[1]{%
27 \ifstrequal{#1}{\imki@jobname}%
```



```

28 {%
29 \@ifundefined{#1@idxfile}%
30 {%
31 \PackageWarning{lwarp-imakeidx}{Undefined index file `#1'}%
32 \begingroup
33 \@sanitize
34 \imki@nowrindex%
35 }%
36 {%
37 \edef\@idxfile{#1}%
38 \begingroup
39 \@sanitize
40 \@wrindex\@idxfile%
41 }%
42 }%
43 {%
44 \@ifundefined{#1_html@idxfile}%
45 {%
46 \PackageWarning{lwarp-imakeidx}{Undefined index file `#1_html'}%
47 \begingroup
48 \@sanitize
49 \imki@nowrindex%
50 }%
51 {%
52 \edef\@idxfile{#1_html}%
53 \begingroup
54 \@sanitize
55 \@wrindex\@idxfile%
56 }%
57 }%
58 }
59
60 \catcode`_ =8%

```

\item

\subitem

\subsubitem

HTML versions of \item, etc.:

```

61 \appto\theindex{%
62 \LetLtxMacro\item\LWR@indexitem%
63 \LetLtxMacro\subitem\LWR@indexsubitem%
64 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
65 }

```

\imki@wrindexentrysplitlet     {<file>} {<entry>} {<page>}

\imki@wrindexentryunique     {<file>} {<entry>} {<page>}

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

66 \VerifyCommand[lwarp][imakeidx]{\imki@wrindexentrysplitlet}{D8ABE70A4355F52E36723AFAB74F71E7}
67
68 \renewcommand\imki@wrindexentrysplitlet[3]{%
69 \addtocounter{LWR@autoindex}{1}%
70 \expandafter\protected@write\csname#1@idxfile\endcsname{%
71 {\string\indexentry{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with cleveref.

```

72 \label{LWRindex-\arabic{LWR@autoindex}}%

```

```

73 }
74
75 \VerifyCommand[lwarp][imakeidx]{\imki@wrindexentryunique}{9131E144394D273F316D03FA91BA0E2B}
76
77 \renewcommand\imki@wrindexentryunique[3]{%
78 \addtocounter{LWR@autoindex}{1}%
79 \protected@write\@indexfile{}%
80 {\string\indexentry[#1]{#2}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

81 \label{LWRindex-\arabic{LWR@autoindex}}%
82 }

```

`\LWR@imki@setxdydefopts`

Sets the *xindy* HTML options, ignoring the user's settings.

```

83 \newcommand*\LWR@imki@setxdydefopts{%
84 \edef\imki@options{ \space %
85 -M \space \LWR@xindyStyle\space %
86 -L \space \LWR@xindyLanguage\space %
87 -C \space \LWR@xindyCodepage\space %
88 }%
89 }

```

`\LWR@imki@setdefopts`

*{(user options)}*

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the *lwarp* version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the *lwarp* version is appended.

```

90 \newcommand*\LWR@imki@setdefopts[1]{%
91 \ifblank{#1}{%
92 \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
93 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{}%
94 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{}%
95 \ifdefstring{\imki@progdefault}{truexindy}{\LWR@imki@setxdydefopts}{}%
96 }{%
97 \edef\imki@options{\space #1 \space}%
98 }%
99 }

```

`\imki@makeindex`

Use the new HTML options:

```

100 \VerifyCommand[lwarp][imakeidx]{\imki@makeindex}{83AEF6DF7A13F7D0565457DFB83D42B5}
101
102 \xpatchcmd{\imki@makeindex}
103 {\let\imki@options\space}
104 {\LWR@imki@setdefopts}{}%
105 {}
106 {\LWR@patcherror{imakeidx}{makeindex}}

```

Use the new HTML options.

```

107 \define@key{imki}{options}{\LWR@imki@setdefopts[#1]}

```

`\imki@resetdefaults`

Use the new HTML options:

```

108 \VerifyCommand[lwarp][imakeidx]{\imki@resetdefaults}{3D417615569AC35F199A3FBD03B640E3}
109
110 \xpatchcmd{\imki@resetdefaults}
111 {\def\imki@options{ }}
112 {\LWR@imki@setdefopts{}}
113 {}
114 {\LWR@patcherror{imakeidx}{resetdefaults}}

```

theindex was already defined \AtBeginDocument by the lwarp core, so it must be redefined here similarly, but patched for imakeidx:

Env theindex

```

115 \AtBeginDocument{
116 \renewenvironment*{theindex}{%
117 \imki@maybeaddtoc
118 \imki@indexlevel{\indexname}
119 \LetLtxMacro\item\LWR@indexitem%
120 \LetLtxMacro\subitem\LWR@indexsubitem%
121 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
122 }{}
123 }% AtBeginDocument

```

Update to the new defaults:

```
124 \imki@resetdefaults
```

Update to the new patches:

\AtBeginDocument is because \@wrindex is previously defined as \AtBeginDocument in the lwarp core.

```

125 \ifimki@splitindex
126 \let\imki@startidx\imki@startidxunique
127 \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
128 \let\imki@putindex\imki@putindexunique
129 \let\imki@wrindexentry\imki@wrindexentryunique
130 \let\imki@startidxsplit\@undefined
131 \let\imki@wrindexsplit\@undefined
132 \let\imki@putindexsplit\@undefined
133 \else
134 \let\imki@startidx\imki@startidxsplit
135 \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
136 \let\imki@putindex\imki@putindexsplit
137 \let\imki@wrindexentry\imki@wrindexentrysplit
138 \let\imki@startidxunique\@undefined
139 \let\imki@wrindexunique\@undefined
140 \let\imki@putindexunique\@undefined
141 \fi

```

---

File 234 **lwarp-impnatty.sty**

§ 346 Package **impnatty**

impnatty (*Pkg*) impnatty is ignored.

**for HTML output:** 1\LWR@ProvidesPackageDrop{impnatty}[2019/03/04]

File 235 **lwarp-index.sty**

§ 347 Package **index**

*(Emulates or patches code by DAVID M. JONES.)*

index (*Pkg*) index is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use \theLWR@autoindex instead of \thepage. \@tempwattrue is used to force an immediate write to the index file instead of waiting until the end of the page.

```

2 \VerifyCommand[lwarp][index]{\newindex}{F714216FA78BCC8DB70B7BB92BE05F3C}
3
4 \xpatchcmd{\newindex}
5 {\x@newindex[thepage]}
6 {%
7 \@tempwattrue%
8 \x@newindex[theLWR@autoindex]%
9 }
10 {}
11 {\LWR@patcherror{index}{newindex}}
12
13 \VerifyCommand[lwarp][index]{\renewindex}{B81B08BFE7A2F5CA7D84D4A5A40E7A44}
14
15 \xpatchcmd{\renewindex}
16 {\x@renewindex[thepage]}
17 {%
18 \@tempwattrue%
19 \x@renewindex[theLWR@autoindex]%
20 }
21 {}
22 {\LWR@patcherror{index}{renewindex}}
```

Patched to set a new autoindex:

```

23 \VerifyCommand[lwarp][index]{\@windex}{C58C10ACFC42D711D0DA8F4759BA951D}
24
25 \xpatchcmd{\@windex}
26 {\begingroup}
27 {%
28 \addtocounter{LWR@autoindex}{1}%
29 \label{LWRindex-\arabic{LWR@autoindex}}%
30 \begingroup%
31 }
32 {}
33 {\LWR@patcherror{index}{@windex}}
```

\AtBeginDocument lwarp core \lets \@windex to \LWR@windex. Since the index package has been loaded, \let to its version instead:

```

34 \let\LWR@index@windex\@windex
35
36 \AtBeginDocument{
```

```
37 \let\@wrindex\LWR@index@wrindex
38 }
```

Modified to add \index@prologue:

```
39 \AtBeginDocument{
40 \renewenvironment*{theindex}{%
41 \LWR@indexsection{\indexname}%
42 \ifx\index@prologue\empty\else
43 \index@prologue
44 \bigskip
45 \fi
46 \LetLtxMacro\item\LWR@indexitem%
47 \LetLtxMacro\subitem\LWR@indexsubitem%
48 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
49 }{}
50 }% AtBeginDocument
```

Disabled:

```
51 \def\@showidx#1{}
52 \let\@texttop\relax
53 \renewcommand*{\raggedbottom}{}
54 \renewcommand*{\flushbottom}{}
55 \renewcommand*{\markboth}[2]{}
56 \renewcommand*{\markright}[1]{}

```

---

File 236 **lwarp-inputtrc.sty**

§ 348 Package **inputtrc**

*(Emulates or patches code by UWE LÜCK.)*

inputtrc (*Pkg*) inputtrc is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a lateximage.

```
2 \VerifyCommand[lwarp][inputtrc]{\IT@prim@input}{03F74081468CFB6308896BDEB61D1E23}
3
4 \renewcommand*{\IT@prim@input}[1]{%
5 \typeout{\IT@indent\IT@currfile INPUTTING #1}%
6 % ... TODO: option to write to `\.log' only.
7 \xdef\IT@filestack{{\IT@currfile}\IT@filestack}%
8 \xdef\IT@currfile{#1}%
9 \expandafter \gdef\expandafter \IT@indent\expandafter{%
10 \IT@indent \IT@indent@unit}% lwarp
11 \@input#1% lwarp
12 \expandafter\IT@pop@indent\IT@indent \@nil% lwarp
13 \expandafter\IT@pop@file \IT@filestack\@nil% lwarp
14 \IT@maybe@returnmessage% v0.2 lwarp
15 }
```

---

File 237 **lwarp-intopdf.sty**

§ 349 Package **intopdf**

intopdf (*Pkg*) intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{intopdf}[2019/05/28]

```
2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3 \LWR@href{#2}{#5}%
4 }
```


---

File 238 **lwarp-isomath.sty**

§ 350 Package **isomath**

*(Emulates or patches code by GÜNTER MILDE.)*

isomath (*Pkg*) isomath is used as-is for SVG math, and emulated for MATHJAX.

 **MATHJAX sans** MATHJAX does not provide a sans math font, so sans is typeset as roman.

**for HTML output:** 1 \LWR@ProvidesPackagePass{isomath}[2012/09/04]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\mathbfit\boldsymbol}
4 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
5 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
6 \CustomizeMathJax{\let\mathsfbfit\mathbfit}
7 \CustomizeMathJax{\let\mathsfbfit\mathbfit}
8 \CustomizeMathJax{\let\mathsfbfit\mathbfit}
9 \CustomizeMathJax{\let\mathsfbfit\mathbfit}
10 \CustomizeMathJax{\let\mathsfbfit\mathbfit}
11 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
12 \end{warpMathJax}
```

---

File 239 **lwarp-isotope.sty**

§ 351 Package **isotope**

*(Emulates or patches code by HEIKO BAUKE.)*

isotope (*Pkg*) isotope is patched for use by lwarp with SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{isotope}[2011/08/26]

```

2 \newcommand{\LWR@HTML@isotope@two}[2][]{%
3 \renewcommand{\isotope@atomicnumber}{#1}%
4 \edef\LWR@isotope@alntag{%
5 \textbackslash(
6 \textbackslash{isotope
7 [\isotope@nucleonnumber]%
8 [\isotope@atomicnumber]%
9 \{#2\}
10 \textbackslash)%
11 }%
12 \ifbool{mathjax}%
13 {\LWR@isotope@alntag}%
14 {% SVG
15 \m@th%
16 \LWR@subsingledollar*%
17 {% alt tag
18 \LWR@isotope@alntag%
19 }%
20 {isotope}% add'l hashing
21 {% contents
22 \settowidth\@tempdimb{%
23 \ensuremath{\scriptstyle\isotope@nucleonnumber}%
24 }%
25 \settowidth\@tempdimc{%
26 \ensuremath{\scriptstyle\isotope@atomicnumber}%
27 }%
28 \ifdim\@tempdimb<\@tempdimc\@tempdimb=\@tempdimc\fi%
29 \ensuremath{
30 {%
31 ^{\makebox[\@tempdimb][r]{%
32 \ensuremath{%
33 \scriptstyle\isotope@nucleonnumber%
34 }% ensuremath
35 }%
36 _{\makebox[\@tempdimb][r]{%
37 \ensuremath{%
38 \scriptstyle\isotope@atomicnumber%
39 }% ensuremath
40 }%
41 \isotopestyle{#2}%
42 }% ensuremath
43 }% contents
44 }% SVG
45 \endgroup%
46 }%
47 \LWR@formatted{isotope@two}
48
49 \begin{warpMathJax}
50 \CustomizeMathJax{%
51 \newcommand{\LWRisotope@two}[2][]{%
52 {%
53 \vphantom{\mathrm{#2}}%
54 }^{\LWRisotope@nucleonnumber}_{#1}%
55 \mathrm{#2}%
56 }%
57 }%
58 }
59
60 \CustomizeMathJax{%
61 \newcommand{\isotope}[1][]{%

```

```

62 \def\LWRisotopenucleonnumber{#1}%
63 \LWRisotopetwo%
64 }%
65 }
66 \end{warpMathJax}

```

---

File 240 **lwarp-jurabib.sty**

§ 352 Package **jurabib**

*(Emulates or patches code by JENS BERGER.)*

jurabib (*Pkg*) jurabib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{jurabib}[2004/01/25]
2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \VerifyCommand[lwarp][jurabib]{\jb@biblaw@item}{F93545B67E684787264DA900F185A25A}
7
8 \renewcommand*{\jb@biblaw@item}{%
9 \hspace{0.5em}%
10% \triangleright
11 \HTMLunicode{25B7}% lwarp%
12 \hspace{0.5em}%
13 }
14
15 \VerifyCommand[lwarp][jurabib]{\jbarchsig}{8D821FA370CBD0A61325D5A278E0A369}
16
17 \renewrobustcmd{\jbarchsig}[2]{%
18 \ifjbweereinbib
19 \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
20 \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
21% \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}%
22 #1\ifjb@dot\unskip\unskip\unskip.\fi
23% &
24 \quad% lwarp
25 \ifthenelse{\equal{#2}{}}{\jbarchnameformat{#2}}%
26% \end{tabular}
27 \fi
28 }%
29
30
31 \VerifyCommand[lwarp][jurabib]{\jb@do@post@item}{4FD79AF40E8460C52306C33CF825B63F}
32
33 \xpatchcmd{\jb@do@post@item}
34 {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}
35 {}
36 {}
37 {\LWR@patcherror{jurabib}{\jb@do@post@item 1}}
38
39 \xpatchcmd{\jb@do@post@item}
40 {\multicolumn{2}{p{\columnwidth}}{\jb@name}}
41 {\jb@name}
42 {}

```



```

43 {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
44
45 \xpatchcmd{\jb@do@post@item}
46 {\jb@biblaw@item & \jb@@fulltitle}
47 {\jb@biblaw@item \quad \jb@@fulltitle}
48 {}
49 {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
50
51 \xpatchcmd{\jb@do@post@item}
52 {\end{tabular}}
53 {}
54 {}
55 {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
56
57 \xpatchcmd{\jb@do@post@item}
58 {\begin{minipage}[t]{\bibnumberwidth}}
59 {}
60 {}
61 {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
62
63 \xpatchcmd{\jb@do@post@item}
64 {\end{minipage}}
65 {\quad}
66 {}
67 {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

---

File 241 **lwarp-karnaugh-map.sty**

§ 353 Package **karnaugh-map**

*(Emulates or patches code by MATTIAS JACOBSSON.)*

karnaugh-map (*Pkg*) karnaugh-map is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because lwarp changes the definition of \&, and the original uses \ifnum to compare 0 with \&. It is hard to patch this environment, so the entire thing is redefined here, with the lwarp modifications identified in comments.

```

2 \VerifyEnvironment[lwarp][karnaugh-map]{karnaugh-map}
3 {FFA0270032620E79C8344E63AEDBF925}{08A76B622DBB34F033284513743C5F8C}
4
5 \RenewDocumentEnvironment{karnaugh-map}{s O{4} O{4} O{1} O{X_1X_0} O{X_3X_2} O{X_5X_4}} {%
6 \begingroup
7 % store map size {[START]
8 \renewcommand{\@karnaughmap@var@mapsize@}{#2}%
9 \renewcommand{\@karnaughmap@var@mapsizey@}{#3}%
10 \renewcommand{\@karnaughmap@var@mapsizez@}{#4}%
11 % [END]}
12 % determinate if markings should be color or black and white
13 \IfBooleanTF{#1}{%
14 % should be black and white
15 \renewcommand{\@karnaughmap@var@bw@}{1}%
16 }{%
17 % should be color

```

```

18 \renewcommand{\@karnaughmap@var@bw@}{0}%
19 }%
20 %
21 % find matching matrix template and alignment parameters [START]
22 \newcommand{\@karnaughmap@local@matrixtemplate@}{0}% '0' is considered as missing matrix template
23 \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
24 \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
25 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsize@=221
26 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
27 \& 0 \& 1 \& \& \\
28 0 \& |(000000)| \& |(000001)| \& \& \\
29 1 \& |(000010)| \& |(000011)| \& \& \\
30 \& \& \& \& \& \\
31 }%
32 \fi
33 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsize@=241
34 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
35 \& 0 \& 1 \& \& \\
36 00 \& |(000000)| \& |(000001)| \& \& \\
37 01 \& |(000010)| \& |(000011)| \& \& \\
38 11 \& |(000110)| \& |(000111)| \& \& \\
39 10 \& |(000100)| \& |(000101)| \& \& \\
40 \& \& \& \& \& \\
41 }%
42 \fi
43 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsize@=421
44 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
45 \& 00 \& 01 \& 11 \& 10 \& \\
46 0 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \& \\
47 1 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \& \\
48 \& \& \& \& \& \& \\
49 }%
50 \fi
51 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsize@=441
52 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
53 \& 00 \& 01 \& 11 \& 10 \& \\
54 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \& \\
55 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \& \\
56 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)| \& \\
57 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)| \& \\
58 \& \& \& \& \& \& \\
59 }%
60 \fi
61 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsize@=442
62 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
63 \& 00 \& 01 \& 11 \& 10 \& \\
64 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \& \\
65 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \& \\
66 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)| \& \\
67 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(001010)| \& \\
68 \& \& \& \& \& \& \\
69 }%
70 \renewcommand{\@karnaughmap@local@maprealignmentx@}{2.5}%
71 \fi
72 \ifnum\@karnaughmap@var@mapsize@=\@karnaughmap@var@mapsizey@\@karnaughmap@var@mapsize@=444
73 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
74 \& 00 \& 01 \& 11 \& 10 \& \\
75 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000010)| \& \\
76 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(000110)| \& \\
77 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(001110)| \&

```

```

78 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(00
79 \& \& \& \& \&
80 00 \& |(100000)| \& |(100001)| \& |(100011)| \& |(10
81 01 \& |(100100)| \& |(100101)| \& |(100111)| \& |(10
82 11 \& |(101100)| \& |(101101)| \& |(101111)| \& |(10
83 10 \& |(101000)| \& |(101001)| \& |(101011)| \& |(10
84 \& \& \& \& \&
85 }%
86 \renewcommand{@karnaughmap@local@maprealignments@}{2.5}%
87 \renewcommand{@karnaughmap@local@maprealignments@}{-2.5}%
88 \fi
89 % [END]}
90 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
91 \ifdefstring{@karnaughmap@local@matrixtemplate@}{0}{% lwarp
92 % \ifnum=@karnaughmap@local@matrixtemplate@% original
93 % print error if no template could be found
94 \PackageError{lwarp-karnaugh-map}{%
95 Can not find a template fitting your specification
96 (@karnaughmap@var@mapsizex@ \space x \@karnaughmap@var@mapsizex@ \space x
97 \@karnaughmap@var@mapsizex@)%
98 }{%
99 Existing templates have the following dimensions:
100 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
101 }%
102 % \fi original
103 }{\relax}% lwarp
104 \begin{tikzpicture}
105 % grid
106 % for all dimensions
107 \draw[color=black, ultra thin] (0,0) grid (@karnaughmap@var@mapsizex@, \@karnaughmap@var@mapsizex@);
108 % when there are 2 sub maps
109 \ifnum\@karnaughmap@var@mapsizex@=2
110 \draw[color=black, ultra thin] (5,0) grid (9,4);
111 \fi
112 % when there are 4 sub maps
113 \ifnum\@karnaughmap@var@mapsizex@=4
114 \draw[color=black, ultra thin] (5,0) grid (9,4);
115 \draw[color=black, ultra thin] (0,-5) grid (4,-1);
116 \draw[color=black, ultra thin] (5,-5) grid (9,-1);
117 \fi
118 % labels
119 % for all dimensions
120 \node[above] at (@karnaughmap@var@mapsizex@*0.5, \@karnaughmap@var@mapsizex@+0.9) {\small{#5}};
121 \node[left] at (-0.9, \@karnaughmap@var@mapsizex@*0.5) {\small{#6}};
122 % when there are 2 sub maps
123 \ifnum\@karnaughmap@var@mapsizex@=2
124 \node[above] at (7,4.9) {\small{#5}};
125 % extra sub maps labels
126 \node[below] at (2,-0.1) {\small{#7$=0$}};
127 \node[below] at (7,-0.1) {\small{#7$=1$}};
128 \fi
129 % when there are 4 sub maps
130 \ifnum\@karnaughmap@var@mapsizex@=4
131 \node[above] at (7,4.9) {\small{#5}};
132 \node[left] at (-0.9,-3) {\small{#6}};
133 % extra sub maps labels
134 \node[below] at (2,-0.1) {\small{#7$=00$}};
135 \node[below] at (7,-0.1) {\small{#7$=01$}};
136 \node[below] at (2,-5.1) {\small{#7$=10$}};
137 \node[below] at (7,-5.1) {\small{#7$=11$}};

```

```

138 \fi
139 % data
140 \matrix[
141 matrix of nodes,
142 ampersand replacement=\&,
143 column sep={1cm,between origins},
144 row sep={1cm,between origins},
145] at (\@karnaughmap@var@mapsize@*0.5+\@karnaughmap@local@maprealignmentx@,\@karnaughmap@var@map
146 \@karnaughmap@local@matrixtemplate@%
147);
148 }{
149 \end{tikzpicture}
150 \endgroup
151 }

```


---

File 242 **lwarp-keyfloat.sty**

§ 354 Package **keyfloat**

*(Emulates or patches code by BRIAN DUNN.)*

`keyfloat` (*Pkg*) `keyfloat` is supported with a considerable amount of hacking. (It's a mashup of `lwarp`, `keyfloat`, and `tocdata`.)

 **keywrap** If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a `minipage`, which internally adjusts for a virtual 6-inch wide `minipage`, which then corrupts the `lw` option.)

For wrapped figures, overhang and number of lines are ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keyfloat}[2019/09/23]
2
3 \IfPackageAtLeastTF{keyfloat}{2019/09/23}{\relax}{
4 \PackageError{lwarp-keyfloat}
5 {%
6 The keyfloat package is out of date.\MessageBreak
7 Update to keyfloat v2.01 2019/09/23 or later%
8 }
9 {%
10 Please update the keyfloat package. It's worth it!%
11 }
12 }

```

After `keyfloat` has loaded:

```

13 \AtBeginDocument{

```

`\KFLT@LWR@hook@boxouter` Integration for `keyfloat`.  
(*Hook*) []

```

14 \providecommand*\KFLT@LWR@hook@boxouter{}
15
16 \renewcommand*\KFLT@LWR@hook@boxouter{%
17 \ifbool{KFLT@keywrap}{%
18 }{%
19 \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
20 \setlength{\linewidth}{6in}%

```

```

21 \setlength{\textwidth}{6in}%
22 \setlength{\textheight}{9in}%
23 }{}%
24 }%
25 \normalcolor%
26 }

```

`\KFLT@LWR@hook@keysubfloats` Integration for keyfloat.  
(Hook) []

```
27 \LetLtxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
```

`\KFLT@LWR@hook@keyfloatsminipage` Integration for keyfloat.  
(Hook) []

```

28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment*{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}

```

`\KFLT@LWR@hook@keyfloats` Integration for keyfloat.  
(Hook) []

```

31 \LetLtxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \VerifyCommand[\lwarp][keyfloat]{\KFLT@maybeendfloatrow}
34 {ABD652AC104E3CF79D66B92BC7E4E2D7}
35
36 \renewcommand*{\KFLT@maybeendfloatrow}{%
37 \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}}%
38 {}% thiscol < numcols
39 {% >=
40 \defcounter{KFLT@thiscol}{0}%
41 }%
42 }%
43
44 \VerifyCommand[\lwarp][keyfloat]{\KFLT@trackrows}
45 {17F751691BBEDD3459F494B072DC2F11}
46
47 \renewcommand{\KFLT@trackrows}%
48 {%

```

If are nested inside a keyfloats or a subfloat:

```

49 \ifboolexpr{%
50 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
51 bool{KFLT@inkeysubfloats}%
52 }%
53 {% nested

```

Tracks row start and end:

```
54 \KFLT@maybestartfloatrow%
```

Possibly fill space between columns:

```

55 \ifnumgreater{\value{KFLT@thiscol}}{1}%
56 {%
57 \hfill%
58 }%
59 {}%
60 }% nested

```

```

61 {}% not nested
62 }

63 \VerifyCommand[lwarp][keyfloat]{\KFLT@onefigureimage}
64 {803E82896F8D49700946B1A6CB132A55}
65
66 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
67 {%
68 \LWR@traceinfo{\KFLT@onefigureimage}%
69 % \begin{lrbox}{\KFLT@envbox}%
70 \ifthenelse{\NOT\equal{\KFLT@lw}}{}%
71 {%

72 \ifdimgreater{\KFLT@h}{0pt}%
73 {%
74 \KFLT@frame{%
75 \includegraphics%
76 [%
77 scale=\KFLT@s,%
78 width=\KFLT@imagewidth,%
79 height=\KFLT@h,%
80 \KFLT@keepaspectratio,%
81]{#1}%
82 }%
83 }%
84 {%
85 \KFLT@frame{\includegraphics%
86 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
87 }%
88 }%
89 {% not linewidth
90 \ifthenelse{\dimtest{\KFLT@w}{>}{0pt}}%
91 {% width is given
92 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
93 {% w and h
94 \KFLT@frame{\includegraphics[%
95 scale=\KFLT@s,%
96 width=\KFLT@imagewidth,%
97 height=\KFLT@h,%
98 \KFLT@keepaspectratio,%
99]{#1}}%
100 }% w and h
101 }% only w
102 \KFLT@frame{\includegraphics%
103 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
104 }% only w
105 }% width is given
106 }% width is not given
107 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
108 {%
109 \KFLT@frame{\includegraphics%
110 [scale=\KFLT@s,height=\KFLT@h]{#1}}%
111 }%
112 {%
113 \KFLT@frame{\includegraphics%
114 [scale=\KFLT@s]{#1}}%
115 }%
116 }% width is not given
117 }% not linewidth

```

```

118 % \end{lrbox}%
119 % \unskip%
120 % \KFLT@findenvboxwidth%
121 % \begin{turn}{\KFLT@r}%
122 % \KFLT@frame{\usebox{\KFLT@envbox}}%
123 % \unskip%
124 % \end{turn}%
125 \LWR@traceinfo{KFLT@onefigureimage: done}%
126 }

127 \VerifyEnvironment[lwarp][keyfloat]{KFLT@boxinner}
128 {44BA9E3F4EA1B3E533F47377BA47F145}{590DE3AADA8DF85EF6E1589B41F0D4F6}
129
130 \RenewDocumentEnvironment{KFLT@boxinner}{}
131 {%
132 \LWR@traceinfo{KFLT@boxinner}%
133 \LWR@stoppars%
134 \minipagefullwidth%
135 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
136 \fminipage{\KFLT@imagewidth}%
137 }{%
138 \minipage{\KFLT@imagewidth}%
139 }%
140 }
141 {%
142 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
143 \endfminipage%
144 }{%
145 \endminipage%
146 }%
147 \LWR@startpars%
148 \LWR@traceinfo{KFLT@boxinner: done}%
149 }

150 \newcommand*\LWR@KFLT@setttextalign}[1]{%
151 \def\LWR@KFLT@textalign{justify}%
152 \ifcsstring{KFLT@#1textalign}{\centering}%
153 {\def\LWR@KFLT@textalign{center}}%
154 {%
155 \ifcsstring{KFLT@#1textalign}{\raggedleft}%
156 {\def\LWR@KFLT@textalign{right}}%
157 {%
158 \ifcsstring{KFLT@#1textalign}{\raggedright}%
159 {\def\LWR@KFLT@textalign{left}}%
160 {%
161 }
162 }
163 \VerifyCommand[lwarp][keyfloat]{\KFLT@addtext}{C086CC818525A9B03EDEACC02609A3BE}
164
165 \renewcommand{\KFLT@addtext}[1]
166 {%

Is there text to add?

167 \ifcempty{KFLT@#1t}%
168 }% no text
169 {% text to add
170 {% local

```

Add some space, then create a <div> to contain the text:

```
171 \addvspace{\smallskipamount}%
172 \LWR@KFLT@settetalign{#1}%
173 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
```

Set the alignment and some text parameters:

```
174 % \csuse{KFLT@#1textalign}%
175 % \footnotesize%
176 \setlength{\parskip}{1.5ex}%
177 \setlength{\parindent}{0em}%
```

Typeset the actual text:

```
178 \csuse{KFLT@#1t}%
```

Close it all out with a little more space:

```
179 \end{BlockClass}%
180 % \par\addvspace{2ex}%
181 }% local
182 }% text to add
183 }
184
185 \IfPackageLoadedTF{tocdata}
186 {}
187 {% tocdata not loaded
188
189 \newcommand*\LWR@KFLT@setnamealign}[1]{%
190 \def\LWR@KFLT@textalign{justify}%
191 \ifstrequal{#1}{\centering}%
192 {\def\LWR@KFLT@textalign{center}}%
193 {}%
194 \ifstrequal{#1}{\raggedleft}%
195 {\def\LWR@KFLT@textalign{right}}%
196 {}%
197 \ifstrequal{#1}{\raggedright}%
198 {\def\LWR@KFLT@textalign{left}}%
199 {}%
200 }
201
202 \VerifyCommand[lwarp][keyfloat]{\KFLT@addartisttext}
203 {35968ED08D9BE09FF1B45E1E40AFE9A7}
204
205 \renewcommand*\KFLT@addartisttext}[3]{%
```

Add space and create the name inside a <div>:

```
206 % \addvspace{\medskipamount}%
207 % \begin{minipage}{\linewidth}%
208 \LWR@KFLT@setnamealign{#3}%
209 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
```

Text alignment is #3, and depends on artist or author:

```
210 % #3%
```



#1 is empty or 'subgrp'  
 #2 is empty for artist, 'u' for author:

```

211 \footnotesize\textsc{%
212 \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
213 \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
214 \csuse{KFLT@#1a#2l}%
215 \csuse{KFLT@#1a#2s}%
216 }%
217 % \end{minipage}%
218 \end{BlockClass}
219 % \par\addvspace{2ex}%
220 }
221
222 }% tocdata not loaded

```

Env KFLT@marginfloat

```

 [⟨offset⟩] {⟨type⟩}

223 \DeclareDocumentEnvironment{KFLT@marginfloat}{O{-1.2ex} m}
224 {%
225 \uselengthunit{PT}%
226 \LWR@BlockClassWP%
227 {float:right; width:2in; margin:10pt}%
228 }%
229 (note)%
230 {marginblock}%
231 \renewcommand*{\@capttype}{#2}%
232 \minipage{1.2\LWR@usersmarginparwidth}%
233 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
234 }
235 {%
236 \endminipage%
237 \endLWR@BlockClassWP%
238 }

239 \DeclareDocumentEnvironment{marginfigure}{o}
240 {\begin{KFLT@marginfloat}{figure}}
241 {\end{KFLT@marginfloat}}
242
243 \DeclareDocumentEnvironment{margintable}{o}
244 {\begin{KFLT@marginfloat}{table}}
245 {\end{KFLT@marginfloat}}

```

Env keywrap

```

 {⟨width⟩} {⟨keyfloat⟩}

246 \DeclareDocumentEnvironment{keywrap}{m +m}
247 {%
248 \begin{LWR@setvirtualpage}*
249 \setlength{\LWR@templengthone}{#1}%
250 \begin{LWR@BlockClassWP}%
251 {%
252 float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
253 margin:10pt%
254 }%
255 }%
256 (note)%
257 {marginblock}%
258 \setlength{\linewidth}{.95\LWR@templengthone}%
259 \booltrue{KFLT@keywrap}%

```

```

260 #2%
261 \end{LWR@BlockClassWP}%
262 \end{LWR@setvirtualpage}%
263 }
264 {}

265 }% AtBeginDocument

```

---

File 243 **lwarp-keystroke.sty**

§ 355 Package **keystroke**

*(Emulates or patches code by WERNER FINK.)*

keystroke (*Pkg*) **keystroke** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

2 \newcommand*\LWR@HTML@keystroke}[1]{
3 \InlineClass{keystroke}{#1}
4 }
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*\LWR@HTML@Return{\keystroke{\HTMLUnicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*\LWR@HTML@BSpace{\keystroke{\HTMLUnicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*\LWR@HTML@Tab{\keystroke{|\HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*\LWR@HTML@UArrow{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*\LWR@HTML@DArrow{\keystroke{\HTMLUnicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*\LWR@HTML@LArrow{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*\LWR@HTML@RArrow{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \VerifyCommand[lwarp][keystroke]{\Shift}{F86359C350A5BC1D264A4997F86C2DC2}
31
32 \LetLtxMacro\LWR@HTML@Shift\Shift
33 \xpatchcmd{\LWR@HTML@Shift}
34 {\$Uparrow$}
35 {\HTMLUnicode{21D1}}
36 {}
37 {}
38 \LWR@formatted{Shift}
39
40 \VerifyCommand[lwarp][keystroke]{\PgUp}{CBB81948EFB5940DAD2B51644BB4B2BF}

```

```

41
42 \LetLtxMacro\LWR@HTML@PgUp\PgUp
43 \xpatchcmd{\LWR@HTML@PgUp}
44 {\$uparrow$}
45 {\HTMLUnicode{2191}}
46 {}
47 {}
48 \LWR@formatted{PgUp}
49
50 \VerifyCommand[lwarp][keystroke]{\PgDown}{B55C849642BE07904975EC7E4D649CAD}
51
52 \LetLtxMacro\LWR@HTML@PgDown\PgDown
53 \xpatchcmd{\LWR@HTML@PgDown}
54 {\$downarrow$}
55 {\HTMLUnicode{2193}}
56 {}
57 {}
58 \LWR@formatted{PgDown}

```


---

File 244 **lwarp-kpfonts.sty**

§ 356 Package **kpfonts**

*(Emulates or patches code by CHRISTOPHE CAIGNAERT.)*

kpfonts (*Pkg*) kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options `uprightRoman` for `\D` only, `classicReIm`, `frenchstyle` for Greek only, `upright` for Greek only, `uprightgreeks`, `slantedGreeks`, and `mathcalasscript`.

The dedicated macros for Greek work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts}[2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\LWRorigmathscr\mathscr}
13 \CustomizeMathJax{\let\LWRorigmathcal\mathcal}
14 \CustomizeMathJax{\let\mathscr\LWRorigmathcal}
15 \CustomizeMathJax{\let\mathcal\LWRorigmathscr}
16 \fi
17
18 \ifkp@upgrk % lowercase
19 \LWR@mathjax@addgreek@l@up{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \else
22 \LWR@mathjax@addgreek@l@up{other}{}
23 \fi

```

```

24
25 \ifkp@slGrk
26 \LWR@mathjax@addgreek@u@it*{}{}
27 \LWR@mathjax@addgreek@u@up*{other}{}
28 \LWR@mathjax@addgreek@u@up*{var}{}
29 \else
30 \LWR@mathjax@addgreek@u@it*{other}{}
31 \LWR@mathjax@addgreek@u@it*{var}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up*{}{up}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it*{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialsl}{\mathord{\unicode{x1D715}}}}
41 \CustomizeMathJax{\let\partialup\upartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50 \ifkp@upRm%
51 \CustomizeMathJax{
52 \def\D#1{\mathclose{\, \mathrm{d}}#1}
53 }
54 \else
55 \CustomizeMathJax{
56 \def\D#1{\mathclose{\, \mathit{d}}#1}
57 }
58 \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}

```


---

File 245 **lwarp-kpfonts-otf.sty**

§ 357 Package **kpfonts-otf**


*(Emulates or patches code by DANIEL FLIPO.)*

kpfonts-otf (*Pkg*) kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for unicode-math, which is loaded by kpfonts-otf.

The unicode-math dedicated macros for Greek work correctly.

 `\mathversion` The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

svg math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14 \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
21
22 \ifkp@oldReIm
23 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29 \CustomizeMathJax{
30 \def\D#1{\mathclose{\,\mathrm{d}}#1}
31 }
32 \fi
33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrlockwise}{%
41 \mathop{\unicode{x2939}}\!\!\unicode{x0222E}}%
42 }}
43
44 \CustomizeMathJax{\newcommand{\oiintclockwise}{%
45 \mathop{\unicode{x0222F}}\!\!\unicode{x2938}}%
46 }}
47
48 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{%
49 \mathop{\unicode{x2939}}\!\!\unicode{x0222F}}%
50 }}
51
52 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
53 \mathop{\unicode{x0222F}}\!\!\unicode{x2938}}%

```

```

54 }}
55
56 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{%
57 \mathop{\unicode{x2939}\!\!\unicode{x0222F}}%
58 }}
59
60 \CustomizeMathJax{\newcommand{\oiintclockwise}{%
61 \mathop{\unicode{x02230}\!\!\unicode{x2938}}%
62 }}
63
64 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{%
65 \mathop{\unicode{x2939}\!\!\unicode{x02230}}%
66 }}
67
68 \CustomizeMathJax{\newcommand{\varoiintclockwise}{%
69 \mathop{\unicode{x02230}\!\!\unicode{x2938}}%
70 }}
71
72 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{%
73 \mathop{\unicode{x2939}\!\!\unicode{x02230}}%
74 }}
75
76 \CustomizeMathJax{\newcommand{\sqiint}{%
77 \mathop{\unicode{x2A16}\!\!\unicode{x2A16}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\sqiint}{%
81 \mathop{\unicode{x2A16}\!\!\unicode{x2A16}\!\!\unicode{x2A16}}%
82 }}
83
84 \CustomizeMathJax{\let\widearc\overparen}
85 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
86 \CustomizeMathJax{\let\overrightarc\overrightarrow}
87
88 \end{warpMathJax}

```

---

File 246 **lwarp-layaureo.sty**

§ 358 Package **layaureo**

layaureo (*Pkg*) layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

File 247 **lwarp-layout.sty**

§ 359 Package **layout**

layout (*Pkg*) layout is ignored.

**for HTML output:** Discard all options for lwarp-layout:

1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]

2 \NewDocumentCommand{\layout}{s}{}

File 248 **lwarp-layouts.sty**

§ 360 Package **layouts**

layouts (*Pkg*) layouts is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```

2 \newif\ifoddpagelayout
3 \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5 \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7 \drawmarginparstrue
8 \newif\ifdrawparameters
9 \drawparameterstrue
10 \newif\iflistaspara
11 \listasparatrue
12 \newif\ifruninhead
13 \runinheadfalse
14 \newif\ifprintparameters
15 \printparameterstrue
16 \newif\ifdrawdimensions
17 \drawdimensionsfalse
18 \newif\ifprintheadings
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparametertextfont}[1]{}
24 \newcommand{\setvaluestextsize}[1]{}
25 \newcommand{\setlayoutscale}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryhoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
```

```
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}
100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{}
102 \newcommand{\headingdiagram}[1]{}
103 \newcommand{\headingdesign}[1]{}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}

```



```

110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{}
116 \newcommand{\trytopnumber}[1]{}
117 \newcommand{\trybottomnumber}[1]{}
118 \newcommand{\trytopfraction}[1]{}
119 \newcommand{\trytextfraction}[1]{}
120 \newcommand{\trybottomfraction}[1]{}
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}
129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframeLabel}[1]{}

```

---

File 249 **lwarp-leading.sty**

§ 361 Package **leading**

leading (*Pkg*) leading is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]  
2 \newcommand\leading[1]{}

---

File 250 **lwarp-leftidx.sty**

§ 362 Package **leftidx**

*(Emulates or patches code by HARALD HARDERS.)*

leftidx (*Pkg*) leftidx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]  
2 \begin{warpMathJax}  
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}}#1#2#3}  
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^\mathrm{t}}{\!#1}}}  
5 \end{warpMathJax}

---

File 251 **lwarp-letterspace.sty**

§ 363 Package **letterspace**

*(Emulates or patches code by R SCHLICHT.)*

letterspace (*Pkg*) **letterspace** is a subset of microtype, which is pre-loaded by **lwarp**. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for **lwarp-letterspace**:

```
1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]
2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][1]{}
4 \def\textls#1#{}
5 \newcommand*\lsLig[1]{#1}
```

---

File 252 **lwarp-lettrine.sty**

§ 364 Package **lettrine**

*(Emulates or patches code by DANIEL FLIPO.)*

lettrine (*Pkg*) **lettrine** is emulated.

**for HTML output:** Discard all options for **lwarp-lettrine**:

```
1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]
```

The initial letter is in a `<span>` of class `lettrine`, and the following text is in a `<span>` of class `lettrinetext`. `\lettrine [keys] {letter} {additional text}`

```
2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3 \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*\DefaultOptionsFile{\relax}
10 \newcommand*\DefaultLoversize{0}
11 \newcommand*\DefaultLraise{0}
12 \newcommand*\DefaultLhang{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
```

```

22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*\LettrineTextFont{\scshape}
26 \newcommand*\LettrineFontHook{}
27 \newcommand*\LettrineFont[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*\LettrineFontEPS[1]{\includegraphics[height=1.5ex]{#1}}

```

File 253 **lwarp-libertinust1math.sty**

§ 365 Package **libertinust1math**

*(Emulates or patches code by MICHAEL SHARPE.)*

libertinust1math (*Pkg*) **libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors frenchmath for Greek but not Latin characters, and slantedGreek, uprightGreek, and ISO also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

Some of the symbol font macros such as `\mathsfbf` do not use a sans font because MATHJAX does not yet have sans Greek.

svg math honors all font choices, and should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}
4
5
6 \begin{warpMathJax}
7
8 \iflibus@slantedG
9 \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11 \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \iflibus@frenchm
19 \LWR@mathjax@addgreek@l@up{}{}
20 \else
21 \LWR@mathjax@addgreek@l@it{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it{}{it}
25 \LWR@mathjax@addgreek@l@up{}{up}
26 \LWR@mathjax@addgreek@l@up{}{up}
27
28 \CustomizeMathJax{\let\uppartial\partial}% not upright

```

```

29 \CustomizeMathJax{\let\mathsfbf\mathbf}% not sans
30 % \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}% not greek
32 % }}% not sans
33
34 % \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
35 \CustomizeMathJax{\let\mathbfit\boldsymbol}

36 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{\boldsymbol{#1}}}% not sans
37 \CustomizeMathJax{\let\mathsfbfit\mathbfit}% not sans
38 % \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{%
39 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
40 % }}%

```

```

41 \CustomizeMathJax{\let\mathsfit\mathit}% not sans
42 % \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
43 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}% not greek
44 % }}
45
46 \CustomizeMathJax{\let\vectorssym\mathbfit}
47 \CustomizeMathJax{\let\matrixssym\mathbfit}
48 \CustomizeMathJax{\let\ensorsym\mathsfbfit}
49 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
50 \CustomizeMathJax{\let\mathbold\mathbfit}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

51 \CustomizeMathJax{\let\dlb\lBrack}
52 \CustomizeMathJax{\let\drb\rBrack}
53
54 \CustomizeMathJax{\let\sqrtsign\sqrt}
55
56 \CustomizeMathJax{\let\smallintsl\smallint}
57 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
59 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\unicode{x222F}}\limits}}
62
63 \CustomizeMathJax{\let\smallintup\smallint}
64 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
65 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
66 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
67 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
68 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x222F}}\limits}}
69
70 \CustomizeMathJax{\let\intslop\int}
71 \CustomizeMathJax{\newcommand{\iintsllop}{\mathop{\unicode{x222C}}\limits}}
72 \CustomizeMathJax{\newcommand{\iiintsllop}{\mathop{\unicode{x222D}}\limits}}
73 \CustomizeMathJax{\newcommand{\iiiintsllop}{\mathop{\unicode{x2A0C}}\limits}}
74 \CustomizeMathJax{\let\ointsllop\oint}
75 \CustomizeMathJax{\newcommand{\oiintsllop}{\mathop{\unicode{x222F}}\limits}}
76 \CustomizeMathJax{\newcommand{\oiiintsllop}{\mathop{\unicode{x2230}}\limits}}
77
78 \CustomizeMathJax{\let\intupop\int}
79 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\unicode{x222C}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\unicode{x222D}}\limits}}
81 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\unicode{x2A0C}}\limits}}

```

```

82 \CustomizeMathJax{\let\ointupop\oint}
83 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\unicode{x222F}}\limits}}
84 \CustomizeMathJax{\newcommand{\oiiintupop}{\mathop{\unicode{x2230}}\limits}}
85
86 \CustomizeMathJax{\newcommand{\smalliint}{\mathop{\unicode{x222C}}\limits}}
87 \CustomizeMathJax{\newcommand{\smalliiint}{\mathop{\unicode{x222D}}\limits}}
88 \CustomizeMathJax{\newcommand{\smalliiiint}{\mathop{\unicode{x2A0C}}\limits}}
89 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\unicode{x222E}}\limits}}
90 \CustomizeMathJax{\newcommand{\smalloiint}{\mathop{\unicode{x222F}}\limits}}
91
92 \CustomizeMathJax{\let\intop\int}
93 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
94 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
95 \CustomizeMathJax{\newcommand{\iiiintop}{\mathop{\unicode{x2A0C}}\limits}}
96 \CustomizeMathJax{\let\ointop\oint}
97 \CustomizeMathJax{\newcommand{\oiintop}{\mathop{\unicode{x222F}}\limits}}
98 \CustomizeMathJax{\newcommand{\oiiintop}{\mathop{\unicode{x2230}}\limits}}
99
100 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
101
102 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
103 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
104 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}}}
105 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}}}
106 \CustomizeMathJax{\let\prodop\prod}
107 \CustomizeMathJax{\let\coprodop\coprod}
108 \CustomizeMathJax{\let\sumop\sum}
109 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
110 \CustomizeMathJax{\let\bigveeop\bigvee}
111 \CustomizeMathJax{\let\bigcapop\bigcap}
112 \CustomizeMathJax{\let\bigcupop\bigcup}
113 \CustomizeMathJax{\let\xsolop\xsol}
114 \CustomizeMathJax{\let\xbsolop\xbsol}
115 \CustomizeMathJax{\let\bigodotop\bigodot}
116 \CustomizeMathJax{\let\bigoplusop\bigoplus}
117 \CustomizeMathJax{\let\bigotimesop\bigotimes}
118 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
119 \CustomizeMathJax{\let\biguplusop\biguplus}
120 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
121 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
122
123 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
124 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
125 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
126 \CustomizeMathJax{\newcommand{\ocommatoprigh}[1]{\mathord{#1\unicode{x00315}}}}
127 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
128 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
129 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
130 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
131 \CustomizeMathJax{\let\rightarrowaccent\vec}
132
133 \CustomizeMathJax{\newcommand{\leftrightarrowaccent}[1]{\mathord{#1\unicode{x020E1}}}}
134 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
135 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
136 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
137
138 % neutralized:
139 \CustomizeMathJax{\newcommand{\bracedl}{}}
140 \CustomizeMathJax{\newcommand{\bracerd}{}}
141 \CustomizeMathJax{\newcommand{\bracelu}{}}

```

```

142 \CustomizeMathJax{\newcommand{\braceru}{}}
143 \CustomizeMathJax{\newcommand{\braceex}{}}
144 \CustomizeMathJax{\newcommand{\bracemu}{}}
145 \CustomizeMathJax{\newcommand{\bracemd}{}}
146 \CustomizeMathJax{\newcommand{\parenld}{}}
147 \CustomizeMathJax{\newcommand{\parenrd}{}}
148 \CustomizeMathJax{\newcommand{\parenlu}{}}
149 \CustomizeMathJax{\newcommand{\parenru}{}}
150 \CustomizeMathJax{\newcommand{\bracketld}{}}
151 \CustomizeMathJax{\newcommand{\bracketrd}{}}
152 \CustomizeMathJax{\newcommand{\bracketlu}{}}
153 \CustomizeMathJax{\newcommand{\bracketru}{}}
154 \CustomizeMathJax{\newcommand{\bracketex}{}}
155 \CustomizeMathJax{\newcommand{\parenex}{}}
156
157 \CustomizeMathJax{\newcommand{\lhook}{~}}
158 \CustomizeMathJax{\newcommand{\rhook}{~}}
159 \CustomizeMathJax{\newcommand{\relbar}{-}}
160 \CustomizeMathJax{\newcommand{\Relbar}{=}}
161
162 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
163
164 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
165 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
166 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}
167 \CustomizeMathJax{\newcommand{\smbllkcircle}{\mathbin{\unicode{x02022}}}}
168 \CustomizeMathJax{\newcommand{\enleader-twodots}{\mathord{\unicode{x02025}}}}
169 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x02026}}}}
170 \CustomizeMathJax{\newcommand{\matheellipsis}{\mathinner{\unicode{x02026}}}}
171 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x02033}}}}
172 \CustomizeMathJax{\newcommand{\tprime}{\mathord{\unicode{x02034}}}}
173 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x02036}}}}
174 \CustomizeMathJax{\newcommand{\backtprime}{\mathord{\unicode{x02037}}}}
175 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x02038}}}}
176 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x0203C}}}}
177
178 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\unicode{x02043}}}}
179 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x02044}}}}
180 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x02047}}}}
181 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x02050}}}}
182 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x02057}}}}
183 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x020D2}}}}
184 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x020DD}}}}
185 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x020DE}}}}
186 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x020E4}}}}
187 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x02107}}}}
188 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x02129}}}}
189 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x0212B}}}}
190
191 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\unicode{x02142}}}}
192 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\unicode{x02143}}}}
193 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\unicode{x02144}}}}
194 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\unicode{x0214B}}}}
195 \CustomizeMathJax{\newcommand{\increment}{\mathord{\unicode{x02206}}}}
196 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x0220A}}}}
197 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\unicode{x0220C}}}}
198
199 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\unicode{x0220D}}}}
200 \CustomizeMathJax{\newcommand{\QED}{\mathord{\unicode{x0220E}}}}
201 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\unicode{x02218}}}}

```

```

202 \CustomizeMathJax{\newcommand{\vysmblkcrcle}{\mathbin{\unicode{x02219}}}}
203 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x0221F}}}}
204
205 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\unicode{x02237}}}}
206 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\unicode{x02238}}}}
207 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\unicode{x02239}}}}
208 \CustomizeMathJax{\newcommand{\dotsminusdots}{\mathrel{\unicode{x0223A}}}}
209 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\unicode{x0223B}}}}
210 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\unicode{x0223E}}}}
211
212 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
213 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
214 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
215 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
216 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
217 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
218
219 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}
220 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
221 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
222 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
223 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
224
225 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
226 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
227
228 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
229 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
230 \CustomizeMathJax{\newcommand{\circledequal}{\mathbin{\unicode{x0229C}}}}
231
232 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
233 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
234 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
235
236 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
237 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
238 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
239 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
240 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{x1D525}}}}
241 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
242 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\unicode{x029F7}}}}
243
244 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
245 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicode{x022DD}}}}
246 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
247 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicode{x022E1}}}}
248 \CustomizeMathJax{\newcommand{\nqssubseteq}{\mathrel{\unicode{x022E2}}}}
249 \CustomizeMathJax{\newcommand{\nqsupseteq}{\mathrel{\unicode{x022E3}}}}
250 \CustomizeMathJax{\newcommand{\sqsubseteq}{\mathrel{\unicode{x022E4}}}}
251 \CustomizeMathJax{\newcommand{\sqsupseteq}{\mathrel{\unicode{x022E5}}}}
252 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
253 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
254
255 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
256 \CustomizeMathJax{\newcommand{\unicodcdots}{\mathord{\unicode{x022EF}}}}
257 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
258 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
259 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
260 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
261 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}

```

```

262
263 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
264
265 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
266
267 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicode{x02300}}}}
268 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
269 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
270 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicode{x02258}}}}
271 \CustomizeMathJax{\newcommand{\wedseq}{\mathrel{\unicode{x02259}}}}
272 \CustomizeMathJax{\newcommand{\veeeq}{\mathrel{\unicode{x0225A}}}}
273
274 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicode{x0225B}}}}
275 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicode{x0225D}}}}
276 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicode{x0225E}}}}
277 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicode{x0225F}}}}
278 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x02262}}}}
279 \CustomizeMathJax{\newcommand{\Equiv}{\mathrel{\unicode{x02263}}}}
280
281 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicode{x02302}}}}
282
283 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicode{x0266A}}}}
284 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicode{x00B0}}}}
285 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicode{x00A7}}}}
286 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicode{x00B6}}}}
287 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicode{x02713}}}}
288 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicode{x02310}}}}
289
290 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicode{x02423}}}}
291 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\unicode{x025A0}}}}
292 \CustomizeMathJax{\newcommand{\mdlgwhtsquare}{\mathord{\unicode{x025A1}}}}
293
294 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicode{x025B2}}}}
295 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicode{x025B3}}}}
296
297 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicode{x025BC}}}}
298 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicode{x025BD}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
300
301 % bug in print font:
302 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
303
304 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\unicode{x025C7}}}}
305 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
306 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
307 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\unicode{x025CA}}}}
308 \CustomizeMathJax{\newcommand{\mdlgwhtcircle}{\mathbin{\unicode{x025CB}}}}
309 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\unicode{x025CE}}}}
310 \CustomizeMathJax{\newcommand{\mdlgblkcircle}{\mathord{\unicode{x025CF}}}}
311
312 \CustomizeMathJax{\newcommand{\Narrow}{\mathrel{\unicode{x021D6}}}}
313 \CustomizeMathJax{\newcommand{\Narrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
316
317 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
318 \CustomizeMathJax{\newcommand{\smwhtcircle}{\mathord{\unicode{x025E6}}}}
319 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
320 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
321

```



```

322 \CustomizeMathJax{\let\ngets\nleftarrow}
323 \CustomizeMathJax{\let\nsimeq\nsime}
324 \CustomizeMathJax{\let\nle\nleq}
325 \CustomizeMathJax{\let\nge\ngedq}
326
327 \end{warpMathJax}

```

---

File 254 **lwrap-lineno.sty**

§ 366 Package **lineno**

*(Emulates or patches code by STEPHAN I. BÖTTCHER.)*

lineno (*Pkg*) **lineno** is partly emulated, but mostly ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

```

2 \newcommand*\resetlinenumber[1][\@ne]{
3
4 \def\linenumbers{%
5 \ifnextchar[{\resetlinenumber}%
6 {\@ifstar{\resetlinenumber}{}}%
7 }
8
9 \newcommand*\nolinenumbers{}
10
11 \@namedef{linenumbers*}{\par\linenumbers*}
12 \@namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\linelabel\label
35
36 \def\switchlinenumbers{\@ifstar{}{}}
37 \def\setmakelinenumbers#1{\@ifstar{}{}}
38
39 \def\leftlinenumbers{\@ifstar{}{}}
40 \def\rightlinenumbers{\@ifstar{}{}}
41

```

```
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5
53 \modulolinenumbers[1]
54
55 \newcommand*\firstlinenumber[1]{}
56
57 \newcommand\internallinenumbers{}
58 \let\endinternallinenumbers\endlinenumbers
59 \@namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*\linenoplaceholder[1]{% redefine per language
63 (line number reference for \detokenize\expandafter{#1})
64 }
65
66 \newcommand*\lineref}[2][\linenoplaceholder{#2}]
67 \newcommand*\linerefp}[2][\linenoplaceholder{#2}]
68 \newcommand*\linerefr}[2][\linenoplaceholder{#2}]
69
70 \newcommand\quotelinenumbers
71 {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinenumbersep
76
77 \quotelinenumbersep=\linenumbersep
78 \let\quotelinenumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumber{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
97 \newenvironment{numquote} {\quote}{\endquote}
98 \newenvironment{numquotation} {\quotation}{\endquotation}
99 \newenvironment{numquote*} {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
```

```

102 \newdimen\bframerule
103 \bframerule=\fboxrule
104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
107
108 \newenvironment{bframe}
109 {%
110 \LWR@forceminwidth{\bframerule}%
111 \BlockClass[
112 border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113 padding:\LWR@printlength{\bframesep}%
114]{bframe}
115 }
116 {\endBlockClass}

```

---

File 255 **lwarp-lips.sty**

§ 367 Package **lips**

*(Emulates or patches code by MATT SWIFT.)*

lips (*Pkg*) **lips** is emulated.

```

1 % \LWR@ProvidesPackageDrop{lips}
2 \LWR@ProvidesPackageDrop{lips}[2001/08/31]
3
4 \NewDocumentCommand{\Lips}{}{\textellipsis}
5
6 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
7
8 \let\lips\Lips
9 \let\olips\lips
10
11 \DeclareOption*{}
12 \DeclareOption{mla}{
13 \let\lips\BracketedLips
14 }
15 \ProcessOptions\relax
16
17 \newcommand \LPNobreakList {}

```

---

File 256 **lwarp-lipsum.sty**

§ 368 Package **lipsum**

*(Emulates or patches code by PATRICK HAPPEL.)*

lipsum (*Pkg*) **lipsum** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lipsum}[2021-09-20]
2 \ExplSyntaxOn
3 \xapptocmd{__lipsum_do:nnnn}

```

```

4 {\warpHTMLonly{\LWR@closeparagraph\leavevmode\LWR@orignewline}}
5 {}
6 {\LWR@patcherror{lipsum}{lipsum_do:nnnn}}
7 \ExplSyntaxOff

```

---

File 257 **lwarp-listings.sty**

§ 369 Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

`listings` (*Pkg*) `listings` is supported with some limitations. Text formatting and escape characters are not yet supported.

```
1 \LWR@ProvidesPackagePass{listings}[2024/09/23]
```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```
2 \lst@column@flexible
```

Patches to embed listings inside pre tags:

```

3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlsthkEveryPar\lsthk@EveryPar
7
8 \renewcommand{\@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{lol}{#1}{#2}}

```

`\lstset`

`{<options>}`

Use the `listings` `literate` option to replace HTML entities:

```

9 \def\lstset@#1{\endgroup%
10 % \ifx\@empty#1%
11 % \@empty%
12 % \else%
13 % \setkeys{lst}{%
14 % #1%
15 % ,literate=%
16 % {<}{\HTMLentity{lt}}{4}%
17 % {>}{\HTMLentity{gt}}{4}%
18 % {'}{\HTMLentity{apos}}{6}%
19 % {`}{\HTMLentity{grave}}{7}%

```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to `&amp;`; elsewhere. Sanitizing the double quote interferes with `listings`' conversion of visible spaces inside strings.

```

20 % }%
21 % \fi%
22 }

```

`\lst@Init`

`{<backslash-processing>}` Done at the start of a listing.

```
23 \VerifyCommand[lwarp][listings]{\lst@Init}{A4D103298A6AC8230F525C61F1E1E541}
```

24

```
25 \renewcommand{\lst@Init}[1]{%
```

Perform the listings initialization:

```
26 \LWR@traceinfo{\lst@Init}% lwarp
```

\LWR@forcenewpage is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```
27 \lst@ifdisplaystyle% lwarp
```

```
28 \LWR@forcenewpage% lwarp
```

```
29 \fi% lwarp
```

Escapes do not work yet, and are disabled:

```
30 \let\lst@ifmathescape\iffalse% lwarp
```

```
31 \let\lst@DefEsc\relax% lwarp
```

```
32 \def\lst@escapebegin{ }% lwarp
```

```
33 \def\lst@escapeend{ }% lwarp
```

```
34 \renewcommand*{\@capttype}{\lstlisting}% lwarp
```

```
35 \let\lst@aboveskip\z\let\lst@belowskip\z% lwarp
```

```
36 \gdef\lst@boxpos{t}% lwarp
```

```
37 \let\lst@frame\empty% lwarp
```

```
38 \let\lst@frametshape\empty% lwarp
```

```
39 \let\lst@framershape\empty% lwarp
```

```
40 \let\lst@framebshape\empty% lwarp
```

```
41 \let\lst@framelshape\empty% lwarp
```

```
42 \lstframe@\lst@frameround ffff\relax% lwarp
```

```
43 \lst@multicols\empty% lwarp
```

```
44 \beginngroup%
```

Inside the listing, temporarily prevent underfull \hbox warnings.

```
45 \hbadness=10000\relax%
```

```
46 \ifx\lst@float\relax\else%
```

```
47 \edef\@tempa{\noexpand\lst@beginfloat{\lstlisting}[\lst@float]]%
```

```
48 \expandafter\@tempa%
```

```
49 \fi%
```

```
50 \ifx\lst@multicols\empty\else%
```

```
51 \edef\lst@next{\noexpand\multicols{\lst@multicols}}%
```

```
52 \expandafter\lst@next%
```

```
53 \fi%
```

```
54 \ifhmode\ifinner \lst@boxtrue \fi\fi%
```

```
55 \lst@ifbox%
```

```
56 \lsthk@BoxUnsafe%
```

```
57 \hbox to\z@\bgroup%
```

```
58 $\if t\lst@boxpos \vtop%
```

```
59 \else \if b\lst@boxpos \vbox%
```

```
60 \else \vcenter \fi\fi%
```

```
61 \bgroup \par\noindent%
```

```
62 \else%
```

```
63 \lst@ifdisplaystyle%
```

```
64 \lst@EveryDisplay%
```

```
65 \par\penalty-50\relax%
```

```
66 \vspace\lst@aboveskip%
```

```
67 \fi%
```

```
68 \fi%
```

```
69 \normalbaselines%
```

```
70 \abovecaptionskip\lst@abovecaption\relax%
```

```
71 \belowcaptionskip\lst@belowcaption\relax%
```

```
72 \lst@MakeCaption t%
```

Use the overall listing label instead of the line number label:

```

73 \LWR@traceinfo{lst@Init: defining current label !\@currentlabel!}%
74 \let\LWR@listings@currentlabel\@currentlabel% lwarp
75 \LWR@traceinfo{lst@Init: defining current label !\cref@currentlabel!}%
76 \let\LWR@listings@cref@currentlabel\cref@currentlabel% lwarp

77 \LWR@traceinfo{lst@Init: preinit and init}%
78 \lsthk@PreInit \lsthk@Init%

79 \let\@currentlabel\LWR@listings@currentlabel% lwarp
80 \let\cref@currentlabel\LWR@listings@cref@currentlabel% lwarp

81 \LWR@traceinfo{lst@Init: M}%
82 \lst@ifdisplaystyle
83 \global\let\lst@ltxlabel\@empty
84 \if@inlabel
85 \lst@ifresetmargins
86 \leavevmode
87 \else
88 \xdef\lst@ltxlabel{\the\everypar}%
89 \lst@AddTo\lst@ltxlabel{%
90 \global\let\lst@ltxlabel\@empty
91 \everypar{\lsthk@EveryLine\lsthk@EveryPar}}%
92 \fi
93 \fi
94 \everypar\expandafter{\lst@ltxlabel
95 \lsthk@EveryLine\lsthk@EveryPar}%
96 \else
97 \everypar{}
98 \let\lst@NewLine\@empty
99 \fi
100 \LWR@traceinfo{lst@Init: P}%
101 \lsthk@InitVars \lsthk@InitVarsBOL
102 \lst@Let{13}\lst@MProcessListing
103 \let\lst@Backslash#1%
104 \lst@EnterMode{\lst@Pmode}{\lst@SelectCharTable}%
105 \lst@InitFinalize%
106 \LWR@traceinfo{lst@Init: S}%

```

Avoids extra horizontal space:

```

107 \def\lst@frameLr{} lwarp

108 \LWR@traceinfo{lst@Init: finished origlst@Init}%
109 \lst@ifdisplaystyle% lwarp

```

Creating a display.

Disable line numbers, produce the <pre>, then reenables line numbers.

```

110 \LWR@traceinfo{lst@Init: About to create verbatim.}% lwarp
111 \let\lsthk@EveryPar\relax% lwarp

112 \LWR@atbeginverbatim{programlisting}% lwarp
113
114 \let\lsthk@EveryPar\LWR@origlsthkEveryPar% lwarp
115 \else% lwarp

```

Inline, so open a <span>:

```

116 \ifbool{LWR@verbtags}{\LWR@htmltag% lwarp
117 span class=\textquotedbl{}inlineprogramlisting\textquotedbl% lwarp
118 }}{}% lwarp

```

```

119 \fi% lwarp
120 \LWR@traceinfo{lst@Init: done}%
121 }
122 \def\LWR@listings@synaxdollear{$}% lwarp editor syntax highlighting

```

\lst@DeInit

Done at the end of a listing.

```

123 %\renewcommand*\lst@DeInit}{%
124 \xpretocmd{\lst@DeInit}
125 {%
126 \LWR@traceinfo{lst@DeInit}%
127 \lst@ifdisplaystyle%

```

Creating a display.

Disable line numbers, produce the `</pre>`, then reenable line numbers:

```

128 \let\lsthk@EveryPar\relax%
129 \LWR@afterendverbatim%
130 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
131 \else%

```

Inline, so create the closing `</span>`:

```

132 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}}%
133 \fi%
134 }
135 {}
136 {\LWR@patcherror{listings}{lst@DeInit}}

```

\lst@MakeCaption

*{/t/b}*

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```

137 \VerifyCommand[lwarp][listings]{\lst@MakeCaption}
138 {2B8D898FA33039FBAB7D1772D544153D}
139
140 \def\lst@MakeCaption#1{%
141 \LWR@traceinfo{lst@MakeCaption at #1}%
142 \lst@ifdisplaystyle
143 \LWR@traceinfo{lst@MakeCaption: making a listings display caption}%
144 \ifx #1t%
145 % \allowbreak
146 \ifx\lst@caption\@empty\expandafter\lst@HRefStepCounter \else
147 \expandafter\refstepcounter
148 \fi {lstlisting}%
149 % \LWR@traceinfo{About to assign label: !\lst@label!}%
150 % \ifx\lst@label\@empty\else \label{\lst@label}\fi
151 % \LWR@traceinfo{Finished assigning the label.}%
152 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
153 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
154 \lst@ifno\l\else
155 \ifx\lst@caption\@empty
156 \ifx\lst@caption\@empty
157 \ifx\lst@intname\@empty
158 \else
159 \def\lst@temp{ }%
160 \ifx\lst@intname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```

161 \LWR@traceinfo{lst@MakeCaption: addcontents lst@name: -\lst@name-}%
162 % \addcontentsline{lol}{lstlisting}{\lst@name}
163 \fi
164 \fi
165 \fi
166 \else

```

This would have to be modified for lwarp:

```

167 \LWR@traceinfo{lst@MakeCaption: addcontents lst@@caption: -\lst@@caption-}%
168 \addcontentsline{\ext@lstlisting}{lstlisting}%
169 {\protect\numberline{\the\lstlisting}%
170 {\protect\ignorespaces \LWR@isolate{\lst@@caption} \protect\relax}}%
171 \fi
172 \fi
173 \fi
174 \ifx\lst@caption\@empty\else
175 \LWR@traceinfo{lst@MakeCaption: lst@caption not empty-}%
176 \lst@ifsubstring #1\lst@captionpos
177 {\begingroup
178 \LWR@traceinfo{lst@MakeCaption: at the selected position}%

```

These space and box commands are not needed for HTML output:

```

179 % \let\@vskip\vskip
180 % \def\vskip{\afterassignment\lst@vskip \@tempkipa}%
181 % \def\lst@vskip{\nobreak\@vskip\@tempkipa\nobreak}%
182 % \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
183 % \ifx #1t\allowbreak \fi
184 \ifx\lst@title\@empty

```

New lwarp code to create a caption:

```

185 \LWR@stoppars% lwarp
186 \lst@makecaption\fnum@lstlisting{\ignorespaces \lst@caption}
187 \else

```

New lwarp code to create a title:

```

188 % \lst@maketitle\lst@title % (AS)
189 \LWR@traceinfo{lst@MakeCaption: Making title: \lst@title}%
190 \begin{BlockClass}{lstlistingtitle}% lwarp
191 \lst@maketitle\lst@title% lwarp
192 \end{BlockClass}% lwarp
193 \fi%
194 \LWR@traceinfo{lst@MakeCaption: About to assign label: !\lst@label!}%
195 \ifx\lst@label\@empty\else% lwarp
196 \leavevmode% gets rid of bad space factor error
197 \GetTitleStringExpand{\lst@caption}% lwarp
198 \edef\LWR@lntemp{\GetTitleStringResult}% lwarp
199 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}% lwarp
200 \label{\lst@label}\fi% lwarp
201 \LWR@traceinfo{lst@MakeCaption: Finished assigning the label.}% lwarp

```

Not needed for lwarp:

```

202 % \ifx #1b\allowbreak \fi
203 \endgroup}}}%
204 \fi
205 \LWR@traceinfo{lst@MakeCaption: end of making a listings display caption}%
206 \else
207 \LWR@traceinfo{lst@MakeCaption: INLINE}%
208 \fi
209 \LWR@traceinfo{lst@MakeCaption: done at #1}%

```



```

210 }
211
212 \renewcommand{\lst@maketitle}[1]{%
213 \LWR@isolate{#1}%
214 }%
215

```

**line numbers** Patched to keep left line numbers outside of the left margin, and place right line numbers in a field `\VerbatimHTMLWidth` wide.

```

216 \lst@Key{numbers}{none}{%
217 \let\lst@PlaceNumber\@empty
218 \lstKV@SwitchCases{#1}%
219 {none: \\\%
220 left: \def\lst@PlaceNumber{%

```

For now, `lwarp` places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

221 % \LWR@origllap{
222 \LWR@orignormalfont%
223 \lst@numberstyle{\the\lstnumber}\kern\lst@numbersep%
224 % }
225 }\\%
226 right: \def\lst@PlaceNumber{\LWR@origllap{\LWR@orignormalfont
227 \kern 6in \kern\lst@numbersep
228 \lst@numberstyle{\the\lstnumber}}}%
229 }{\PackageError{lwarp-listings}{Numbers #1 unknown}\@ehc}}

```

---

File 258 **lwarp-listliketab.sty**

§ 370 Package **listliketab**

`listliketab` (*Pkg*) `listliketab` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

```

2 \newcommand*{\storestyleof}[1]{%
3 \newcommand*{\storeliststyle}{%
4 \newenvironment{listliketab}{%

```

---

File 259 **lwarp-lltjext.sty**

§ 371 Package **lltjext**

(*Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.*)

`lltjext` (*Pkg*) `lltjext` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

```

2 \protected\def\yoko{%
3 \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%

```

```

4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pcaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
25 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26 {\endLWR@HTML@sub@minipage}
27
28 \RenewDocumentCommand{LWR@HTML@parbox}{d<> O{t} O{} O{t} m +m}
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox{#2}{#4}%
39 }

```

---

File 260 **lwarp-lltjp-siunitx.sty**

§ 372 Package **lltjp-siunitx**

*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)*

lltjp-siunitx (*Pkg*) **lltjp-siunitx** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{lltjp-siunitx}% 2022-12-14, no date assigned in file

This is the siunitx v3 file, as patched by lltjp-siunitx.

```

2 \ExplSyntaxOn
3
4 \VerifyCommand[lwarp][lltjp-siunitx]{\siunitx_print_text:n}
5 {A248D4314D135CB0AC3E6678F331CFF2}
6
7 \cs_set_protected:Npn \siunitx_print_text:n #1
8 {
9 \text

```

```

10 {
11 \ltj@allalchar % <--- LuaTeX-ja
12 \bool_if:NT \l__siunitx_print_text_family_bool
13 { \fontfamily { \familydefault } }
14 \bool_if:NT \l__siunitx_print_text_series_bool
15 { \fontseries { \seriesdefault } }
16 \bool_if:NT \l__siunitx_print_text_shape_bool
17 { \fontshape { \shapedefault } }
18 \bool_lazy_any:nT% lwarp: factors for a single \selectfont
19 {% lwarp
20 { \l__siunitx_print_text_family_bool }% lwarp
21 { \l__siunitx_print_text_series_bool }% lwarp
22 { \l__siunitx_print_text_shape_bool }% lwarp
23 }% lwarp
24 { \selectfont }% lwarp
25 \tl_use:N \l__siunitx_print_text_font_tl% lwarp
26 \exp_args:NnV \tl_if_head_eq_meaning:nNTF {#1} \l__siunitx_unit_fraction_tl% lwarp
27 {% lwarp
28 __siunitx_print_text_fraction:Nnn #1% lwarp
29 }% lwarp
30 {% lwarp
31 __siunitx_print_text_replace:n {#1}% ORIGINAL
32 }% lwarp
33 }
34 }
35
36 \ExplSyntaxOff

```

---

File 261 **lwarp-lltjp-tascmac.sty**

§ 373 Package **lltjp-tascmac**

lltjp-tascmac (*Pkg*) lltjp-tascmac is a patch for tascmac, and is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lltjp-tascmac}[2020/12/24]

---

File 262 **lwarp-longtable.sty**

§ 374 Package **longtable**

(Emulates or patches code by DAVID CARLISLE.)

longtable (*Pkg*) longtable is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}[column specifiers]
[...] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[...] \endhead % or \endfirsthead
[...] \endfoot
[<lastfoot macros>] \endlastfoot
}
... table contents ...
\warppHTMLonly{
[<lastfoot macros>] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```

⚠ **Misplaced \noalign** Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced \noalign.” when using `\begin{warpprint}`.

⚠ **\kill** `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} ... \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```

2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}

```

`longtable (env)` \* [*horizontal alignment*] {*colspec*} Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options `[c]`, `[l]`, and `[r]` are ignored.

```

4 \newenvironment{longtable*}[2][]{%
5 \LWR@floatbegin{table}%
6 \ifdef{\setcaptiontype}{% caption package:
7 \setcaptiontype{\LTcaption}%
8 \caption@setoptions{longtable}%
9 \caption@setoptions{@longtable}%
10 \caption@LT@setup%
11 }{% w/o caption package:
12 \renewcommand*{\caption}{\LTcaption}%
13 }%
14 \booltrue{LWR@starredlongtable}%
15 \boolfalse{LWR@longtable@havehead}%
16 \let\captionlistentry\LWR@LTcaptionlistentry%
17 \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20

```

```

21 \newenvironment{longtable}[2][]{%
22 \LWR@floatbegin{table}%
23 \ifdef{\setcaptiontype}{% caption package:
24 \setcaptiontype{\LTcapttype}%
25 \caption@setoptions{longtable}%
26 \caption@setoptions{@longtable}%
27 \caption@LT@setup%
28 }{% w/o caption package:
29 \renewcommand*{\@capttype}{\LTcapttype}%
30 }%
31 \refstepcounter{\LTcapttype}%
32 \boolfalse{LWR@longtable@havehead}%
33 \let\captionlistentry\LWR@LTcaptionlistentry%
34 \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}

```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in \warpprintonly:

```

38 \newcommand*{\LWR@longtable@headerror}{%
39 \PackageError{lwarp-longtable}
40 {For longtable:\MessageBreak
41 1: Keep either one of an \protect\endhead\space or\MessageBreak
42 \space\protect\endfirsthead\space phrase as-is,\MessageBreak
43 \space to be used by both print and HTML.\MessageBreak
44 2: Place any other \protect\end... phrases inside a\MessageBreak
45 \space\protect\warpprintonly\space macro,
46 to be ignored by HTML.\MessageBreak
47 3: At the end of the table,\MessageBreak
48 \space add a final footer for HTML\MessageBreak
49 \space inside a \protect\warppHTMLonly\space macro.
50 This can be\MessageBreak
51 \space a copy of an \protect\endfoot\space or
52 \protect\endfirstfoot\MessageBreak
53 \space phrase, but without the actual \protect\endfoot\MessageBreak
54 \space or \protect\endfirstfoot\space macros.\MessageBreak
55 \space If using threeparttablex, add\MessageBreak
56 \space \protect\insertTableNotes\space here,
57 optionally with\MessageBreak
58 \space \protect\UseMinipageWidths\space in front.\MessageBreak
59 See the Lwarp documentation regarding\MessageBreak
60 longtables and threeparttablex}
61 {See the Lwarp documentation regading longtables and threeparttablex.}
62 }

```

Error if more than one of \endhead or \endfirsthead is outside of warpprintonly.

```

63 \newcommand*{\LWR@longtable@maybeheaderror}{%
64 \ifbool{LWR@longtable@havehead}%
65 {\LWR@longtable@headerror}%
66 {%
67 \booltrue{LWR@longtable@havehead}
68 \LWR@tabularendofline% throws away options //[dim] and //*
69 }%

```

```
70 }
```

Error if more than one of these is outside of warpprint.

```
71 \def\endhead{\LWR@longtable@maybeheaderror}
72 \def\endfirsthead{\LWR@longtable@maybeheaderror}
```

Error if ANY of these is outside of warpprint.

```
73 \def\endfoot{\LWR@longtable@headerror}
74 \def\endlastfoot{\LWR@longtable@headerror}
```

```
75 \let\tabularnewline\
76 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
77 \LWR@formatted{tabularnewline}
```

```
78 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
79 \newlength{\LTleft}
80 \newlength{\LTright}
81 \newlength{\LTpre}
82 \newlength{\LTpost}
83 \newlength{\LTcapwidth}
```

```
84 \LetLtxMacro\LWR@origkill\kill
85 \renewcommand*\kill{\LWR@tabularendofline}
86 \appto\LWR@restoreorigformatting{%
87 \LetLtxMacro\kill\LWR@origkill%
88 }
```

File 263 **lwarp-lpic.sty**

§ 375 Package **lpic**

*(Emulates or patches code by R. MATVEYEV.)*

lpic (*Pkg*) **lpic** is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{lpic}[2010/12/23]
2 \BeforeBeginEnvironment{lpic}{%
3 \begin{lateximage}[-lpic-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{lpic}{\end{lateximage}}
```

File 264 **lwarp-lscape.sty**

§ 376 Package **lscape**

*(Emulates or patches code by D. P. CARLISLE.)*

lscape (*Pkg*) **lscape** is ignored.

**for HTML output:** Discard all options for `lwarp-lscape`.

```
1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]
2 \newenvironment*{landscape}{}{}
```

---

File 265 **lwarp-ltablex.sty**

§ 377 Package **ltablex**

*(Emulates or patches code by ANIL K. GOEL.)*

`ltablex (Pkg)` `ltablex` is emulated by `lwarp`.

**for HTML output:** Relies on `tabularx`.

```
1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*\keepXColumns{}
15 \newcommand*\convertXColumns{}
```

---

File 266 **lwarp-ltcaption.sty**

§ 378 Package **ltcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

`ltcaption (Pkg)` `ltcaption` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]`

`\LTcaptype` is already defined by `lwarp`.

`longtable*` is already defined by `lwarp-longtable`.

```
2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*\LTcapmarginfalse{}
```

---

File 267 **lwarp-ltxgrid.sty**

§ 379 Package **ltxgrid**

`ltxgrid (Pkg)` ltxgrid is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]

2 \newcommand*\onecolumngrid{}
3 \newcommand*\twocolumngrid{}
4 \newcommand*\removestuff{}
5 \newcommand*\addstuff[2]{}
6 \newcommand*\replacestuff[2]{}


```

---

File 268 **lwarp-ltxtable.sty**

§ 380 Package **ltxtable**

`ltxtable (Pkg)` ltxtable is emulated.

 **table numbering** The print version does not seem to honor `longtable*` from the `caption` package, while `lwarp` does.

**for HTML output:**

```

1 \RequirePackage{tabularx,longtable}
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]

```

```

\LTxtable

 {\width} {\file}

3 \newcommand*\LTxtable[2]{%
4 \input{#2}%
5 }

```

---

File 269 **lwarp-lua-check-hyphen.sty**

§ 381 Package **lua-check-hyphen**

`lua-check-hyphen (Pkg)` lua-check-hyphen is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]

2 \newcommand*\LuaCheckHyphen[1]{}

```

---

File 270 **lwarp-lua-visual-debug.sty**

§ 382 Package **lua-visual-debug**

`lua-visual-debug (Pkg)` lua-visual-debug is ignored.



**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]

---

File 271 **lwarp-luacolor.sty**

§ 383 Package **luacolor**

luacolor (*Pkg*) luacolor is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]

2 \newcommand{\luacolorProcessBox}[1]{}

---

File 272 **lwarp-luamplib.sty**

§ 384 Package **luamplib**

(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DOHYUN.)

luamplib (*Pkg*) luamplib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

2 \BeforeBeginEnvironment{mplibcode}{%  
3 \begin{lateximage}[-mplibcode-~\PackageDiagramAltText]?%  
4 }  
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}

---

File 273 **lwarp-luatexko.sty**

§ 385 Package **luatexko**

(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)

luatexko (*Pkg*) luatexko is patched for use by lwarp.

Modern HTML is used for \dotemph, \ruby, and offset and thickness control for \uline, etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatexko}[2021/07/10]

2 \protected\def\typesetvertical{  
3 \protected\def\typesethorizontal{  
4  
5 \def\verticaltypesetting{\BlockClass{verticalrl}}  
6 \def\beginverticaltypesetting{\BlockClass{verticalrl}}  
7 \def\endverticaltypesetting{\endBlockClass}  
8  
9 \protected\def\vertical#1{\BlockClass{verticalrl}}  
10 \protected\def\endvertical{\endBlockClass}  
11 \protected\def\horizontal#1{\BlockClass{horizontalrb}}  
12 \protected\def\endhorizontal{\endBlockClass}  
13 \DeclareDocumentCommand{\vertlatin}{m}{#1}

```

14 \newcommand{\LWR@HTML@dotemph}[1]{%
15 % \uline{#1}%
16 \InlineClass[text-emphasis-style: dot]{dotemph}{#1}%
17 }
18 \LWR@formatted{dotemph}

```

```

19 \newcommand{\LWR@HTML@ruby}[2]{%
20 \LWR@htmltagc{ruby}%
21 #1%
22 \LWR@htmltagc{rp}{\LWR@htmltagc{/rp}%
23 \LWR@htmltagc{rt}#2\LWR@htmltagc{/rt}%
24 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}%
25 \LWR@htmltagc{/ruby}%
26 }
27 \LWR@formatted{ruby}

```

The following is modified from lwarp-ulem:

```

28 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
29 \InlineClass%
30 (text-decoration:underline; text-decoration-skip: auto)%
31 [%
32 text-underline-offset: \ulinedown ;
33 text-decoration-thickness: \ulinewidth%
34]%
35 {uline}{\LWR@isolate{#1}}%
36 }
37 \LWR@formatted{uline}
38
39 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
40 \InlineClass%
41 (%
42 text-decoration:underline; text-decoration-skip: auto;%
43 text-decoration-style:double%
44)%
45 [%
46 text-underline-offset: \ulinedown ;
47 text-decoration-thickness: \ulinewidth%
48]%
49 {uuline}{\LWR@isolate{#1}}%
50 }
51 \LWR@formatted{uuline}
52
53 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
54 \InlineClass%
55 (%
56 text-decoration:underline; text-decoration-skip: auto;%
57 text-decoration-style:wavy%
58)%
59 [%
60 text-underline-offset: \ulinedown ;
61 text-decoration-thickness: \ulinewidth%
62]%
63 {uwave}{\LWR@isolate{#1}}%
64 }
65 \LWR@formatted{uwave}
66
67 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
68 \InlineClass%

```

```

69 (text-decoration:line-through)%
70 [text-decoration-thickness: \ulinewidth]%
71 {sout}{\LWR@isolate{#1}}%
72 }
73 \LWR@formatted{sout}
74
75 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
76 \InlineClass%
77 (text-decoration:line-through)%
78 [text-decoration-thickness: \ulinewidth]%
79 {xout}{\LWR@isolate{#1}}%
80 }
81 \LWR@formatted{xout}
82
83 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
84 \InlineClass%
85 (%
86 text-decoration:underline;%
87 text-decoration-skip: auto;%
88 text-decoration-style:dashed%
89)%
90 [%
91 text-underline-offset: \linedown ;
92 text-decoration-thickness: \ulinewidth%
93]%
94 {dashuline}{\LWR@isolate{#1}}%
95 }
96 \LWR@formatted{dashuline}
97
98 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
99 \InlineClass%
100 (%
101 text-decoration:underline;%
102 text-decoration-skip: auto;%
103 text-decoration-style: dotted%
104)%
105 [%
106 text-underline-offset: \linedown ;
107 text-decoration-thickness: \ulinewidth%
108]%
109 {dotuline}{\LWR@isolate{#1}}%
110 }
111 \LWR@formatted{dotuline}

```

---

File 274 **lwarp-luatodonotes.sty**

§ 386 Package **luatodonotes**

*(Emulates or patches code by FABIAN LIPP.)*

luatodonotes (*Pkg*) luatodonotes is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse

3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{tdo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{\ldo}{#1}{#2}}

9 \let\LWRTODONOTES@orig@todototoc\todototoc
10
11 \renewcommand*\l@todototoc{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todototoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19 {\@todonotes@currentbordercolor}
20 {\@todonotes@currentbackgroundcolor}
21 {\arabic{\@todonotes@numberoftodonotes}}
22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%
27 {\@todonotes@currentbordercolor}%
28 {\@todonotes@currentbackgroundcolor}%
29 {%
30 \if@todonotes@authorgiven%
31 {\@todonotes@author:\,}%
32 \fi%
33 \@todonotes@text%
34 }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38 \if@todonotes@authorgiven%
39 \@todonotes@author\par%
40 \fi%
41 \arabic{\@todonotes@numberoftodonotes}: %
42 \fcolorbox%
43 {\@todonotes@currentbordercolor}%
44 {\@todonotes@currentbackgroundcolor}%
45 {%
46 \@todonotes@sizecommand%
47 \@todonotes@text %
48 }%
49 }%
50
51 \renewcommand{\missingfigure}[2][[]]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{\todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55 {\@todonotes@currentbordercolor}%
56 {\@todonotes@currentfigcolor}%

```

---

```

57 {%
58 \setlength{\fboxrule}{4pt}%
59 \fcolorbox{red}{white}{Missing figure} \quad #2%
60 }
61 }
62
63 \LetLtxMacro\LWRTODONOTES@orig@todocommon\@todocommon
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@orig@todocommon{#1}{#2}%
69 \endgroup%
70 }
71
72 \VerifyCommand[lwarp][\uatodonotes]{\@todoarea}
73 {3D40C9C729633DA7BB80F7A27E7C2694}
74
75 \renewcommand{\@todoarea}[3][]{%
76 \@todonotes@areaselectedtrue%
77 \@todocommon{#1}{#2}%
78 \@todonotes@textmark@highlight{#3}%
79 \zref@label{\@todonotes@arabic{\@todonotes@numberoftodonotes}@end}%
80 }%
81
82
83 \DeclareDocumentCommand{\@todonotes@textmark@highlight}{m}{%
84 \InlineClass[background:\LWR@origpound{ }B3FFB3]{highlight}{#1}%
85 }
86
87 \fi% \if@todonotes@disabled

```

---

File 275 **lwarp-luavlna.sty**

§ 387 Package **luavlna**

*(Emulates or patches code by MICHAL HOFTICH, MIRO HRONČOK.)*

luavlna (*Pkg*) luavlna is patched for use by lwarp.

The package is disabled for HTML output, due to incompatibilities with lwarp's handling of math SVG images.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luavlna}[2019/10/30]

2 \preventsingloff

3 \LetLtxMacro\preventsingleon\preventsingloff

---

File 276 **lwarp-lyluatex.sty**

§ 388 Package **lyluatex**

*(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)*

lyluatex (*Pkg*) lyluatex is patched for use by lwarp.

For the first compile, to set *lwarpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

⚠ **images** After compiling the document with **lwarpmk html**, use **lwarpmk images** to convert the Lilypond images for HTML.

**CSS** The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.

⚠ **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

⚠ **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```
\usepackage{kvoptions-patch}
\usepackage[... ,line-width=0.8\linewidth,...]{lyluatex}
```

⚠ **raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to `svg`:

```
Enter ⇒ lwarpmk pdftosvg tmp-ly/*.pdf
```

**for HTML output:**

```
1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2023/04/18]
```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond-~\PackageDiagramAltText}
```

`\ly@compilescore`

```
{\Lilypond object}}
```

```
5 \VerifyCommand[lwarp][lyluatex]{\ly@compilescore}
6 {31A1EF1F24F22143AFD302A7C6AD29E6}
7
8 \renewcommand*{\ly@compilescore}[1]{%
```

A local group holds a number of changes:

```
9 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
10 \LWR@maybe@orignewpage%
11 \LWR@origloadgeometry{LWR@usergeometry}%
12 \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by *lyluatex.lua* to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `<span>` of class `lyluatex`.

`\LWR@addbaseline` preserves the left margins.

```
13 \renewcommand{\includegraphics}[2][]{%
```

```

14 \InlineClass{lyluatex}{%
15 \begin{lateximage}[\LyLuatexImageAltText]?%
16 \LWR@addbaselinemarker%
17 \LWR@originincludegraphics{##2}%
18 \end{lateximage}%
19 }%
20 }%

```

From the original:

```

21 \ly@setunits%
22 \setluaoption{ly}{currfiledir}{\currfiledir}
23 \setluaoption{ly}{twoside}{\ly@istwosided}
24 \directlua{
25 #1
26 ly.newpage_if_fullpage()
27 }%
28 \ly@resetunits%
29 \ly@currentfonts%

```

The fullpage version is set inside an HTML <div>:

```

30 \directlua{
31 if (ly.score.insert == 'fullpage') then
32 tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
33 end
34 }%

```

Generate the score:

```

35 \directlua{ly.score:process()}%

```

Close the <div>:

```

36 \directlua{
37 if (ly.score.insert == 'fullpage') then
38 tex.print{[[\string\end{BlockClass}]]}
39 end
40 }%

```

Move to a new page and renew the regular page geometry:

```

41 \LWR@maybe@orignewpage%
42 \LWR@origrestoregeometry%

```

End of the local group.

```

43 \endgroup%
44 }

```

In HTML the following generates an error, so is removed:

```

45 \VerifyCommand[lwarp][lyluatex]{\endly@bufferenv}
46 {9B3BA3FC990E03634B57041666E0048D}
47
48 \xpatchcmd{\endly@bufferenv}
49 {\hspace{0pt}\}
50 {}
51 {}
52 {\LWR@patcherror{lyluatex}{\endly@bufferenv}}

```

File 277 **lwarp-magaz.sty**

§ 389 Package **magaz**

magaz (*Pkg*) magaz is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```

2 \newcommand\FirstLine[1]{%
3 \begingroup%
4 \FirstLineFont{%
5 \LWR@textcurrentcolor{%
6 \LWR@textcurrentfont{%
7 #1%
8 }%
9 }%
10 }%
11 \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}

```

File 278 **lwarp-makeidx.sty**

§ 390 Package **makeidx**

*(Emulates or patches code by L<sup>A</sup>T<sub>E</sub>X PROJECT TEAM.)*

makeidx (*Pkg*) makeidx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the lwarp core.

\printindex

```

2 \preto\printindex{%
3 \LWR@maybe@orignewpage%
4 \LWR@startpars%
5 }

```

File 279 **lwarp-manyfoot.sty**

§ 391 Package **manyfoot**

manyfoot (*Pkg*) manyfoot is emulated.

**bigfoot**, **manyfoot** Verbatim footnotes are not yet supported.

 **verbatim**



If using the **bigfoot** package, and possibly also **manyfoot**, problems may occur with counter allocation because **lwarp** uses many counters, and there is a difference in how counters numbered 256 and up are handled in PDF L<sup>A</sup>T<sub>E</sub>X. With **bigfoot** this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as an input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining **bigfoot** or **manyfoot** footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X instead of PDF L<sup>A</sup>T<sub>E</sub>X.

**lwarp**'s emulation of **bigfoot** uses **manyfoot**, so some of the **bigfoot** enhancements are included here.

The **bigfoot** "default" footnote is ignored, using the **lwarp** version instead.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]
2 \RequirePackage{nccfoots}
3
4 \newcommand{\extrafootnoterule}{}
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*\SelectFootnoteRule[2][0]{}
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}
16
17 \newcommand*\ExtraParaSkip[1]{}
18
19 \newcommand*\newfootnote[2][plain]{%
20 \ifstrequal{#2}{default}{}{ % not "default"
21 \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22 \appto{\LWR@printpendingfootnotes}{%
23 \LWR@@printpendingfootnotes{footnote#2}%
24 }
25 \long\csdef{Footnotetext#2}##1##2{%
26 \NCC@makefnmark{##1}%
27 \LWR@footnotetext{##2}{LWR@footnote#2box}%
28 }%
29 \long\csdef{Footnotetext#2+}##1##2{%
30 \NCC@makefnmark{##1}%
31 \LWR@footnotetext{##2}{LWR@footnote#2box}%
32 }%
33 } % not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*\DeclareNewFootnote[2][plain]{%
38 \@ifnextchar[%
39 {\LWR@manyfoot@declare{#1}{#2}}%
40 {\LWR@manyfoot@declare{#1}{#2}[arabic]}%

```

```

41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstrequal{#2}{default}}{% not "default"
45 \newfootnote[#1]{#2}%
46 \newcounter{footnote#2}%
47 \newcounter{footnote#2Reset}%
48 \setcounter{footnote#2Reset}{0}%
49 \csdef{thefootnote#2}{%
50 \expandafter\noexpand\csname @#3\endcsname%
51 \expandafter\noexpand\csname c@footnote#2\endcsname%
52 }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54 \stepcounter{footnote#2}%
55 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56 \@footnotemark%
57 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%
60 \stepcounter{footnote#2}%
61 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62 \@footnotemark%
63 }%
64 \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66 \csuse{Footnotetext#2}{\@thefnmark}% absorbs the footnote contents
67 }%
68 \csdef{Footnotemark#2}{%
69 \Footnotemark%
70 }%
71 \csdef{Footnote#2}##1{%
72 \Footnotemark{##1}%
73 \csuse{Footnotetext#2}{##1}%
74 }%
75 }% not "default"
76 }
77 \@onlypreamble\DeclareNewFootnote

```

---

File 280 **lwarp-marginal.sty**

§ 392 Package **marginal**

`marginal (Pkg)` `marginal` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}
3 \newcommand*{\enlargefreelist}{}
4 \newcommand*{\onesidemarginals}{}

```

---

 File 281 **lwarp-marginfit.sty**

 § 393 Package **marginfit**

`marginfit (Pkg)` `marginfit` is ignored.

**for HTML output:** Discard all options for `lwarp-marginfit`:

```
1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]
```

---

 File 282 **lwarp-marginfix.sty**

 § 394 Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

`marginfix (Pkg)` `marginfix` is ignored.

**for HTML output:** Discard all options for `lwarp-marginfix`:

```
1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]
```

```
2 \newcommand*\marginhskip[1]{}
3 \newcommand*\clearmargin{}
4 \newcommand*\softclearmargin{}
5 \newcommand*\extendmargin[1]{}
6 \newcommand*\mparshift[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*\blockmargin[1][1]{}
10 \newcommand*\unblockmargin[1][1]{}
11 \newcommand*\marginphantom[2][1]{}

```

---

 File 283 **lwarp-marginnote.sty**

 § 395 Package **marginnote**

*(Emulates or patches code by MARKUS KOHM.)*

`marginnote (Pkg)` `marginnote` is emulated.

**for HTML output:** Discard all options for `lwarp-marginnote`:

```
1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]
```

```
2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}
```

```
3 \newcommand*\marginnoteleftadjust{}
4 \newcommand*\marginnoterightadjust{}
5 \newcommand*\marginnotetextwidth{}

```

```

6 \let\marginnotetextwidth\textwidth
7 \newcommand*\marginnotevadjust{}
8 \newcommand*\marginfont{}
9 \newcommand*\raggedleftmarginnote{}
10 \newcommand*\raggedrightmarginnote{}

11 \appto\LWR@restoreorigformatting{%
12 \RenewDocumentCommand{\marginnote}{+o +m o}{}
13 }

```

For MATHJAX:

```

14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][{}]}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][]{\qqquad\small\textrm{#2}}\LWRmarginnote}}
17 \end{warpMathJax}

```

---

File 284 **lwarp-marvosym.sty**

§ 396 Package **marvosym**

*(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)*

marvosym (*Pkg*) marvosym is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:** 1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]

```

2 \renewcommand{\mvchr}[1]{%
3 \begin{lateximage}*[symbol #1]?[marvosym #1]%
4 \mvs\char#1%
5 \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9 \begin{lateximage}%
10 \mvs #1%
11 \end{lateximage}%
12 }

```


---

File 285 **lwarp-mathalpha.sty**

§ 397 Package **mathalpha**

*(Emulates or patches code by MICHAEL SHARPE.)*

mathalpha (*Pkg*) mathalpha is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, and some bold fonts may not be not supported by MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathalpha}[2021/11/18]

```

2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbfb{#1}}{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbfc{#1}}{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbfr{#1}}{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbfs{#1}}{\boldsymbol{\mathscr{#1}}}}% not bold
8
9 \IfPackageLoadedWithOptionsTF{mathalpha}{oldbold}
10 {
11 \CustomizeMathJax{\newcommand{\mathbbb{#1}}{\boldsymbol{\mathbb{#1}}}}% not bold
12 \CustomizeMathJax{\newcommand{\mathbcal{#1}}{\boldsymbol{\mathcal{#1}}}}
13 \CustomizeMathJax{\newcommand{\mathbfrac{#1}}{\boldsymbol{\mathfrak{#1}}}}
14 \CustomizeMathJax{\newcommand{\mathbscr{#1}}{\boldsymbol{\mathscr{#1}}}}% not bold
15 }{}
16 \end{warpMathJax}

```

---

File 286 **lwarp-mathastext.sty**

§ 398 Package **mathastext**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

`mathastext` (*Pkg*) `mathastext` is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \ifmst@itgreek
6 % \LWR@mathjax@addgreek@l@it{}{}
7 \else
8 \ifmst@upgreek
9 \LWR@mathjax@addgreek@l@up{}{}
10 \else
11 \ifmst@frenchmath
12 \LWR@mathjax@addgreek@l@up{}{}
13 \else
14 \ifmst@italic
15 % \LWR@mathjax@addgreek@l@it{}{}
16 \else
17 \LWR@mathjax@addgreek@l@up{}{}
18 \fi
19 \fi
20 \fi
21 \fi
22
23 \ifcase\mst@greek@select
24 \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 % \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{#1}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{#1}}
32 \CustomizeMathJax{\let\fouriervec\vec}

```

```

33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\infitypsy}{\mathord{\unicode{x221E}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\unicode{x221D}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}
41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\unicode{x2234}}}}
45 \end{warpMathJax}

```

---

File 287 **lwarp-mathcomp.sty**

§ 399 Package **mathcomp**

(Emulates or patches code by TILMANN BÖß.)

mathcomp (*Pkg*) mathcomp is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
4 \CustomizeMathJax{\newcommand{\tcelsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\unicode{x00B5}}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\unicode{x2030}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcdegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}

```


---

File 288 **lwarp-mathdesign.sty**

§ 400 Package **mathdesign**

(Emulates or patches code by PAUL PICHAREAU.)

mathdesign (*Pkg*) mathdesign is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3

```

```

4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}

```

Default greek upright or italicized:

```

8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi

```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}

```

Italicized:

```

18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}

```

Adapt to mathdesign inconsistency:

```

20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}

```

Extra symbols:

```

22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}

```

Integrals:

```

27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}

```

Math and text mode:

```

32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}

```

Extra symbols:

```

37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}

```

```

38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwave}{\left\{}}
42 \CustomizeMathJax{\newcommand{\rightwave}{\right\}}}
43
44 \end{warpMathJax}

```

---

File 289 **lwarp-mathdots.sty**

§ 401 Package **mathdots**

*(Emulates or patches code by DAN LUECKING.)*

`mathdots` (*Pkg*) `mathdots` is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originaldddot\dddot}
11 \CustomizeMathJax{\let\originaldddotted\dddotted}
12 \end{warpMathJax}

```

---

File 290 **lwarp-mathfixs.sty**

§ 402 Package **mathfixs**

*(Emulates or patches code by NIKLAS BEISERT.)*

`mathfixs` (*Pkg*) `mathfixs` is used as-is for SVG math, and is emulated for MATHJAX.



Greek letters are unchanged.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\frac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{{}^{\#1}\!/_{-}\#2}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{}}
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,}}
8 \end{warpMathJax}

```




---

File 291 **lwarp-mathpazo.sty**

§ 403 Package **mathpazo**

*(Emulates or patches code by WALTER SCHMIDT.)*

mathpazo (*Pkg*) mathpazo is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}

```


---

File 292 **lwarp-mathptmx.sty**

§ 404 Package **mathptmx**

*(Emulates or patches code by WALTER SCHMIDT.)*

mathptmx (*Pkg*) mathptmx is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}

```

```

6
7 \IfPackageLoadedWithOptionsTF{mathptmx}{slantedGreek}
8 {\LWR@mathjax@addgreek@u@it*}{}}
9 {}
10
11 \LWR@mathjax@addgreek@u@up*{up}{}}
12 \end{warpMathJax}

```


---

File 293 **lwarp-mathspect.sty**

§ 405 Package **mathspec**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

mathspec (*Pkg*) mathspec is used as-is with SVG math, and is emulated for MATHJAX.

 **quotes** Double quotes (" and the " character) are removed during MATHJAX emulation, but this also includes inside \text.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

Neutralize double quotes (" and \"):

```
5 \booltrue{LWR@MathJax@silentquotes}
```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@@value %% If Greek Uppercase Regular
8 \LWR@mathjax@addgreek@u@up*}{}}
9 \or %% If Greek Uppercase Italic
10 \LWR@mathjax@addgreek@u@it*}{}}
11 \or %% If Greek Uppercase Plain
12 \LWR@mathjax@addgreek@u@up*}{}}
13 \fi
14 \ifcase\eu@GreekLowercase@@value %% If Greek Lowercase Regular
15 \LWR@mathjax@addgreek@l@up{}}}}
16 \or %% If Greek Lowercase Italic
17 \LWR@mathjax@addgreek@l@it{}}}}
18 \or %% If Greek Lowercase Plain
19 \LWR@mathjax@addgreek@l@it{}}}}
20 \fi
21 }

```

Swap definitions according the mathspec conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24 \eu@ifbooltrue{exchangebetaforms}{
25 \CustomizeMathJax{\let\LWRorigbeta\beta}
26 \CustomizeMathJax{\let\beta\varbeta}
27 \CustomizeMathJax{\let\varbeta\LWRorigbeta}

```

```

28 }
29 \eu@ifbooltrue{exchangeepsilonforms}{
30 \CustomizeMathJax{\let\LWRorigepsilon\epsilon}
31 \CustomizeMathJax{\let\epsilon\varepsilon}
32 \CustomizeMathJax{\let\varepsilon\LWRorigepsilon}
33 }
34 \eu@ifbooltrue{exchangethetaforms}{
35 \CustomizeMathJax{\let\LWRorigtheta\theta}
36 \CustomizeMathJax{\let\theta\vartheta}
37 \CustomizeMathJax{\let\vartheta\LWRorigtheta}
38 }
39 \eu@ifbooltrue{exchangekappaforms}{
40 \CustomizeMathJax{\let\LWRorigkappa\kappa}
41 \CustomizeMathJax{\let\kappa\varkappa}
42 \CustomizeMathJax{\let\varkappa\LWRorigkappa}
43 }
44 \eu@ifbooltrue{exchangepiforms}{
45 \CustomizeMathJax{\let\LWRorigpi\pi}
46 \CustomizeMathJax{\let\pi\varpi}
47 \CustomizeMathJax{\let\varpi\LWRorigpi}
48 }
49 \eu@ifbooltrue{exchangerhoforms}{
50 \CustomizeMathJax{\let\LWRorigrho\rho}
51 \CustomizeMathJax{\let\rho\varrho}
52 \CustomizeMathJax{\let\varrho\LWRorigrho}
53 }
54 \eu@ifbooltrue{exchangephiforms}{
55 \CustomizeMathJax{\let\LWRorigphi\phi}
56 \CustomizeMathJax{\let\phi\varphi}
57 \CustomizeMathJax{\let\varphi\LWRorigphi}
58 }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61 \eu@ifbooltrue{exchangeThetaforms}{
62 \CustomizeMathJax{\let\LWRorigTheta\Theta}
63 \CustomizeMathJax{\let\Theta\varTheta}
64 \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65 }
66 }
67 }

```

Append new action to `mathspec's \AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69 {\AtBeginDocument{\LWR@mathspec@varforms}}
70 {}
71 {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}

```

---

File 294 **lwarp-mathtools.sty**

§ 406 Package **mathtools**

*(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

`mathtools (Pkg)` `mathtools` is patched for use by `lwarp`. Emulation macros are provided for MATH-

⚠ **equation numbering** JAX.

showonlyrefs is disabled, as it conflicts with cleveref, which is used by lwarp. Equation numbers may not match the print version.

⚠ **italic correction** mathic is not emulated for HTML.

⚠ **MATHJAX** If using MATHJAX:

- Recent changes may not yet be updated in the MATHJAX extension, which is used by lwarp.
- mathtools disallowspaces does not work for MATHJAX. Protect brackets which are not optional arguments, such as:
 

```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```
- showonlyrefs does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- alignat in MATHJAX requires math mode, but in L<sup>A</sup>T<sub>E</sub>X it doesn't. It may be required to use warpHTML and warpprint to isolate a version for each mode.
- \DeclarePairedDelimiter and related must be in the preamble before \begin{document}.
- \MakeAboxedCommand uses \Aboxed for all commands made.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathtools}[2024/10/04]

2 \RequirePackage{graphicx}

3 \MHInternalSyntaxOn

Forces showonlyrefs off because lwarp uses cleveref, which is not compatible with showonlyrefs.

```
4 \renewcommand* \MT_showonlyrefs_true: {%
5 \PackageWarningNoLine{lwarp}
6 {%
7 Mathtools \space showonlyrefs \space conflicts \space
8 with \space cleveref, \MessageBreak
9 which \space is \space used \space by \space lwarp, \space
10 so \space showonlyrefs \space is \MessageBreak
11 forced \space off. \space \space
12 Equation \space numbers \space may \space not \space match%
13 }
14 \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}
```

Forces math italic correction off. Not patched for lwarp.

```
17 \renewcommand* {\MT_mathic_true:} {\MT_mathic_false:}
18 \mathtoolsset{mathic=false}
```

19 \MHInternalSyntaxOff

For MATHJAX.

The MATHJAX package is used, and improvements are added.

```

20 \begin{warpMathJax}
21 \CustomizeMathJax{\require{mathtools}}
22
23 \LWR@infoprocessingmathjax{mathtools}
24
25 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\unicode{x2236}}}}
26
27 \CustomizeMathJax{\newcommand{\approxcolon}{\approx\vcentcolon}}
28 \CustomizeMathJax{\newcommand{\Approxcolon}{\approx\dblcolon}}
29
30 \CustomizeMathJax{\newcommand{\simcolon}{\sim\vcentcolon}}
31 \CustomizeMathJax{\newcommand{\Simcolon}{\sim\dblcolon}}
32
33 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{-}\vcentcolon}}
34 \CustomizeMathJax{\newcommand{\Dashcolon}{\mathrel{-}\dblcolon}}
35
36 \CustomizeMathJax{\newcommand{\colondash}{\vcentcolon\mathrel{-}}}
37 \CustomizeMathJax{\newcommand{\Colondash}{\dblcolon\mathrel{-}}}
38
39 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{}{}}
40
41 \CustomizeMathJax{\newcommand{\smashoperator}[2][\#2\limits]}
42
43 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}{}}
44
45 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{#1}}}
46 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{#1}}}
47
48 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
49 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
50 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
51 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
52
53 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][\begin{multline*}]}
54 \CustomizeMathJax{\newenvironment{multlined}[1][\LWRmultlined]{\end{multline*}}}
55
56 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
57 \CustomizeMathJax{\renewcommand{\shoveleft}[1][\LWRorigshoveleft]}
58 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
59 \CustomizeMathJax{\renewcommand{\shoveright}[1][\LWRorigshoveright]}
60
61 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \\\}}
62
63 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiter\DeclarePairedDelimiter
64 \renewcommand{\DeclarePairedDelimiter}[3]{
65 \LWR@mathtools@orig@DeclarePairedDelimiter{#1}{#2}{#3}
66 % starred:
67 \appto\LWR@customizedMathJax{\LWRbackslash()}
68 \appto\LWR@customizedMathJax{%
69 \LWRbackslash{newcommand{\LWRbackslash\macroto{name}{#1}LWRsubstar}\%
70 }%
71 \appto\LWR@customizedMathJax{[2][\]}%
72 \appto\LWR@customizedMathJax{\{\}%
73 \LWR@subcustomizedmathjax{##1\left##2##3\right##3}%
74 \appto\LWR@customizedMathJax{\}\}%
75 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%

```

```

76% not starred:
77 \appto\LWR@customizedMathJax{\LWRbackslash{
78 \appto\LWR@customizedMathJax{%
79 \LWRbackslash{newcommand{\LWRbackslash\macroto{name{#1}LWRsubnostar\}%
80 }%
81 \appto\LWR@customizedMathJax{[2][[]]}%
82 \appto\LWR@customizedMathJax{\{\}%
83 \LWR@subcustomizedmathjax{##1#2##2##1#3}%
84 \appto\LWR@customizedMathJax{\}\}%
85 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
86% user macro:
87 \appto\LWR@customizedMathJax{\LWRbackslash{
88 \appto\LWR@customizedMathJax{%
89 \LWRbackslash{newcommand{\LWRbackslash{\macroto{name{#1}\}%
90 \{\LWRbackslash\}ifstar%
91 \LWRbackslash{\macroto{name{#1}LWRsubstar%
92 \LWRbackslash{\macroto{name{#1}LWRsubnostar%
93 \}%
94 }%
95 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
96 }
97 \@onlypreamble\DeclarePairedDelimiter
98
99% (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
100
101 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
102 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{
103 \LWR@mathtools@orig@DeclarePairedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}
104% subsubstar, second opt arg
105 \appto\LWR@customizedMathJax{\LWRbackslash{)%
106 \appto\LWR@customizedMathJax{%
107 \LWRbackslash{newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubstar\}%
108 }%
109 \appto\LWR@customizedMathJax{[#2]}%
110 \appto\LWR@customizedMathJax{\{\{\LWRbackslash\}left}%
111 \LWR@subcustomizedmathjax{#3#4#7}%
112 \appto\LWR@customizedMathJax{\LWRbackslash\}right}%
113 \LWR@subcustomizedmathjax{#5#6}%
114 \appto\LWR@customizedMathJax{\}\}%
115 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
116% substar, first opt arg
117 \appto\LWR@customizedMathJax{\LWRbackslash{)%
118 \appto\LWR@customizedMathJax{%
119 \LWRbackslash{newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar\}[1][[]]}%
120 }%
121 \appto\LWR@customizedMathJax{%
122 \{
123 \LWRbackslash{def\LWRbackslash{delimsizel\{#1\}
124 \LWRbackslash\macroto{name{#1}LWRsubsubstar
125 \}%
126 }%
127 \appto\LWR@customizedMathJax{\LWRbackslash)\par}%
128% subsubnostar, second opt arg
129 \appto\LWR@customizedMathJax{\LWRbackslash{)%
130 \appto\LWR@customizedMathJax{%
131 \LWRbackslash{newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubnostar\}%
132 }%
133 \appto\LWR@customizedMathJax{[#2]}%
134 \appto\LWR@customizedMathJax{\{\{\LWRbackslash\}delimsizel}%
135 \LWR@subcustomizedmathjax{#3#4#7}%

```

```

136 \appto\LWR@customizedMathJax{\LWRbackslash}{delimsi}size}%
137 \LWR@subcustomizedmathjax{#5#6}%
138 \appto\LWR@customizedMathJax{\}\}%
139 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
140% subnstar, first opt arg
141 \appto\LWR@customizedMathJax{\LWRbackslash()}%
142 \appto\LWR@customizedMathJax{%
143 \LWRbackslash}{newcommand{\LWRbackslash\macroto{name}{#1}LWRsubnstar}[1][1]}%
144 }%
145 \appto\LWR@customizedMathJax{%
146 \{
147 \LWRbackslash}{def\LWRbackslash}{delimsi}\{#1\}
148 \LWRbackslash\macroto{name}{#1}LWRsubsubnstar
149 \}%
150 }%
151 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
152% user macro:
153 \appto\LWR@customizedMathJax{\LWRbackslash}
154 \appto\LWR@customizedMathJax{%
155 \LWRbackslash}{newcommand{\%
156 \LWRbackslash}{\macroto{name}{#1}%
157 \}%
158 \{\LWRbackslash}{ifstar%
159 \LWRbackslash}{\macroto{name}{#1}LWRsubstar%
160 \LWRbackslash}{\macroto{name}{#1}LWRsubnstar%
161 \}%
162 }%
163 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
164 }
165 \@onlypreamble\DeclareParedDelimiterXPP
166 \@onlypreamble\DeclareParedDelimiterX
167
168 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
169 \renewcommand{\newgathered}[4]{%
170 \LWR@mathtools@orig@newgathered{#1}{#2}{#3}{#4}%
171 \appto\LWR@customizedMathJax{\LWRbackslash}%
172 \LWR@subcustomizedmathjax{%
173 \newenvironment{#1}{\begin{gathered}}{\end{gathered}}}%
174 }%
175 \appto\LWR@customizedMathJax{\LWRbackslash}\LWR@orignewline}%
176 }
177 \@onlypreamble\newgathered
178
179
180 \LetLtxMacro\LWR@mathtools@MakeAboxedCommand\MakeAboxedCommand
181 \renewcommand{\MakeAboxedCommand}[2]{%
182 \LWR@mathtools@MakeAboxedCommand{#1}{#2}%
183 \appto\LWR@customizedMathJax{\LWRbackslash}
184 \appto\LWR@customizedMathJax{%
185 \LWRbackslash}{let%
186 \LWRbackslash\macroto{name}{#1}%
187 \LWRbackslash}{Aboxed%
188 }%
189 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
190 }
191
192 \end{warpMathJax}

```

File 295 **lwarp-mattens.sty**

§ 407 Package **mattens**

*(Emulates or patches code by DANIE ELS.)*

mattens (*Pkg*) mattens is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mattens}[2010/03/26]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRmattensnull}{}}
4
5 \CustomizeMathJax{\newcommand{\LWRmattensnostar}[2][]{%
6 {#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattenscross{\boldsymbol{#2}}}}}}}%
7 }}
8
9 \CustomizeMathJax{\newcommand{\LWRmattensstar}[2][]{%
10 {#1{\LWRmattensundercmd{\LWRmattenovercmd{\LWRmattenscross{#2}}}}}}%
11 }}
12
13 \CustomizeMathJax{\newcommand{\LWRmattens}{
14 \ifstar\LWRmattensstar\LWRmattensnostar%
15 }}
16
17 \CustomizeMathJax{\newcommand{\aS}{%
18 \let\LWRmattenscross\LWRmattensnull%
19 \let\LWRmattenovercmd\overrightarrow%
20 \let\LWRmattensundercmd\LWRmattensnull%
21 \LWRmattens%
22 }}
23
24 \CustomizeMathJax{\newcommand{\aSa}{%
25 \let\LWRmattenscross\LWRmattensnull%
26 \let\LWRmattenovercmd\underrightarrow%
27 \let\LWRmattensundercmd\LWRmattensnull%
28 \LWRmattens%
29 }}
30
31 \CustomizeMathJax{\newcommand{\bS}{%
32 \let\LWRmattenscross\LWRmattensnull%
33 \let\LWRmattenovercmd\overline%
34 \let\LWRmattensundercmd\LWRmattensnull%
35 \LWRmattens%
36 }}
37
38 \CustomizeMathJax{\newcommand{\bSb}{%
39 \let\LWRmattenscross\LWRmattensnull%
40 \let\LWRmattenovercmd\underline%
41 \let\LWRmattensundercmd\LWRmattensnull%
42 \LWRmattens%
43 }}
44
45 \CustomizeMathJax{\newcommand{\aSa}{%
46 \let\LWRmattenscross\LWRmattensnull%
47 \let\LWRmattenovercmd\overrightarrow%
```



```

48 \let\LWRmattensundercmd\underrightarrow%
49 \LWRmattens%
50 }}
51
52 \CustomizeMathJax{\newcommand{\aSb}{%
53 \let\LWRmattenscross\LWRmattensnull%
54 \let\LWRmattensovercmd\overrightarrow%
55 \let\LWRmattensundercmd\underline%
56 \LWRmattens%
57 }}
58
59 \CustomizeMathJax{\newcommand{\bSa}{%
60 \let\LWRmattenscross\LWRmattensnull%
61 \let\LWRmattensovercmd\overline%
62 \let\LWRmattensundercmd\underrightarrow%
63 \LWRmattens%
64 }}
65
66 \CustomizeMathJax{\newcommand{\bSb}{%
67 \let\LWRmattenscross\LWRmattensnull%
68 \let\LWRmattensovercmd\overline%
69 \let\LWRmattensundercmd\underline%
70 \LWRmattens%
71 }}
72
73 \CustomizeMathJax{\newcommand{\aCSa}{%
74 \let\LWRmattenscross\tilde%
75 \let\LWRmattensovercmd\overrightarrow%
76 \let\LWRmattensundercmd\underrightarrow%
77 \LWRmattens%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bCSb}{%
81 \let\LWRmattenscross\tilde%
82 \let\LWRmattensovercmd\overline%
83 \let\LWRmattensundercmd\underline%
84 \LWRmattens%
85 }}
86 \end{warpMathJax}

```


---

File 296 **lwarp-maybemath.sty**

§ 408 Package **maybemath**

(Emulates or patches code by ANDY BUCKLEY.)

maybemath (*Pkg*) **maybemath** is used as-is for SVG math, and is emulated for MATHJAX.

 **no effect** MATHJAX is not able to detect the surrounding text font, so all maybemath macros are ignored.

**for HTML output:** 1 \LWR@ProvidesPackagePass{maybemath}[2005/2/22]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mayberm}[1][\#1]}
4 \CustomizeMathJax{\let\maybebm\mayberm}
5 \CustomizeMathJax{\let\maybeit\mayberm}

```

---

```

6 \CustomizeMathJax{\let\maybeitrm\maybe}
7 \CustomizeMathJax{\let\maybeitsubscript\maybe}
8 \CustomizeMathJax{\let\maybeisf\maybe}
9 \CustomizeMathJax{\let\maybebmsf\maybe}
10 \end{warpMathJax}

```

---

File 297 **lwarp-mcaption.sty**

§ 409 Package **mcaption**

*(Emulates or patches code by STEPHAN HENNIG.)*

mcaption (*Pkg*) mcaption is ignored.

**for HTML output:** Discard all options for lwarp-mcaption:

```

1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]

2 \newenvironment{margincap}{}{}
3 \newcommand*\margincapalign{}
4 \newlength{\margincapsep}

```

---

File 298 **lwarp-mdframed.sty**

§ 410 Package **mdframed**

*(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)*

mdframed (*Pkg*) mdframed is loaded with options forced to framemethod=none.

### § 410.1 Limitations

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for mdframed environments and frame titles.

 **loading** When used, lwarp loads mdframed in HTML with framemethod=none.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the mdframed source). Since lwarp does not support `\bfseries` and friends, only one font selection may be made at a time.

**theoremtitlefont** theoremtitlefont is not supported, since the following text is not in braces in the mdframed source.

**ignored options** `userdefinedwidth` and `align` are currently ignored.

**css classes** Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `mdframedtitle`. Subtitles are in a `<div>` of class `mdframedsubtitle`, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

## § 410.2 Package loading

**for HTML output:**

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require `TikZ` or `pstricks`:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

## § 410.3 Patches

Patch to remove PDF formatting and add HTML tags:

```
5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7 \edef\mdf@temp{%
8 \topsep=\the\topsep\relax%
9 \partopsep=\the\partopsep\relax%
10 \parsep=\the\parsep\relax%
11 }%
12 \setlength{\topsep}{#1}%
13 \topskip\z@%
14 \partopsep\z@%
15 \parsep\z@%
16 \@nmblistfalse%
17 \@trivlist%
18 \labelwidth\z@%
19 \leftmargin\z@%
20 \itemindent\z@%
21 \let\itemlabel\@empty%
22 \def\makelabel##1{##1}%
23 \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*\endmdf@trivlist{%
27 \LWR@traceinfo{endmdf@trivlist}%
28 \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument
```

#### § 410.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents. `\LWR@print@raggedright` helps avoid hyphenation.

```
32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }
```

#### § 410.5 Color and length HTML conversion

`\LWR@mdfprintcolor`

`{\mdfcolorkey}`

Given the `mdframed` key, print the color.

```
38 \newcommand*{\LWR@mdfprintcolor}[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }
```

`\LWR@mdfprintlength`

`{\mdflengthkey}`

Given the `mdframed` key, print the length.

```
42 \newcommand*{\LWR@mdfprintlength}[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }
```

#### § 410.6 Environment encapsulation

`\LWR@mdframedstart`

Actions before an `mdframe` starts.

Encapsulate a frame inside a `<div>` of the desired class.

```
46 \newcommand*{\LWR@mdframedstart}{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%
```

Warn if starting a frame inside a `<span>`:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a `<div>` and with custom class and custom style. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` startcode and endcode settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```
50 \LWR@htmltagc{div class=\textquotedbl%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}{\LWR@mdthisenv}%
53 \textquotedbl \LWR@orignewline
54 style=\textquotedbl\LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60 box-shadow:
61 \LWR@mdfprintlength{shadowsize}
62 \LWR@mdfprintlength{shadowsize}
63 \LWR@mdfprintlength{shadowsize}
64 \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline
```

```
68 \textquotedbl}
69 % \LWR@htmldivclass{\LWR@mdthisenv}
```

mdframed environment may not work with the HTML versions of the following, so restore them to their originals while inside mdframed:

```
70 \let\hspace\LWR@print@hspace%
71 \renewcommand*\rule{\LWR@print@rule}
72 \let\textmacro\makebox\LWR@print@makebox%

73 \LWR@startpars%
74 \LWR@traceinfo{LWR@mdframedstart done}%
75 }
```

\LWR@mdframedend

Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```
76 \newcommand*\LWR@mdframedend{%
77 \LWR@traceinfo{LWR@mdframedend start}%
```

Close the custom <div>:

```
78 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
79 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
80 \LWR@startpars%
81 \LWR@traceinfo{LWR@mdframedend done}%
82 }
```

## § 410.7 Mdfamed environment

```
83 \renewenvironment{mdframed}[1][\LWR@mdthisenv]{%
84 \color@begingroup%
85 \mdfsetup{userdefinedwidth=\linewidth,#1}%
86 \mdf@startcode%
87 \mdf@preenvsetting%
88 \ifdefempty{\mdf@firstframetitle}}{%
89 {\let\mdf@frametitlesave\mdf@frametitle%
90 \let\mdf@frametitle\mdf@firstframetitle%
91 }%
92 \ifvmode\nointerlineskip\fi%
```

```

93 \ifdefempty{\mdf@frametitle}{}%
94 {\mdfframedtitleenv{\mdf@frametitle}%
95 % \mdf@@frametitle@use%
96 }%
97 \mdf@trivlist{\mdf@skipabove@length}%%
98 \mdf@settings%
99 % \mdf@lrbox{\mdf@splitbox@one}%
100 % \mdf@startinnercode%
101 }%
102 {%
103 % \mdf@ignorelastdescenders%
104 \par%
105 % \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserveda{%
108 \mdf@footnoteoutput%
109 % \mdf@endinnercode%
110 % \endmdf@lrbox%
111 % \ifdefempty{\mdf@frametitle}{}%
112 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
113 % \detected@mdf@put@frame
114 % }%
115 \else%
116 \def\mdf@reserveda{%
117 % \mdf@endinnercode%
118 % \endmdf@lrbox%
119 % \ifdefempty{\mdf@frametitle}{}%
120 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 % \detected@mdf@put@frame%
122 % \mdf@footnoteoutput%
123 % }%
124 \fi%
125 \mdf@reserveda%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

```

\mdf@footnoteoutput

```

130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
132 }

```

## § 410.8 Titles and subtitles

\mdfframedtitleenv

{<title>}

Place the title inside a <div> of class mdfframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```

137 \begin{BlockClass}[%

```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}

```

140 ; \LWR@orignewline

Convert and print the title rule:

```
141 \ifbool{mdf@frametitulerule}{%
142 border-bottom:
143 \LWR@mdfprintlength{frametitulerulewidth}
144 solid
145 \LWR@mdfprintcolor{frametitulerulecolor}
146 ; \LWR@orignewline
147 }{%
```

Finish the custom style and the opening <div> tag:

```
148]{mdframedtitle}%
```

Print the title inside the <div>:

```
149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%
```

Close the <div>:

```
150 \end{BlockClass}%
151 \LWR@traceinfo{LWR@mdframedtitleenv end}%
152 }
```

\LWR@mdfsubtitlecommon

{<sub — or — subsub>} [<options>] {<title>}

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```
153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
154 {% the following empty line is required
155
156 \LWR@traceinfo{LWR@mdframedsubtitlecommon start}%
```

Open a <div> with a custom class and custom style:

```
157 \begin{BlockClass}[%
```

Convert and print the background color:

```
158 background:
159 \LWR@mdfprintcolor{#1titlebackgroundcolor}
160 ; \LWR@orignewline
```

Convert and print the above line:

```
161 \ifbool{mdf@#1titleaboveline}{%
162 border-top:
163 \LWR@mdfprintlength{#1titleabovelinewidth}
164 solid
165 \LWR@mdfprintcolor{#1titleabovelinecolor}
166 ; \LWR@orignewline
167 }{%
```

Convert and print the below line:

```
168 \ifbool{mdf@#1titlebelowline}{%
169 border-bottom:
170 \LWR@mdfprintlength{#1titlebelowlinewidth}
171 solid
172 \LWR@mdfprintcolor{#1titlebelowlinecolor}
173 ; \LWR@orignewline
174 }{%
```

Finish the custom style and the opening <div> tag:

175 ]{mdframed#1title}%

Perform the original subtitle action:

176 \IfNoValueTF{#2}

177 {\@nameuse{LWR@origmdf#1title}{\csuse{mdf@#1titlefont}{LWR@textcurrentfont{#3}}}}%

178 {\@nameuse{LWR@origmdf#1title}[#2]{\csuse{mdf@#1titlefont}{LWR@textcurrentfont{#3}}}}%

Close the <div>:

179 \end{BlockClass}%

180 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%

181 }

`\LWR@mdfsubtitle` [*options*] {*title*}

182 \newcommand\*{\LWR@mdfsubtitle}{%

183 \LWR@mdfsubtitlecommon{sub}%

184 }

185 \let\mdfsubtitle\LWR@mdfsubtitle

`\LWR@mdfsubsubtitle` [*options*] {*title*}

186 \newcommand\*{\LWR@mdfsubsubtitle}{%

187 \LWR@mdfsubtitlecommon{subsub}%

188 }

189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

## § 410.9 New environments

`\LWR@mdthisenv` Stores the environment of the frame about to be created:

190 \newcommand\*{\LWR@mdthisenv}{mdframed}

`\newmdenv` [*options*] {*env-name*}

Modified from the original to remember the environment.

191 \renewrobustcmd\*\newmdenv[2][]{%

192 \newenvironment{#2}{%

193 {%

194 \mdfsetup{#1}%

195 \renewcommand\*{\LWR@mdthisenv}{md#2}%

196 \begin{mdframed}%

197 }

198 {\end{mdframed}}%

199 }

`\surroundwithmdframed` [*options*] {*environment*}

Modified from the original to remember the environment.

200 \renewrobustcmd\*{\surroundwithmdframed}[2][]{%

201 \BeforeBeginEnvironment{#2}{%

202 \renewcommand\*{\LWR@mdthisenv}{md#2}%

203 \begin{mdframed}[#1]}%

204 \AfterEndEnvironment{#2}{\end{mdframed}}%

205 }

`\mdtheorem` [*mdframed-options*] {*envname*} [*numberedlike*] {*caption*} [*within*]

Modified from the original to remember the environment.



```

206 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }%
207 {\ifcsdef{#2}%
208 {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209 {%
210 \IfNoValueTF {#3}%
211 {%#3 not given -- number relationship
212 \IfNoValueTF {#5}%
213 {%#3+#5 not given
214 \@definecounter{#2}%
215 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
216 \newenvironment{#2}[1][1][1]{%
217 \refstepcounter{#2}%
218 \ifstrempy{##1}%
219 {\let\@temptitle\relax}%
220 {%
221 \def\@temptitle{\mdf@theoremseparator%
222 \mdf@theoremspace%
223 \mdf@theoremtitlefont%
224 \LWR@textcurrentfont{##1}}% lwarp
225 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
226 }%
227 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228 \@temptitle}]]%
229 {\end{mdframed}}%
230 \newenvironment{#2*}[1][1][1]{%
231 \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
232 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
233 {\end{mdframed}}%
234 }%
235 {%#5 given -- reset counter
236 \@definecounter{#2}\newctr{#2}[#5]%
237 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238 \expandafter\xdef\csname the#2\endcsname{%
239 \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240 \@thmcounter{#2}}%
241 \newenvironment{#2}[1][1][1]{%
242 \refstepcounter{#2}%
243 \ifstrempy{##1}%
244 {\let\@temptitle\relax}%
245 {%
246 \def\@temptitle{\mdf@theoremseparator%
247 \mdf@theoremspace%
248 \mdf@theoremtitlefont%
249 \LWR@textcurrentfont{##1}}% lwarp
250 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
251 }
252 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253 \@temptitle}]]%
254 {\end{mdframed}}%
255 \newenvironment{#2*}[1][1][1]{%
256 \ifstrempy{##1}%
257 {\let\@temptitle\relax}%
258 {%
259 \def\@temptitle{\mdf@theoremseparator%
260 \mdf@theoremspace%
261 \mdf@theoremtitlefont%
262 \LWR@textcurrentfont{##1}}% lwarp
263 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
264 }%
265 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%

```

```

266 {\end{mdframed}}}%
267 }%
268 }%
269 {%#3 given -- number relationship
270 \global\@namedef{the#2}{\@nameuse{the#3}}%
271 \newenvironment{#2}[1][{%
272 \refstepcounter{#3}%
273 \ifstrempy{##1}%
274 {\let\@temptitle\relax}%
275 {%
276 \def\@temptitle{\mdf@theoremseparator%
277 \mdf@theoremspace%
278 \mdf@theoremtitlefont%
279 \LWR@textcurrentfont{##1}}% lwarp
280 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
281 }
282 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283 \@temptitle}]]%
284 {\end{mdframed}}%
285 \newenvironment{#2*}[1][{%
286 \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
287 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
288 {\end{mdframed}}%
289 }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
291 \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv}{md#2}}% lwarp
292 }%
293 }

```

\newmdtheoremenv

[<1: *mdframed-options*>] [<2: *envname*>] [<3: *numberedlike*>] [<4: *caption*>]  
 [<5: *within*>]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{0}{ m o m o }{%
295 \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }%
296 {\newtheorem{#2}{#4}}%
297 {%
298 \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299 \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300 }%
301 \BeforeBeginEnvironment{#2}{%
302 \renewcommand*\LWR@mdthisenv}{md#2}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }

```

---

File 299 **lwarp-mdwmath.sty**

§ 411 Package **mdwmath**

(Emulates or patches code by MARK WOODING.)

mdwmath (*Pkg*) mdwmath is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mdwmath}[1996/04/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\LRmdwmathsqrtsqrt\sqrt}
4 \CustomizeMathJax{\renewcommand{\sqrtsqrt}{\ifstar\LRmdwmathsqrtsqrt\LRmdwmathsqrtsqrt}}
5 \CustomizeMathJax{\newcommand{\bitand}{\mathbin\&}}
6 \CustomizeMathJax{\def\bitor{\mathbin\mid}}
7 \CustomizeMathJax{\def\dblors{\mathbin{\mid\mid}}}
8 \CustomizeMathJax{\def\dblans{\mathbin{\mathrel\bitand\mathrel\bitand}}}
9 \end{warpMathJax}

```

---

File 300 **lwarp-media9.sty**

§ 412 Package **media9**

media9 (*Pkg*) **media9** is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 `<audio>` and `<video>` objects are created for .mp3 and .mp4 files.

HTML5 `<embed>` objects are created for http and ftp links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For **media9**, a multimedia object is inserted for each `addresource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For **movie15**, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.


HTML5 media controls are always specified for each `<audio>` and `<video>` object.

**media9** slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. `&` is used in the flash variables fields, which are split with `xparse \SplitList`, which does not seem to work with a catcode 12 divider token, so `&` is

not converted to catcode 12, and will not work in a URL with `media9`. Using `&` in a URL in a `flashvars` field may also cause parsing problems with print output, as well.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]
```

```
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
```

`\addmediapath`

`{<path>}`

Supported.

```
5 \newcommand*\LWR@medianine@path{}
6
7 \newcommand*\addmediapath}[1]{\appto\LWR@medianine@path{#{1}}}
```

The options and poster text are reused in several places.

```
8 \newcommand*\LWR@medianine@postertext{}
9 \newcommand*\LWR@medianine@options{}
```

Each addressource can generate a multimedia object.

```
10 \define@key{LWR@medianine}{addressource}{%
11 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]
12 {\LWR@medianine@postertext}
13 {#1}
14 }
```

Each flashvars source can generate a multimedia object.

```
15 \newcommand*\LWR@medianine@flashvarsb}[1]{%
16 \IfBeginWith{#1}{source=}{%
17 \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
19 {\LWR@medianine@postertext}%
20 {\LWR@tempone}%
21 }{%
22 \IfBeginWith{#1}{src=}{%
23 \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
25 {\LWR@medianine@postertext}%
26 {\LWR@tempone}%
27 }{%
28 }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{ >{\SplitList{&}} m }{%
31 \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33
34 \define@key{LWR@medianine}{flashvars}{%
35 \LWR@medianine@flashvars{#1}%
36 }
```

`\includemedia`

`[<options>] {<poster text>} {<file or url>}`

```

37 \newcommand*\LWR@includemediab}[3][[]]{%
38 \let\input@path\LWR@medianine@path%
39 \renewcommand*\LWR@medianine@options}{#1}%
40 \renewcommand*\LWR@medianine@postertext}{#2}%
41 \setkeys*LWR@medianine}{#1}%
42 \IfBeginWith{#3}{http}{\LWR@multimedia[#1]{#2}{#3}}{%
43 \IfBeginWith{#3}{HTTP}{\LWR@multimedia[#1]{#2}{#3}}{%
44 \IfBeginWith{#3}{ftp}{\LWR@multimedia[#1]{#2}{#3}}{%
45 \IfBeginWith{#3}{FTP}{\LWR@multimedia[#1]{#2}{#3}}{%
46 }}}}%
47 \endgroup%
48 }
49
50 \newrobustcmd*\includemedia){%
51 \begingroup%
52 \LWR@linkmediacatcodes%
53 \LWR@includemediab%
54 }

```

\mediabutton

[*options*] {*text*}

Ignored.

```
55 \newcommand*\mediabutton}[2][[]]{}
```

---

File 301 **lwarp-memhfixc.sty**

§ 413 Package **memhfixc**

memhfixc (*Pkg*) memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

File 302 **lwarp-menukeys.sty**

§ 414 Package **menukeys**
*(Emulates or patches code by TOBIAS WEH.)*

menukeys (*Pkg*) menukeys is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `lateximage` whose `alt` text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \VerifyCommand[lwarp][menukeys]{\tw@define@menu@macro@}
3 {A3C988E47073504556D744EF08443B1D}
4
5 \xpatchcmd{\tw@define@menu@macro@}
6 {\@nameuse{tw@style@#4@pre}}
7 {%
8 \begin{lateximage}*\detokenize{##2}}?%

```

```

9 \@nameuse{tw@style@#4@pre}%
10 }
11 {}
12 {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
13
14 \xpatchcmd{\tw@define@menu@macro@}
15 {\@nameuse{tw@style@#4@post}}
16 {%
17 \@nameuse{tw@style@#4@post}%
18 \end{lateximage}%
19 }
20 {}
21 {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

22 \renewmenumacro{\menu}[>]{menus}
23 \renewmenumacro{\directory}[/]{paths}
24 \renewmenumacro{\keys}[+]{roundedkeys}

```

---

File 303 **lwarp-metalogo.sty**

§ 415 Package **metalogo**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

metalogo (*Pkg*) metalogo is used in print mode, and emulated in HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```

2 \newcommand*\LWR@HTML@setLogokern}[2]{}
3 \newcommand*\LWR@HTML@setLogodrop}[2][XeTeX]{}
4 \newcommand*\LWR@HTML@setLaTeXa}[1]{}
5 \newcommand*\LWR@HTML@setLaTeXee}[1]{}
6 \newcommand*\LWR@HTML@seteverylogo}[1]{}
7 \newcommand*\LWR@HTML@everylogo}[1]{}
8
9 \LWR@formatted{setLogokern}
10 \LWR@formatted{setLogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everylogo}

```

---

File 304 **lwarp-metalogox.sty**

§ 416 Package **metalogox**

*(Emulates or patches code by BRIAN DUNN.)*

metalogox (*Pkg*) metalogox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

`\AtBeginDocument`, adjust the logo setting according to the font which is active at that moment.

```
2 \AtBeginDocument{
3 \let\LWR@metalogox@currentformatting\LWR@formatting
4 \renewcommand*\LWR@formatting}{print}%
5 \autoadjustlogos*
6 \let\LWR@formatting\LWR@metalogox@currentformatting
7 }
```

---

File 305 **lwarp-mhchem.sty**

§ 417 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

mhchem (*Pkg*) mhchem is patched for use by lwarp.

**without MATHJAX** Without MATHJAX, mhchem expressions are converted to svg math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

**MATHJAX with mhchem extension** For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

`\ce{C6H5-CHO}`\$

To force the use of svg math for an expression which does not work with MATHJAX, place the expression between `\displaymathother` and `\displaymathnormal`:

```
\displaymathother
[\ce{ . . . } \] . . . $ \ce { . . . } $
\displaymathnormal
```

not inside math

If *not* used inside a math expression, lwarp converts standalone mhchem expressions into svg math images.

 **nested math**

When producing HTML output without the MATHJAX mhchem extension, lwarp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

|                                                 |       |
|-------------------------------------------------|-------|
| <code>\ce{NaOH(aq,\infty)}</code> \$            | % old |
| <code>\ce{NaOH(aq,\infty)}</code> \$            | % new |
| <code>\ce{Fe(CN)_{\frac{6}{2}}}</code> \$       | % old |
| <code>\ce{Fe(CN)_{\frac{6}{2}}}</code> \$       | % new |
| <code>\ce{NO_x}</code> \$                       | % old |
| <code>\ce{NO_x}</code> \$                       | % new |
| <code>\ce{NO_x}</code> \$                       | % old |
| <code>\ce{NO_x}</code> \$                       | % new |
| <code>\ce{\\$cis\$-[PtCl2(NH3)2]}</code> \$     | % old |
| <code>\ce{\mathit{cis}-[PtCl2(NH3)2]}</code> \$ | % new |

for HTML output: 1 \LWR@ProvidesPackagePass{mhchem}[2024/01/29]

The original definition of \ce:

```
2 \LetLtxMacro\LWR@mhchem@origce\ce
```

The new definition, called from the new \ce after math shift is set. The starred lateximage uses a hashed filename for the svg image. The alt tag is set to the mhchem expression.

```
3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \edef\LWR@mhchemalt{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}}%
6 \ifbool{\LWR@xfakebold}%
7 {\def\LWR@tempone{Y}}%
8 {\def\LWR@tempone{N}}%
9 \begin{lateximage}%
10 *% hash
11 [% alt
12 \textbackslash{}%
13 ce%
14 {\LWR@mhchemalt}%
15]%
16 *% no open close tags in alt
17 ?% do not detokenize alt
18 [% add'l alt
19 FM\LWR@f@family%
20 SR\LWR@f@series%
21 SH\LWR@f@shape%
22 SHC\LWR@f@shapecaps%
23 CL\LWR@tempcolor%
24 FB\LWR@tempone% xfakebold
25]%
26 \LWR@setcurrentfont%
27 \LWR@mhchem@origce{#1}%
28 \end{lateximage}%
29 \endgroup%
30 \addtocounter{LWR@mhchem@cedepth}{-1}%
31 }
```

Only set math shift if outer depth:

```
32 \newcounter{LWR@mhchem@cedepth}
33 \setcounter{LWR@mhchem@cedepth}{0}
```

The new \ce. Sets math shift then continues.

```
34 \renewcommand{\ce}{%
35 \begingroup%
36 \ifnumequal{\value{LWR@mhchem@cedepth}}{0}{%
37 \catcode`\$=3% math shift
38 }{%
39 \addtocounter{LWR@mhchem@cedepth}{1}%
40 \LWR@mhchem@HTML@ce%
41 }
```

The original definition of \cesplit:

```
42 \LetLtxMacro\LWR@mhchem@origcesplit\cesplit
```



The new definition, called from the new `\cesplit` after math shift is set. The starred `lateximage` uses a hashed filename for the svg image. The `alt` tag is set to the `mhchem` expression.

```

43 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
44 {%
45 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
46 \ifbool{\LWR@xfakebold}%
47 {\def\LWR@tempone{Y}}%
48 {\def\LWR@tempone{N}}%
49 \begin{lateximage}%
50 *% hash
51 [% alt
52 \textbackslash{%
53 cesplit%
54 \{\LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}%
55]%
56 *% no open/close tags in alt
57 ?% no detokenize alt
58 [% add'l alt
59 FM\LWR@family%
60 SR\LWR@series%
61 SH\LWR@shape%
62 SHC\LWR@shapecaps%
63 CL\LWR@tempcolor%
64 FB\LWR@tempone% xfakebold
65]%
66 \LWR@setcurrentfont%
67 \LWR@mhchem@origcesplit{#1}{#2}%
68 \end{lateximage}%
69 \endgroup%
70 }

```

Only set math shift if outer depth:

```

71 \newcounter{LWR@mhchem@cesplitdepth}
72 \setcounter{LWR@mhchem@cesplitdepth}{0}

```

The new `\cesplit`. Sets math shift then continues.

```

73 \renewcommand{\cesplit}{%
74 \begingroup%
75 \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
76 \catcode`\$=3% math shift
77 }{%
78 \addtocounter{LWR@mhchem@cesplitdepth}{1}%
79 \LWR@mhchem@HTML@cesplit%
80 }

```

Resore originals inside a `lateximage`:

```

81 \appto\LWR@restoreorigformatting{%
82 \LetLtxMacro\ce\LWR@mhchem@origce%
83 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
84 }
85
86 \begin{warpMathJax}
87 \CustomizeMathJax{\require{mhchem}}
88 \end{warpMathJax}

```

---

File 306 **lwarp-microtype.sty**

§ 418 Package **microtype**

*(Emulates or patches code by R SCHLICHT.)*

microtype (*Pkg*) microtype is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for lwarp-microtype:

```

1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \IfPackageLoadedTF{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}
21 \DeclareDocumentCommand{\textls}{o +m}{}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1#{\@gobbletwo}
25 \def\DeclareMicrotypeVariants#1#{\@gobble}
26 \@onlypreamble\DeclareMicrotypeSet
27 \@onlypreamble\UseMicrotypeSet
28 \@onlypreamble\DeclareMicrotypeSetDefault
29 \@onlypreamble\DisableLigatures
30 \@onlypreamble\DeclareMicrotypeVariants
31 \@onlypreamble\DeclareMicrotypeBabelHook

```

---

File 307 **lwarp-midfloat.sty**

§ 419 Package **midfloat**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

midfloat (*Pkg*) midfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

---

```
2 \newenvironment{strip}[1][{}]{}
3 \newskip\stripsep
```

---

File 308 **lwarp-midpage.sty**

§ 420 Package **midpage**

midpage (*Pkg*) midpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```
2 \newenvironment{midpage}
3 {\begin{BlockClass}[%
4 \LWR@print@mbbox{margin-top:6ex} ; \LWR@print@mbbox{margin-bottom:6ex}%
5]{midpage}}
6 {\end{BlockClass}}
```

---

File 309 **lwarp-minibox.sty**

§ 421 Package **minibox**

*(Emulates or patches code by WILL ROBERTSON.)*

minibox (*Pkg*) minibox is patched for use by lwarp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```
2 \ExplSyntaxOn
3 \newcommand\LWR@HTML@minibox[2][{}]{%
4 \LWR@stoppars%
5 \group_begin:
6 \keys_set:nn {minibox} {#1}
7 \bool_if:NTF \l_minibox_frame_bool
8 {
9 \setlength\fbboxrule{\l_minibox_rule_dim}
10 \setlength\fbboxsep{\l_minibox_pad_dim}
11 \fbboxBlock{%
12 \begin{tabular}[\l_minibox_tabular_valign_tl]%
13 {\l_minibox_tabular_preamble_tl}
14 {#2}
15 \end{tabular}
16 }%
17 }
18 {
19 \begin{BlockClass}[display:inline-block]{minibox}
20 \begin{tabular}[\l_minibox_tabular_valign_tl]%
21 {\l_minibox_tabular_preamble_tl}
22 {#2}
23 \end{tabular}
24 \end{BlockClass}
```

```

25 }
26 \group_end:
27 \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

---

File 310 **lwarp-minitoc.sty**

§ 422 Package **minitoc**

`minitoc (Pkg)` `minitoc` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

`mtcoff` disables `minitoc`.

2 \usepackage{mtcoff}


---

File 311 **lwarp-minted.sty**

§ 423 Package **minted**

*(Emulates or patches code by GEOFFREY M. POORE.)*

`minted (Pkg)` `minted` is patched for use by `lwarp`.

 **limitations** `mathescape`, `texcomments`, and `highlightlines` are disabled. Line numbers on the right will not be aligned. Due to *pdftotext*, extra spaces may appear in broken lines if other formatting is included.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minted}[2025/02/12]

Several options are forced, since they are unsupported by `lwarp`.

`mathescape` and `texcomments` are disabled because the result might not be linear characters, so might not be interpreted correctly by *pdftotext*, which is used by `lwarp` to convert from PDF output to HTML text.

`breaklines` is forced true to use the correctly functioning code in `fvextra`.

`highlightlines` is forced false because `fvextra` processes highlight lines one line at a time, and `minted` could add a large amount of formatting code, overflowing the line. When set false, `fvextra` can handle the line breaks which prevent line overflow.

`LWR@HTMLsanitize@tmpb@enable` is used to turn off HTML sanitization early in the verbatim conversion, otherwise `minted` would then colorize the sanitized results, breaking the HTML entities in `lwarp`'s HTML output.

```

2 \newcommand*{\LWR@minted@forcekeys}{%
3 \pgfkeys{/minted/cmd/.cd,mathescape=false}%

```

```

4 \pgfkeys{/minted/cmd/.cd,texcomments=false}%
5 \pgfkeys{/minted/cmd/.cd,highlightlines=false}%
6 \pgfkeys{/minted/cmd/.cd,breaklines}%
7 \boolfalse{LWR@HTMLsanitize@tmpb@enable}% lwarp
8 }

```

Used by MintedVerbatim. Force breaklines.

```

9 \VerifyCommand[lwarp][minted]{\minted@highlight@i}
10 {B3E47D0B3B8933CCB16FAB0735F408A8}
11
12 \xpretocmd{\minted@highlight@i}
13 {\fvset{breaklines}}
14 {}
15 {\LWR@patcherror{minted}{\minted@highlight@i}}

16 \VerifyCommand[lwarp][minted]{\RobustMintInlineProcess@verbatim}
17 {0786EFAEDB22E40E59ECEBB9DC532FB7}
18
19 \xpatchcmd{\RobustMintInlineProcess@verbatim}
20 {\edef\minted@lexer{#2}}
21 {%
22 \LWR@minted@forcekeys% lwarp
23 \edef\minted@lexer{#2}%
24 }
25 {}
26 {\LWR@patcherror{minted}{RobustMintInlineProcess@verbatim}}
27
28
29 \VerifyCommand[lwarp][minted]{\RobustMintInlineProcess@highlight}
30 {02CC068F5FC0031015293B2CE0425ACB}
31
32 \xpatchcmd{\RobustMintInlineProcess@highlight}
33 {\edef\minted@lexer{#2}}
34 {%
35 \LWR@minted@forcekeys% lwarp
36 \edef\minted@lexer{#2}%
37 }
38 {}
39 {\LWR@patcherror{minted}{RobustMintInlineProcess@highlight}}
40
41
42 \VerifyCommand[lwarp][minted]{\RobustMintProcess@verbatim}
43 {C1C8E870B5E8E3E8E572CA50ADF69953}
44
45 \xpatchcmd{\RobustMintProcess@verbatim}
46 {\edef\minted@lexer{#2}}
47 {%
48 \LWR@minted@forcekeys% lwarp
49 \edef\minted@lexer{#2}%
50 }
51 {}
52 {\LWR@patcherror{minted}{RobustMintProcess@verbatim}}
53
54
55 \VerifyCommand[lwarp][minted]{\RobustMintProcess@highlight}
56 {D426304D27561EE1139B30E897A7C2CA}
57
58 \xpatchcmd{\RobustMintProcess@highlight}
59 {\edef\minted@lexer{#2}}

```

```
60 {%
61 \LWR@minted@forcekeys% lwarp
62 \edef\minted@lexer{#2}%
63 }
64 {}
65 {\LWR@patcherror{minted}{RobustMintProcess@highlight}}
66
67
68 \VerifyCommand[lwarp][minted]{\MintedBegin@verbatim}
69 {B16E0A3A51DBF9F39609F2135572D7C2}
70
71 \xpatchcmd{\MintedBegin@verbatim}
72 {\edef\minted@lexer{#2}}
73 {%
74 \LWR@minted@forcekeys% lwarp
75 \edef\minted@lexer{#2}%
76 }
77 {}
78 {\LWR@patcherror{minted}{MintedBegin@verbatim}}
79
80
81 \VerifyCommand[lwarp][minted]{\MintedBegin@highlight}
82 {A8C3A60BE3C6AF3A401071A9C5FE8B39}
83
84 \xpatchcmd{\MintedBegin@highlight}
85 {\edef\minted@lexer{#2}}
86 {%
87 \LWR@minted@forcekeys% lwarp
88 \edef\minted@lexer{#2}%
89 }
90 {}
91 {\LWR@patcherror{minted}{MintedBegin@highlight}}
92
93 \ifbool{minted@placeholder}%
94 {\let\MintedBegin\MintedBegin@placeholder
95 \let\MintedEnd\MintedEnd@placeholder}%
96 {\ifbool{minted@verbatim}%
97 {\let\MintedBegin\MintedBegin@verbatim
98 \let\MintedEnd\MintedEnd@verbatim}%
99 {\let\MintedBegin\MintedBegin@highlight
100 \let\MintedEnd\MintedEnd@highlight}}
101
102
103 \VerifyCommand[lwarp][minted]{\RobustInputMintedProcess@verbatim}
104 {C129B2C6AD588C19065A00A64CE6AF0E}
105
106 \xpatchcmd{\RobustInputMintedProcess@verbatim}
107 {\edef\minted@lexer{#2}}
108 {%
109 \LWR@minted@forcekeys% lwarp
110 \edef\minted@lexer{#2}%
111 }
112 {}
113 {\LWR@patcherror{minted}{RobustInputMintedProcess@verbatim}}
114
115
116 \VerifyCommand[lwarp][minted]{\RobustInputMintedProcess@highlight}
117 {AD7408E3B5BEE16A5F1573BBCAE46554}
118
119 \xpatchcmd{\RobustInputMintedProcess@highlight}
```

```

120 {\edef\minted@lexer{#2}}
121 {%
122 \LWR@minted@forcekeys% lwarp
123 \edef\minted@lexer{#2}%
124 }
125 {}
126 {\LWR@patcherror{minted}{RobustInputMintedProcess@highlight}}

```

To add sanitization during the final output, adjust several characters to use HTML entities when loading the pygmentized results,

Not using `\VerifyCommand` here because this is a simple patch, not likely to be affected by other changes to the original.

```

127 \xpatchcmd{\minted@highlight@i}
128 {\input{\minted@highlightfilepath}}
129 {%
130 \LWR@minted@overrides% lwarp
131 \input{\minted@highlightfilepath}%
132 }
133 {}
134 {\LWR@patcherror{minted}{minted@highlight@i}}
135
136 \xpatchcmd{\minted@highlight@create}
137 {\input{\minted@highlightfilepath}}
138 {%
139 \LWR@minted@overrides% lwarp
140 \input{\minted@highlightfilepath}%
141 }
142 {}
143 {\LWR@patcherror{minted}{minted@highlight@create}}

```

These macros are used inside the `*.pygtex` files to format several individual characters. These are revised to use HTML entities. The backquote grave is not supported by pygments.

```

144 \newcommand*{\LWR@minted@overrides}{
145 \def\PYGZam{\char` \&}
146 \def\PYGZlt{\char` \<}
147 \def\PYGZgt{\char` \>}
148 \def\PYGZsq{\char` \'}
149 }

```


---

## File 312 **lwarp-mismath.sty**

### § 424 Package **mismath**

*(Emulates or patches code by ANTOINE MISSIER.)*

`mismath` (*Pkg*) `mismath` is patched for SVG math, and emulated for MATHJAX.

 **MATHJAX** `\enumber`, `\inumber`, `\jnumber`, and `\pinumber` are ignored for MATHJAX, except that `\itpi` is made available as a clone of `\pi`.

`\MathUp`, `\MathIt`, `\MathNumbers`, and `\MathNormal` are ignored in MATHJAX.

For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.7. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mismath}[2024/06/16]

For MATHJAX, used in the HTML comment before the environment.

```
2 \ifbool{mathjax}{
3 \RenewEnviron{mathcols}{%
4 \preto\BODY{\begin{aligned}\displaystyle}
5 \appto\BODY{\end{aligned}}
6 \expandafter\(\\BODY\)
7 }
8 }% mathjax
```

For SVG math. The `lateximage` restores the original definition of the `math` environment.

```
9 {% svg
10 \renewenvironment{mathcols}{
11 \begin{lateximage}
12 \begin{math}
13 \begin{aligned}\displaystyle
14 }{
15 \end{aligned}%
16 \end{math}
17 \end{lateximage}
18 }
19 }% svg
20
21 \renewcommand{\changepcol}{
22 \end{aligned} \quad
23 \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\require{upgreek}}% for \Updelta
28
29 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
30 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
31 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
32 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
33
34 \CustomizeMathJax{\let\mathbfsfit\mathbfit}% not sans
35 \CustomizeMathJax{\let\tensor\mathbfsfit}
36
37 \CustomizeMathJax{\newcommand{\boldvect}{}}
38 \CustomizeMathJax{\newcommand{\arrowvect}{}}
39 \CustomizeMathJax{\newcommand{\pinumber}[1][{}]}
```



```

40 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}#1}}}
41 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}#1}}}
42 \CustomizeMathJax{%
43 \newcommand{\norm}[1]{\left\| \left\| \left\| \right\| \right\| \right\|}
44 }
45 \CustomizeMathJax{\newcommand{\di}{\mathop{!}\!\mathrm{d}}}
46
47 \CustomizeMathJax{\newcommand{\upDelta}{\Updelta}}
48 \CustomizeMathJax{\newcommand{\opDelta}{\Opdelta}}
49 \CustomizeMathJax{\newcommand{\opdelta}{\Opdelta}}
50
51 \CustomizeMathJax{\newcommand{\P}{\operatorname{\probastyle{P}}}}
52 \CustomizeMathJax{\newcommand{\E}{\operatorname{\probastyle{E}}}}
53 \CustomizeMathJax{\newcommand{\V}{\operatorname{\probastyle{V}}}}
54 \CustomizeMathJax{\newcommand{\Par}{\unicode{x00B6}}}
55
56 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
57 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
58 \CustomizeMathJax{\DeclareMathOperator{\codim}{codim}}
59 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
60 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
61 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}
62 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\vect{\mathrm{curl}}}}}
63 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
64 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
67 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathrm{grad}}}}}
68 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
69 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
70 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
71 \CustomizeMathJax{\let\oldIm\Im}
72 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
73 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
74 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
77 \CustomizeMathJax{\let\oldRe\Re}
78 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
79 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathrm{rot}}}}}
80 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
81 \CustomizeMathJax{\DeclareMathOperator{\sinc}{sinc}}
82 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
83 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
84 \CustomizeMathJax{\DeclareMathOperator{\var}{var}}
85 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
86 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
87
88 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
89 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
90 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
91 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
92 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
93 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
94 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
95 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
96 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
97
98 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
99 \CustomizeMathJax{\DeclareMathOperator{\bigo}{\mathcal{O}}}

```

```

100 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}
101
102 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
103 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
104 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
105 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
106 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
107 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
108 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
109
110 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
111 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
112 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
113 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
114 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
115 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
116 \CustomizeMathJax{\newcommand{\lbar}{\overline}}
117 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}#1}}}
118 \CustomizeMathJax{\newcommand{\LWReqdefstar}{\stackrel{\Delta}{=}}}
119 \CustomizeMathJax{\newcommand{\LWReqdefnostar}{\stackrel{\mathrm{def}}{=}}}
120 \CustomizeMathJax{\newcommand{\eqdef}{\ifstar\LWReqdefstar\LWReqdefnostar}}
121 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
122 \CustomizeMathJax{\newcommand{\iif}{if and only if }}
123
124 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
125 \CustomizeMathJax{\newcommand{\then}{\ \Longrightarrow \ \mbox{ } }}
126 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
127 \CustomizeMathJax{\newcommand{\pow}[2]{\left(#1 \right)^{!#2}}}}
128 \CustomizeMathJax{\newcommand{\abs}[1]{\left\vert\!#1\right\vert}}
129 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\!#1\!}{\!#2\!}}}
130
131 \CustomizeMathJax{\newenvironment{system}[1][L]%
132 {\left\{\begin{array}{@{.15em}#1@{}}
133 {\end{array}\right.}
134 }
135
136 \CustomizeMathJax{\newenvironment{spmatrix}
137 {\left(\begin{smallmatrix}}
138 {\end{smallmatrix}\right)}
139 }
140
141 \CustomizeMathJax{%
142 \newenvironment{mathcols}
143 {\begin{aligned}\displaystyle}
144 {\end{aligned}}
145 }
146 \CustomizeMathJax{\newcommand{\changeacol}{\end{aligned}\quad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

147 \AtBeginDocument{
148 \ifdef{\itpi}{
149 \CustomizeMathJax{\let\itpi\pi}
150 }{}
151 \ifdefstring{\boldvectcommand}{\mathbf}{
152 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
153 }{
154 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
155 }
156 \ifbool{arrowvect}{

```

```

157 \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
158 }{
159 \CustomizeMathJax{\newcommand{\vect}[1]{\boldvectcommand{#1}}}
160 }
161 \ifdefstring{\probastyle}{\mathbb}{
162 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}
163 }{
164 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
165 }
166 \ifdefstring{\mathset}{\mathbb}{
167 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
168 }{
169 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
170 }
171 }
172 \end{warpMathJax}

```

---

File 313 **lwarp-mleftright.sty**

§ 425 Package **mleftright**

(Emulates or patches code by HEIKO OBERDIEK.)

`mleftright` (*Pkg*) `mleftright` is used as-is, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{}}
7 \end{warpMathJax}

```

---

File 314 **lwarp-morefloats.sty**

§ 426 Package **morefloats**

`morefloats` (*Pkg*) `morefloats` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

```

---

File 315 **lwarp-moreverb.sty**

§ 427 Package **moreverb**

(Emulates or patches code by ROBIN FAIRBAIRNS.)

`moreverb` (*Pkg*) `moreverb` is supported with some patches.

```

1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

```

```
2 \BeforeBeginEnvironment{verbatim}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatim}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro\LWRMV@orig@verbatiminput\@verbatiminput
12
13 \renewcommand{\@verbatiminput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatiminput[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro\LWRMV@@@listinginput\@listinginput
38
39 \renewcommand{\@listinginput}[3][]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%
42 \LWRMV@@@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }
```

File 316 **lwarp-movie15.sty**

§ 428 Package **movie15**

`movie15 (Pkg)` `movie15` is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a `multimedia` object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML `multimedia` object includes the `poster` text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the `poster` text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\LWR@moviefifteen@text{}
7
8 \define@key{\LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\LWR@includemovieb}[4][]{%
```

```

11 \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12 \setkeys*{LWR@moviefifteen}{#1}%
13 \LWR@multimediab[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\includemovie{%
17 \begingroup%
18 \LWR@linkmediacatcodes%
19 \LWR@includemovieb%
20 }
21
22
23 \newcommand*\movieref}[3][{}]{
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlinkmovie}[3][{}]{

```

---

File 317 **lwarp-mparhack.sty**

§ 429 Package **mparhack**

`mparhack (Pkg)` mparhack is ignored.

**for HTML output:** Discard all options for lwarp-mparhack:

```
1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]
```

---

File 318 **lwarp-multibib.sty**

§ 430 Package **multibib**

*(Emulates or patches code by THORSTEN HANSEN.)*

`multibib (Pkg)` multibib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

```

2 \VerifyCommand[lwarp][multibib]{\newcites}{77893319F9935670F2FF2E524075CB71}
3
4 \xpatchcmd{\newcites}
5 {\@suffix}
6 {\@suffix_html}
7 {}
8 {\LWR@patcherror{multibib}{newcites}}

```

---

File 319 **lwarp-multicap.sty**

§ 431 Package **multicap**

`multicap (Pkg)` multicap is emualted.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

2 \newcommand\*{\mfcaption}{\captionof{figure}}

3 \newcommand\*{\mtcaption}{\captionof{table}}

4 \newcounter{mcapsize}

5 \newcounter{mcapskip}

6 \newlength{\abvmcapskip}

7 \newlength{\blwmcapskip}

---

File 320 **lwarp-multicol.sty**

§ 432 Package **multicol**

*(Emulates or patches code by FRANK MITTELBACH.)*

multicol (*Pkg*) multicol is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicol}[2021/10/28]

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicols heading is placed inside a <div> of class multicolsheading.

The content is placed inside a <div> of class multicols.

Env multicols

\* {<numcols>} [<heading>]

2 \NewDocumentEnvironment{multicols}{s m o}

HTML <div> class to contain everything:

```
3 {
4 \LWR@forcenewpage
5 \BlockClass{multicols}
```

Optional HTML <div> class for the heading:

```
6 \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}%
```

Change \linewidth to compensate for expected size:

```
7 \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8 \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*{\columnbreak}{}
12 \newcommand*{\newcolumn}{}
13 \newcommand*{\RLmulticolcolumns}{}
14 \newcommand*{\LRmulticolcolumns}{}
15
16 \newlength{\premulticols}
17 \newlength{\postmulticols}
```

```

18 \newlength{\multicolsep}
19 \newlength{\multicolbaselineskip}
20 \newlength{\multicoltolerance}
21 \newlength{\multicolpretolerance}
22 \newcommand*{\columnseprulecolor}{\normalcolor}
23 \newcounter{columnbadness}
24 \newcounter{finalcolumnbadness}
25 \newcounter{collectmore}
26 \newcounter{unbalance}
27 \newlength{\multicolovershoot}
28 \newlength{\multicolundershoot}

29 \NewDocumentCommand{\docolaction}{s o m m m}{%
30 \IfValueTF{#2}{#2}{#3}%
31 }

```

---

File 321 **lwarp-multicolrule.sty**

§ 433 Package **multicolrule**

`multicolrule` (*Pkg*) `multicolrule` is ignored.

**for HTML output:**

```

1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*{\SetMCRule}[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

---

File 322 **lwarp-multimedia.sty**

§ 434 Package **multimedia**

`multimedia` (*Pkg*) `multimedia` is emulated.

The packages `multimedia`, `movie15`, and `media9` are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.



The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][[]]{}
8
9 \newcommand{\hyperlinksound}[3][[]]{}
10
11 \newcommand{\hyperlinkmute}
```

---

File 323 **lwarp-multiobjective.sty**

§ 435 Package **multiobjective**

*(Emulates or patches code by LUIS MARTÍ.)*

`multiobjective (Pkg)` `multiobjective` is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}
7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}\!\!\!\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!\!\!\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon +}}}
11 \CustomizeMathJax{\newcommand{\better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13 \mathchoice%
```

```

14 {{\displaystyle\boldsymbol{#1}}}%
15 {{\textstyle\boldsymbol{#1}}}%
16 {{\scriptstyle\boldsymbol{#1}}}%
17 {{\scriptscriptstyle\boldsymbol{#1}}}%
18 }}
19
20 \CustomizeMathJax{\newcommand{\set}[1]{%
21 \mathchoice%
22 {{\displaystyle\mathcal{#1}}}%
23 {{\textstyle\mathcal{#1}}}%
24 {{\scriptstyle\mathcal{#1}}}%
25 {{\scriptscriptstyle\mathcal{#1}}}%
26 }}
27 \CustomizeMathJax{\def\argmax{\mathop{\{\mathrm{arg}}\}, \max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\{\mathrm{arg}}\}, \min}
29 }}
30 \end{warpMathJax}

```

---

### File 324 **lwarp-multirow.sty**

## § 436 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

`multirow` (*Pkg*) `multirow` is emulated during HTML output, and used as-is while inside a `lateximage`.

**vposn** • Note that recent versions of `multirow` include a new optional `vposn` argument.

**multirow cells** • For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...

```

**colored cells** • The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

**with `\multicolumn`** • See section 436.2 for `\multicolumnrow`.

⚠ `\multicolumn` & `\multirow` `lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ **skipped cells** As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ **empty cells**

```

... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & & \mcolrowcell & ...
... & \mcolrowcell & & \mcolrowcell & ...

```

 **MathJax**

- MATHJAX does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or SVG math.

In a `lateximage`, the print versions are restored.

See section 77.24 for the print-mode versions.

**for HTML output:**

Remove the placeholder macro which was used if `multirow` was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{multirow}[2021/03/15]
```

`\LWR@multirowborder` Set to left or right to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}%
```

### § 436.1 **Multirow**

`\LWR@multirow@par`

`\par` inside a `\multirow`.

```
4 \newcommand*{\LWR@multirow@par}{%
5 \LWR@htmltag{br /}%
6 }%
```

`\multirow` [*1: vpos*] [*2: numrows*] [*3: bigstruts*] [*4: width*] [*5: vmove*] [*6: text*]

```
7 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
8 {%
9 \LWR@traceinfo{\LWR@HTML@multirow #1 #2 #4}%
```

```
10 \booltrue{\LWR@usedmultirow}%
```

```
11 \LWR@maybenewtablerow%
```

```
12 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
13 \LWR@htmltag{%
14 td rowspan=\textquotedbl#2\textquotedbl \ %
```

A class adds the column spec and the rule:

```
15 class=\textquotedbl{}td%
```

Append this column's spec:

```
16 \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag. Also add the vertical bar class.

```
17 \LWR@addcmidruletrim%
18 \LWR@addleftmostbartag%
19 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
20 \textquotedbl%
```

```
21 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
22 \ifstrequal{#1}{c}{\LWR@daddstyle\LWR@print@mbx{vertical-align:middle}}{}%
23 \ifstrequal{#1}{b}{\LWR@daddstyle\LWR@print@mbx{vertical-align:bottom}}{}%
24 \ifstrequal{#1}{t}{\LWR@daddstyle\LWR@print@mbx{vertical-align:top}}{}%
```

The left/right border, if given:

```
25 \ifdefvoid{\LWR@multirowborder}{}{}%
26 \LWR@daddstyle%
27 \LWR@print@mbx{border-\LWR@multirowborder:} 2px dotted black ; %
28 \LWR@print@mbx{padding-\LWR@multirowborder:} 2px%
29 }%
```

Additional style elements:

```
30 \LWR@addcmidrulewidth%
31 \LWR@addcdashline%
32 \LWR@addtabularrulecolors%
33 \LWR@tdendstyles%
34 }%
```

The column's < spec:

```
35 \LWR@gettexpparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine `\` to generate a new line. If a nested tabular occurs, `\` is redefined to `\LWR@tabularendofline` at the start of the tabular, then `\LWR@endofline` before again printing any `\multirow` contents inside the nested tabular.

`\par` is redefined to insert an HTML break, and if tabular is nested, it is redefined at the start of tabular.

```
36 \begingroup%
37 \LetLtxMacro{\}{\LWR@endofline}%
38 \booltrue{\LWR@in@multirow@par}%
39 #6%
40 \endgroup%
41 \LWR@stoppars%
42 \boolfalse{\LWR@intabularmetadata}%
43 \renewcommand{\LWR@multirowborder}{}%
44 \LWR@traceinfo{\LWR@HTML@multirow done}%
45 }%
46
47 \LWR@formatted{multirow}
```

## § 436.2 Combined multicolumn and multirow

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

`\IfPackageLoadedTF{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The HTML version follows.

`\AtBeginDocument` because the print version had to see if `multirow` was loaded before determining how to define `\LWR@print@multicolumnrow`.

```
48 \AtBeginDocument{
49
50 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
51 \booltrue{LWR@usedmultirow}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
52 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}
```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.

```
53 \LetLtxMacro{\}\{\LWR@endofline}%
54 \LWR@domulticolumn[#3][#4]{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#8}%
55 \LetLtxMacro{\}\{\LWR@tabularendofline}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
56 \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
57 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
58 \booltrue{LWR@skipatbang}%
59 }
60
61 \LWR@expandableformatted{multicolumnrow}
62
63 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
64 \begin{warpMathJax}
65 % \multirow[vpos]{num}[bigstruts]{width}[vmove]{text}
66 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{#2}}
67 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
68 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
69 %
70 \CustomizeMathJax{\newcommand{\mrowcell}{}}
71 \CustomizeMathJax{\newcommand{\mcolrowcell}{}}
72 \CustomizeMathJax{\newcommand{\STneed}[1]}
73 \end{warpMathJax}
```

File 325 **lwarp-multitoc.sty**§ 437 Package **multitoc**

multitoc (*Pkg*) multitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```
2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}
```

File 326 **lwarp-musicography.sty**§ 438 Package **musicography**

(*Emulates or patches code by* ANDREW A. CASHNER.)

musicography (*Pkg*) musicography is patched for use by lwarp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.



Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:** 1 \LWR@ProvidesPackagePass{musicography}[2023/09/08]

```
2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
```

```
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ O{\musNumFont} m m }{%
36 \begin{lateximage}*[#2/#3]*?[#1#2#3]%
37 \musStack{#2 #3}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*?%
45 \meterC{}\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{ }{%
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{ }{%
60 \begin{lateximage}*[C]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterThree}{ }{%
68 \begin{lateximage}*[3]*%
69 {\musNumFont{3}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterThree}
74
75 \NewDocumentCommand{\LWR@HTML@meterThreeTwo}{ }{%
76 \begin{lateximage}*[3/2]*%
77 \raisebox{-0.26ex}{\musMeter{3}{2}}%
78 \end{lateximage}%
79 }
80
81 \LWR@formatted{meterThreeTwo}
82
```

```
83 \NewDocumentCommand{\LWR@HTML@meterCutCThree}{}{%
84 \begin{lateximage}*[C|3]*%
85 \meterCutCplus{\meterThree}%
86 \end{lateximage}%
87 }
88
89 \LWR@formatted{meterCutCThree}
90
91 \NewDocumentCommand{\LWR@HTML@meterCutCThreeTwo}{}{%
92 \begin{lateximage}*[C|3/2]*%
93 \meterCutCplus{\meterThreeTwo}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{meterCutCThreeTwo}
98
99 \NewDocumentCommand{\LWR@HTML@meterCThree}{}{%
100 \begin{lateximage}*[C3]*%
101 \meterCplus{\meterThree}%
102 \end{lateximage}%
103 }
104
105 \LWR@formatted{meterCThree}
106
107
108 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{}{%
109 \begin{lateximage}*[C3/2]*%
110 \meterCplus{\musStack{3 2}}%
111 \end{lateximage}%
112 }
113
114 \LWR@formatted{meterCThreeTwo}
115
116 \NewDocumentCommand{\LWR@HTML@meterCZ}{}{%
117 \begin{lateximage}*[CZ]*%
118 \meterCplus{\meterZsymbol}%
119 \end{lateximage}%
120 }
121
122 \LWR@formatted{meterCZ}
123
124 \NewDocumentCommand{\LWR@HTML@meterO}{}{\HTMLUnicode{25EF}}
125
126 \LWR@formatted{meterO}
127
128
129 \NewDocumentCommand{\LWR@HTML@noFig}{ O{5} }{}%
130 \newcommand*{\LWR@HTML@musFlat} {\HTMLUnicode{266D}}
131 \newcommand*{\LWR@HTML@musDoubleFlat} {\HTMLUnicode{1D12B}}
132 \newcommand*{\LWR@HTML@musSharp} {\HTMLUnicode{266F}}
133 \newcommand*{\LWR@HTML@musDoubleSharp} {\HTMLUnicode{1D12A}}
134 \newcommand*{\LWR@HTML@musNatural} {\HTMLUnicode{266E}}
135
136 \LWR@formatted{noFig}
137 \LWR@formatted{musFlat}
138 \LWR@formatted{musDoubleFlat}
139 \LWR@formatted{musSharp}
140 \LWR@formatted{musDoubleSharp}
141 \LWR@formatted{musNatural}
142
```



```

143
144 \NewDocumentCommand{\LWR@HTML@musFig}{ O{r} m }{%
145 \begin{lateximage}*[%
146 {% ALT text for copy/paste
147 \RenewDocumentCommand{\noFig}{O{5}}{\LWR@HTML@noFig}%
148 \RenewDocumentCommand{\musSharp}{\LWR@HTML@musSharp}%
149 \RenewDocumentCommand{\musDoubleSharp}{\LWR@HTML@musDoubleSharp}%
150 \RenewDocumentCommand{\musFlat}{\LWR@HTML@musFlat}%
151 \RenewDocumentCommand{\musDoubleFlat}{\LWR@HTML@musDoubleFlat}%
152 \RenewDocumentCommand{\musNatural}{\LWR@HTML@musNatural}%
153 {#2}% braces here because \noFig uses []
154]}%
155]*?%
156 {\musFigSize\musStack[\musFigFont]{#2}{#1}}%
157 \end{lateximage}%
158 }
159
160 \LWR@formatted{musFig}
161
162
163 \NewDocumentCommand{\LWR@HTML@musWhole} {}{\HTMLUnicode{1D15D}}
164 \NewDocumentCommand{\LWR@HTML@musHalf} {}{\HTMLUnicode{1D15E}}
165 \NewDocumentCommand{\LWR@HTML@musQuarter} {}{\HTMLUnicode{1D15F}}
166 \NewDocumentCommand{\LWR@HTML@musEighth} {}{\HTMLUnicode{1D160}}
167 \NewDocumentCommand{\LWR@HTML@musSixteenth} {}{\HTMLUnicode{1D161}}
168 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLUnicode{1D162}}
169 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLUnicode{1D163}}
170
171 \LWR@formatted{musWhole}
172 \LWR@formatted{musHalf}
173 \LWR@formatted{musQuarter}
174 \LWR@formatted{musEighth}
175 \LWR@formatted{musSixteenth}
176 \LWR@formatted{musThirtySecond}
177 \LWR@formatted{musSixtyFourth}
178
179 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
180 {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
181 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{}
182 {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
183 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{}
184 {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
185 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{}
186 {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
187 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{}
188 {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
189 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{}
190 {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
191 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{}
192 {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
193
194 \LWR@formatted{musWholeDotted}
195 \LWR@formatted{musHalfDotted}
196 \LWR@formatted{musQuarterDotted}
197 \LWR@formatted{musEighthDotted}
198 \LWR@formatted{musSixteenthDotted}
199 \LWR@formatted{musThirtySecondDotted}
200 \LWR@formatted{musSixtyFourthDotted}

```

---

File 327 **lwarp-mwe.sty**

§ 439 Package **mwe**

*(Emulates or patches code by MARTIN SCHARRER.)*

mwe (*Pkg*) mwe is used as-is, but a warning is issued to copy the images to the local directory.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mwe}[2018/03/30]

```

2 \AtEndDocument{%
3 \PackageWarningNoLine{lwarp}{%
4 For package mwe, copy any mwe images to be used for\MessageBreak
5 HTML, such as PNG or JPG, to the document's base\MessageBreak
6 directory. Neither a subdirectory nor the mwe\MessageBreak
7 directory will work, due to the TeX file search\MessageBreak
8 algorithm%
9 }%
10 }%
```

---

File 328 **lwarp-nameauth.sty**

§ 440 Package **nameauth**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

nameauth (*Pkg*) nameauth is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nameauth}[2025/02/04]

\@nameauth@Hook (*Hook*) [] lwarp formatting is inserted.

```

2 \VerifyCommand[lwarp][nameauth]{\@nameauth@Hook}
3 {5BE7B7B955144DBD91867146263FDE2A}
4
5 \renewcommand*\@nameauth@Hook[1]
6 {%
7 \ifdefined\@nameauth@InParser
8 \protected@edef\test{#1}%
9 \expandafter\@nameauth@TestDot\expandafter{\test}%
10 \if@nameauth@MainFormat
11 \if@nameauth@FirstFormat
12 \bgroup%
13 \@nameauth@InHooktrue%
14 \NamesFormat{%
15 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
16 }\egroup%
17 \else
18 \bgroup%
19 \@nameauth@InHooktrue%
20 \MainNameHook{%
21 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
```

```

22 }\egroup%
23 \fi
24 \else
25 \if@nameauth@FirstFormat
26 \bgroup%
27 \@nameauth@InHooktrue%
28 \FrontNamesFormat{%
29 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
30 }\egroup%
31 \else
32 \bgroup%
33 \@nameauth@InHooktrue%
34 \FrontNameHook{%
35 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
36 }\egroup%
37 \fi
38 \fi
39 \fi
40 }

```

---

File 329 **lwarp-nameref.sty**

§ 441 Package **nameref**

nameref (*Pkg*) nameref is nullified here, then emulated by lwarp.

**for HTML output:** Discard all options for lwarp-nameref:

```
1 \LWR@ProvidesPackageDrop{nameref}[2023-08-07]
```

---

File 330 **lwarp-natbib.sty**

§ 442 Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

natbib (*Pkg*) natbib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{<$>}
```

To patch \NAT@open and \NAT@close

```

3 \newcommand{\LWRNB@patchnatbibopenclose}{
4 \ifdefstrequal{\NAT@open}{\LWRNB@NAT@open}
5 {
6 \renewcommand{\NAT@open}{\textless}
7 \renewcommand{\NAT@close}{\textgreater}
8 }{ }
9 }

```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch `\setcitestyle` to patch after settings are made:

```
11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }
```

Synchronize the autopage labels:

```
17 \xpretocmd{\NAT@reset@parser}
18 {\LWR@newautopagelabel{page}}%
19 {}
20 {\LWR@patcherror{natbib}{NAT@reset@parser}}
```

File 331 **lwarp-nccfancyhdr.sty**

§ 443 Package **nccfancyhdr**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

nccfancyhdr (*Pkg*) nccfancyhdr is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```
2 \newcommand*\headrulewidth{}
3 \newcommand*\footrulewidth{}
4 \newcommand{\headstrutheight}{}
5 \newcommand{\footstrutheight}{}
6 \newcommand*\headrule{}
7 \newcommand*\footrule{}
8
9 \newdimen\headwidth
10 \newcommand*\extendedheaders{}
11 \newcommand*\normalheaders{}
12
13 \newcommand*\fancyhead}[2][{}]{
14 \newcommand*\fancyfoot}[2][{}]{
15 \newcommand*\fancyhf}[2][{}]{
16 \newcommand*\fancypagestyle}[2]{
17 \newcommand*\lhead}[2][{}]{
18 \newcommand*\chead}[2][{}]{
19 \newcommand*\rhead}[2][{}]{
20 \newcommand*\lfoot}[2][{}]{
21 \newcommand*\cfoot}[2][{}]{
22 \newcommand*\rfoot}[2][{}]{
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m m}{
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{
```

```

29
30 \newcommand*\iffloatpage}[2]{#2}
31 \newcommand*\ifftopfloat}[2]{#2}
32 \newcommand*\iffbotfloat}[2]{#2}

```

---

File 332 **lwarp-nccfoots.sty**

§ 444 Package **nccfoots**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

nccfoots (*Pkg*) nccfoots is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]

To nullify the footnotes where necessary:

```

2 \apptocmd{\LWR@nullifyfootnotes}{%
3 \renewcommand*\Footnote}[1]{}%
4 \renewcommand*\Footnotemark}[1]{}%
5 }{}{}

```



For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

6 \begin{warpMathJax}
7 \CustomizeMathJax{\newcommand\Footnotemark}[1]{\{}^{\mathrm{#1}}}}
8 \CustomizeMathJax{\newcommand\Footnote}[2]{\Footnotemark{#1}}}
9 \end{warpMathJax}

```

---

File 333 **lwarp-nccmath.sty**

§ 445 Package **nccmath**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

nccmath (*Pkg*) nccmath is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4
5 \csletcs{LWR@origeqnarraystar}{eqnarray*}
6 \csletcs{LWR@origendeqnarraystar}{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10
11 \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{eqnarray*}

```

```

16 {%
17
18 \begingroup
19 \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20 \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21 \boolfalse{LWR@numbereqnarray}
22 \LWR@eqnarrayfactor
23 \endgroup
24
25 }
26
27 \def\eqs{%
28 \@ifstar\LWR@nccmath@eqsstar\LWR@nccmath@eqs%
29 }
30 \newcommand*{\LWR@nccmath@eqsstar}[2][\begin{eqnarray*}#2\end{eqnarray*}]
31 \newcommand*{\LWR@nccmath@eqs}[2][\begin{eqnarray}#2\end{eqnarray}]
32
33 \begin{warpMathJax}

34 \CustomizeMathJax{\renewcommand{\intertext}[2][\text{#2}\notag \]}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][\]}
36 \CustomizeMathJax{\newenvironment{ceqn}[\]}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[#1]{#2}}{\end{array}}}
38 \CustomizeMathJax{\newcommand{\dmulticolmn}[3]{#3}}

As of v0.86, MATHJAX v3 does not offer $\backslash*$, so the unstarred version is used here.

39 \CustomizeMathJax{\newcommand{\LWRrnrnstar}[1][0.5ex]{\[#1]}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRrnrnstar\LWRrnrnstar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1]{#1}}
45 \CustomizeMathJax{\newcommand{\medop}[1]{#1}}
46 \CustomizeMathJax{\newcommand{\medint}[1]{#1}}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1]{#1}}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}

51 \CustomizeMathJax{\newcommand{\displaybreak}[1][\]}

\eq, \eqs, \eqalign are created by LATEX, not MATHJAX.

52 \end{warpMathJax}

```

---

File 334 **lwarp-needspace.sty**

§ 446 Package **needspace**

(Emulates or patches code by PETER WILSON.)

needspace (*Pkg*) needspace is ignored.

**for HTML output:** Discard all options for lwarp-needspace:

---

```

1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```


---

File 335 **lwarp-newpxmath.sty**

§ 447 Package **newpxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

newpxmath (*Pkg*) newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sLantedGreek` is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from `newtxmath` is used:

```

1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{}
15 \LWR@mathjax@addgreek@l@up{}{}
16 \LWR@mathjax@addgreek@u@it*{}{}
17 \LWR@mathjax@addgreek@l@it{}{}

```

Optional slanted Greek:

```

18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21
22 \end{warpMathJax}

```


---

File 336 **lwarp-newtxmath.sty**

§ 448 Package **newtxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

newtxmath (*Pkg*) newtxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sLantedGreek` is hon-

ored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

svg math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpmtxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{up}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{}
21 \LWR@mathjax@addgreek@l@it{}{}
22
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}

```


---

File 337 **lwarp-newtxsf.sty**

§ 449 Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

newtxsf (*Pkg*) newtxsf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.



svg math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpctxmath:
20 \LWR@mathjax@addgreek@u@it*{}{}
21 \LWR@mathjax@addgreek@l@it{}{}
22 %
23 % only newtxmath, not newpctxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}

```

Optional slanted Greek:

```

30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}

```

---

File 338 **lwarp-nextpage.sty**

§ 450 Package **nextpage**

*(Emulates or patches code by PETER WILSON.)*

nextpage (*Pkg*) nextpage is ignored.

**for HTML output:** Discard all options for lwarp-nextpage.

```

1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]
2
2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

File 339 **lwarp-nfssext-cfr.sty**

§ 451 Package **nfssext-cfr**

*(Emulates or patches code by CLEA F. REES.)*

nfssext-cfr (*Pkg*) nfssext-cfr is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nfssext-cfr}[2017/03/28]

Macros which are present in the lwarp core are commented out here.

```

2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@osstyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}
13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embosstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*{\LWR@f@family}{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@f@family}{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}
24 \newrobustcmd{\LWR@HTML@tlstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sishape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uishape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rishape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@f@series}{md}}

```

```
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@f@series}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@f@series}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@f@series}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@f@series}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@f@series}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@f@series}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@f@series}{ul}}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57 \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embossstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sishape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
```

```
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}% adapt to the new print version
112 \LWR@formatted{scshape}% adapt to the new print version
113 \LWR@formatted{upshape}% adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{% duplicated by fontaxes
117 \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
122 \LetLtxMacro\lnstyle\@empty%
123 \LetLtxMacro\osstyle\@empty%
124 \LetLtxMacro\instyle\@empty%
125 \LetLtxMacro\sustyle\@empty%
126 \LetLtxMacro\swstyle\@empty%
127 \LetLtxMacro\pstyle\@empty%
128 \LetLtxMacro\tistyle\@empty%
129 \LetLtxMacro\ostyle\@empty%
130 \LetLtxMacro\postyle\@empty%
131 \LetLtxMacro\ltstyle\@empty%
132 \LetLtxMacro\ofstyle\@empty%
133 \LetLtxMacro\altstyle\@empty%
134 \LetLtxMacro\regstyle\@empty%
135 \LetLtxMacro\embossstyle\@empty%
136 \LetLtxMacro\ornamentalstyle\@empty%
137 \LetLtxMacro\qtstyle\@empty%
138 \LetLtxMacro\shstyle\@empty%
139 \LetLtxMacro\swashstyle\@empty%
140 \LetLtxMacro\tmstyle\@empty%
141 \LetLtxMacro\tvstyle\@empty%
142 \LetLtxMacro\style\@empty%
143 \LetLtxMacro\lstyle\@empty%
144 \LetLtxMacro\lstyle\@empty%
145 \LetLtxMacro\plstyle\@empty%
146 \LetLtxMacro\tostyle\@empty%
147 % \LetLtxMacro\sishape\@empty%
148 \LetLtxMacro\olshape\@empty%
149 \LetLtxMacro\colshape\@empty%
150 \LetLtxMacro\ushape\@empty%
151 \LetLtxMacro\scushape\@empty%
152 \LetLtxMacro\uishape\@empty%
153 \LetLtxMacro\rishape\@empty%
154 \LetLtxMacro\regwidth\@empty%
155 \LetLtxMacro\nwidth\@empty%
156 \LetLtxMacro\cdwidth\@empty%
157 \LetLtxMacro\ecwidth\@empty%
158 \LetLtxMacro\ucwidth\@empty%
159 \LetLtxMacro\etwidth\@empty%
160 \LetLtxMacro\epwidth\@empty%
161 \LetLtxMacro\exwidth\@empty%
162 \LetLtxMacro\xwidth\@empty%
```

```

163 \LetLtxMacro\mbweight\@empty%
164 \LetLtxMacro\dbweight\@empty%
165 \LetLtxMacro\sbweight\@empty%
166 % \LetLtxMacro\ebweight\@empty%
167 \LetLtxMacro\ubweight\@empty%
168 % \LetLtxMacro\lgweight\@empty%
169 \LetLtxMacro\elweight\@empty%
170 \LetLtxMacro\ulweight\@empty%
171 % \LetLtxMacro\itshape\@empty%
172 % \LetLtxMacro\scshape\@empty%
173 % \LetLtxMacro\upshape\@empty%
174 \LetLtxMacro\dfshape\@empty%
175 \LetLtxMacro\swshape\@empty%
176 \LetLtxMacro\ornament\@gobble%
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \providerobustcmd{\textin}[1]{ }
183 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
184 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
185 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

186 \ifdef{\LWR@HTML@textsw}{ }{% duplicated by fontaxes
187 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
188 \LWR@formatted{textsw}
189 }
190
191 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
195 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
196 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
199 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
200 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
202 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}
203 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
204 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
205 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
206 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
207 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
208 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
209 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
210 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textswash}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
214 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
215 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textep}[1]{#1}

```

222 \newrobustcmd{\LWR@HTML@textex}[1]{#1}  
223 \newrobustcmd{\LWR@HTML@textux}[1]{#1}  
224 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}  
225 \newrobustcmd{\LWR@HTML@textmb}[1]{\LWR@HTML@mbweight\InlineClass{textmb}{#1}}  
226 \newrobustcmd{\LWR@HTML@textdb}[1]{\LWR@HTML@dbweight\InlineClass{textdb}{#1}}  
227 \newrobustcmd{\LWR@HTML@textsb}[1]{\LWR@HTML@sbweight\InlineClass{textsb}{#1}}  
228 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}  
229 \newrobustcmd{\LWR@HTML@textub}[1]{\LWR@HTML@ubweight\InlineClass{textub}{#1}}  
230 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}  
231 \newrobustcmd{\LWR@HTML@textel}[1]{\LWR@HTML@elweight\InlineClass{textel}{#1}}  
232 \newrobustcmd{\LWR@HTML@textul}[1]{\LWR@HTML@ulweight\InlineClass{textul}{#1}}  
233  
234 \LWR@formatted{textln}  
235 \LWR@formatted{textos}  
236 \LWR@formatted{textin}  
237 \LWR@formatted{textsu}  
238 % \LWR@formatted{textsi}  
239 \LWR@formatted{textdf}  
240 \LWR@formatted{textti}  
241 \LWR@formatted{textlt}  
242 \LWR@formatted{textof}  
243 \LWR@formatted{textalt}  
244 \LWR@formatted{textreg}  
245 \LWR@formatted{emboss}  
246 \LWR@formatted{textorn}  
247 \LWR@formatted{textqt}  
248 \LWR@formatted{textsh}  
249 \LWR@formatted{texttm}  
250 \LWR@formatted{texttv}  
251 \LWR@formatted{textl}  
252 \LWR@formatted{texto}  
253 \LWR@formatted{textp}  
254 \LWR@formatted{textt}  
255 \LWR@formatted{textpl}  
256 \LWR@formatted{textpo}  
257 \LWR@formatted{texttl}  
258 \LWR@formatted{textto}  
259 \LWR@formatted{textol}  
260 \LWR@formatted{textswash}  
261 \LWR@formatted{textu}  
262 \LWR@formatted{textscu}  
263 \LWR@formatted{textui}  
264 \LWR@formatted{textri}  
265 \LWR@formatted{textnw}  
266 \LWR@formatted{textcd}  
267 \LWR@formatted{textec}  
268 \LWR@formatted{textuc}  
269 \LWR@formatted{textet}  
270 \LWR@formatted{textep}  
271 \LWR@formatted{textex}  
272 \LWR@formatted{textux}  
273 \LWR@formatted{textrw}  
274 \LWR@formatted{textmb}  
275 \LWR@formatted{textdb}  
276 \LWR@formatted{textsb}  
277 % \LWR@formatted{texteb}  
278 \LWR@formatted{textub}  
279 % \LWR@formatted{textlg}  
280 \LWR@formatted{textel}  
281 \LWR@formatted{textul}

282

```
283 \FilenameNullify{%
284 \LetLtxMacro\textln\@firstofone%
285 \LetLtxMacro\textos\@firstofone%
286 \LetLtxMacro\textin\@firstofone%
287 \LetLtxMacro\textsu\@firstofone%
288 % \LetLtxMacro\textsi\@firstofone%
289 \LetLtxMacro\textdf\@firstofone%
290 \LetLtxMacro\textsw\@firstofone%
291 \LetLtxMacro\textti\@firstofone%
292 \LetLtxMacro\textlt\@firstofone%
293 \LetLtxMacro\textof\@firstofone%
294 \LetLtxMacro\textalt\@firstofone%
295 \LetLtxMacro\textreg\@firstofone%
296 \LetLtxMacro\emboss\@firstofone%
297 \LetLtxMacro\textorn\@firstofone%
298 \LetLtxMacro\textqt\@firstofone%
299 \LetLtxMacro\textsh\@firstofone%
300 \LetLtxMacro\texttm\@firstofone%
301 \LetLtxMacro\texttv\@firstofone%
302 \LetLtxMacro\textl\@firstofone%
303 \LetLtxMacro\texto\@firstofone%
304 \LetLtxMacro\textp\@firstofone%
305 \LetLtxMacro\textt\@firstofone%
306 \LetLtxMacro\textpl\@firstofone%
307 \LetLtxMacro\textpo\@firstofone%
308 \LetLtxMacro\texttl\@firstofone%
309 \LetLtxMacro\textto\@firstofone%
310 \LetLtxMacro\textol\@firstofone%
311 \LetLtxMacro\textswash\@firstofone%
312 \LetLtxMacro\textu\@firstofone%
313 \LetLtxMacro\textscu\@firstofone%
314 \LetLtxMacro\textui\@firstofone%
315 \LetLtxMacro\textri\@firstofone%
316 \LetLtxMacro\textnw\@firstofone%
317 \LetLtxMacro\textcd\@firstofone%
318 \LetLtxMacro\textec\@firstofone%
319 \LetLtxMacro\textuc\@firstofone%
320 \LetLtxMacro\textet\@firstofone%
321 \LetLtxMacro\textep\@firstofone%
322 \LetLtxMacro\textex\@firstofone%
323 \LetLtxMacro\textux\@firstofone%
324 \LetLtxMacro\textrw\@firstofone%
325 \LetLtxMacro\textmb\@firstofone%
326 \LetLtxMacro\textdb\@firstofone%
327 \LetLtxMacro\textsb\@firstofone%
328 % \LetLtxMacro\texteb\@firstofone%
329 \LetLtxMacro\textub\@firstofone%
330 % \LetLtxMacro\textlg\@firstofone%
331 \LetLtxMacro\textel\@firstofone%
332 \LetLtxMacro\textul\@firstofone%
333 }
334
335 \providecommand*\zeroslash{}
336 \newrobustcmd*\LWR@HTML@zeroslash{}
337 \LWR@formatted{zeroslash}
```

File 340 **lwarp-nicefrac.sty**§ 452 Package **nicefrac**

(Emulates or patches code by AXEL REICHERT.)

nicefrac (*Pkg*) nicefrac is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

```

2 \DeclareRobustCommand*\LWR@HTML@UnitsNiceFrac}[3][[%
3 {% localize font selection
4 #1{%
5 \LWR@textcurrentfont{%
6 \InlineClass{numerator}{#2}%
7 /%
8 \InlineClass{denominator}{#3}%
9 }%
10 }%
11 }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@UnitsUglyFrac}[3][[%
17 {% localize font selection
18 #1{\LWR@textcurrentfont{#2/#3}}%
19 }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

For MATHJAX:

23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][[\mathinner{{}^{\#2}\!/\/\!_{\#3}}]}
25 \end{warpMathJax}

```

File 341 **lwarp-niceframe.sty**§ 453 Package **niceframe**

niceframe (*Pkg*) niceframe is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

```

2 \newcommand{\LWR@niceframe}[3]{%
3 \begin{LWR@setvirtualpage}*%
4 \setlength{\LWR@templengthone}{#1}%
5 \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6 #2
7 \end{BlockClass}%

```



```

8 \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}


```

File 342 **lwarp-nicematrix.sty**

§ 454 Package **nicematrix**

*(Emulates or patches code by F. PANTIGNY.)*

nicematrix (*Pkg*) nicematrix is used as-is for SVG math, and is emulated for MATHJAX.

 **MATHJAX** Keys/values are ignored in MATHJAX. `\Cdots`, etc. do not span multiple cells. `AutoNiceMatrix`, etc. are not supported for MATHJAX. SVG math output preserves all nicematrix features. To force SVG output for one or more consecutive math expressions, for inline math use `\inlinemathother` and `\inlinemathnormal`, or for display math use `\displaymathother` and `\displaymathnormal`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nicematrix}[2025/02/01]

NiceTabular must be converted to SVG to support the various nicematrix options:

```

2 \begin{warpHTML}
3 \BeforeBeginEnvironment{NiceTabular}{%
4 \begin{lateximage}[-nicematrix--\PackageDiagramAltText]?%
5 }
6 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
7 \BeforeBeginEnvironment{NiceTabular*}{%
8 \begin{lateximage}[-nicematrix--\PackageDiagramAltText]?%
9 }
10 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
11 \end{warpHTML}

```

Special handling for the optional arguments, and the lack of a delimiter:

```

12 \begin{warpMathJax}
13 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
14 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2] {\begin{array}{#1}}}
15
16 \CustomizeMathJax{%
17 \newenvironment{NiceArray}[2][[%
18 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
19 {\end{array}}}%
20 }
21
22 \CustomizeMathJax{%
23 \newcommand{\LWRnicearraywithdelimitwo}[2][[%
24 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%
25]%
26 }

```

General case with left / right delimiters:

```

27 \CustomizeMathJax{%
28 \newenvironment{NiceArrayWithDelims}[2]%
29 {%
30 \def\LWRnicearrayrightdelim{\right#2}%
31 \left#1%
32 \LWRnicearraywithdelimtwo%
33 }%
34 {\end{array}\LWRnicearrayrightdelim}%
35 }

```

Instances of specific delimiters:

```

36 \CustomizeMathJax{%
37 \newenvironment{pNiceArray}
38 {\begin{NiceArrayWithDelims}{(}{)}%
39 {\end{NiceArrayWithDelims}}
40 }
41
42 \CustomizeMathJax{%
43 \newenvironment{bNiceArray}
44 {\begin{NiceArrayWithDelims}{[}{]}%
45 {\end{NiceArrayWithDelims}}
46 }
47
48 \CustomizeMathJax{%
49 \newenvironment{BNiceArray}
50 {\begin{NiceArrayWithDelims}{\{}{\}}%
51 {\end{NiceArrayWithDelims}}
52 }
53
54 \CustomizeMathJax{%
55 \newenvironment{vNiceArray}
56 {\begin{NiceArrayWithDelims}{\vert}{\vert}}%
57 {\end{NiceArrayWithDelims}}
58 }
59
60 \CustomizeMathJax{%
61 \newenvironment{VNiceArray}
62 {\begin{NiceArrayWithDelims}{\Vert}{\Vert}}%
63 {\end{NiceArrayWithDelims}}
64 }

```

Ignore optional arg and use standard environments:

```

65 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][\begin{matrix}]{\end{matrix}}}
66 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][\begin{pmatrix}]{\end{pmatrix}}}
67 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][\begin{bmatrix}]{\end{bmatrix}}}
68 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][\begin{vmatrix}]{\end{vmatrix}}}
70 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][\begin{Vmatrix}]{\end{Vmatrix}}}

```

Ignore optional argument and size. Print contents.

```

71 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
72 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
73
74 \CustomizeMathJax{%

```

```
75 \newcommand{\Block}[2][\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock]%
76 }
```

Form an approximation:

```
77 \CustomizeMathJax{%
78 \newcommand{\diagbox}[2]{%
79 \begin{array}{L}\hfill\quad#2\\\hline#\1\quad\hfill\end{array}%
80 }%
81 }
```

More approximations:

```
82 \CustomizeMathJax{\let\hdottedline\hdashline}

83 \CustomizeMathJax{\newcommand{\Hline}[1][\hline]}

84 \CustomizeMathJax{\newcommand{\CodeBefore}{}}
85 \CustomizeMathJax{\newcommand{\Body}{}}
86 \CustomizeMathJax{\newcommand{\CodeAfter}{}}
87 \CustomizeMathJax{\newcommand{\line}[3][{}]}
88 \CustomizeMathJax{\newcommand{\RowStyle}[2][{}]}
89 \CustomizeMathJax{\newcommand{\LWRSubMatrix}[1][{}]}
90 \CustomizeMathJax{\newcommand{\SubMatrix}[4]{\LWRSubMatrix}}
91 \CustomizeMathJax{\newcommand{\OverBrace}[4][{}]}
92 \CustomizeMathJax{\newcommand{\UnderBrace}[4][{}]}
93 \CustomizeMathJax{\newcommand{\HBrace}[3][{}]}
94 \CustomizeMathJax{\newcommand{\VBrace}[3][{}]}
95 \CustomizeMathJax{\newcommand{\ShowCellNames}{}}
96 \CustomizeMathJax{\newcommand{\tabularnote}[2][{}]}

97 \CustomizeMathJax{\newcommand{\cellcolor}[3][{}]}
98 \CustomizeMathJax{\newcommand{\rowcolor}[3][{}]}
99 \CustomizeMathJax{\newcommand{\LWRrowcolors}[1][{}]}
100 \CustomizeMathJax{\newcommand{\rowcolors}[4][{\LWRrowcolors}}
101 \CustomizeMathJax{\newcommand{\rowlistcolors}[3][{\LWRrowcolors}}
102 \CustomizeMathJax{\newcommand{\columncolor}[3][{}]}
103 \CustomizeMathJax{\newcommand{\rectanglercolor}[4][{}]}
104 \CustomizeMathJax{\newcommand{\arraycolor}[2][{}]}
105 \CustomizeMathJax{\newcommand{\chessboardcolors}[3][{}]}

106 \CustomizeMathJax{\newcommand{\ldots}[1][\dots]}
107 \CustomizeMathJax{\newcommand{\cdots}[1][\cdots]}
108 \CustomizeMathJax{\newcommand{\vdots}[1][\vdots]}
109 \CustomizeMathJax{\newcommand{\ddots}[1][\ddots]}
110 \CustomizeMathJax{\newcommand{\Iddots}[1][\mathinner{\unicode{x22F0}}]}
111
112 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
113 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}
```

There is no way to emulate AutoNiceMatrix in MATHJAX.

```
114 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
115 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
116 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
117 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
118 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
```

---

```
119 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
120 \end{warpMathJax}
```

---

File 343 **lwarp-noitcrul.sty**

§ 455 Package **noitcrul**

*(Emulates or patches code by PAUL EBERMANN.)*

noitcrul (*Pkg*) noitcrul is used as-is for `svg` and emulated for `MATHJAX`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{noitcrul}[2006/04/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}\!}}
4 \end{warpMathJax}
```

---

File 344 **lwarp-nolbreaks.sty**

§ 456 Package **nolbreaks**

*(Emulates or patches code by DONALD ARSENEAU.)*

nolbreaks (*Pkg*) nolbreaks is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]

2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}
```

---

File 345 **lwarp-nomencl.sty**

§ 457 Package **nomencl**

*(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)*

nomencl (*Pkg*) nomencl is patched for use by `lwarp`.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.list -o
<project>_html.nls
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{nomencl}[2021/11/10]

\BaseJobname is added to the label in case xr or xr-hyper are used.

2 \xpatchcmd{\@@@nomenclature}
3 {\thepage}
4 {\theLWR@previousautopagelabel}
5 {}
6 {\LWR@patcherror{nomencl}{@@@nomenclature}}
7
8 \renewcommand*{\pagedeclaration}[1]{, \nameref{\BaseJobname-autopage-#1}}%
```

---

File 346 **lwarp-nonfloat.sty**

§ 458 Package **nonfloat**

*(Emulates or patches code by KAI RASCHER.)*

nonfloat (*Pkg*) nonfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

```

2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@capttype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@capttype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

---

File 347 **lwarp-nonumonpart.sty**

§ 459 Package **nonumonpart**

nonumonpart (*Pkg*) nonumonpart is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]

---

File 348 **lwarp-nopageno.sty**

§ 460 Package **nopageno**

nopageno (*Pkg*) nopageno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]

---

File 349 **lwarp-notes.sty**

§ 461 Package **notes**

notes (*Pkg*) notes is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

```

2 \newcommand*\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}
4 {
5 \BlockClass{notes#1}
6 \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}
7 \BlockClass{notescontents}
8 }
```

---

```

9 {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}

```

---

File 350 **lwarp-notespages.sty**

§ 462 Package **notespages**

notespages (*Pkg*) notespages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```

2 \newcommand*{\npnotesname}{}
3 \newcommand*{\npnotestext}{}
4 \newcommand*{\remainingtextheight}{}
5 \newdimen\remainingtextheight
6 \newcommand*{\notestitletext}{}
7 \newcommand*{\notesareatext}{}
8 \newcommand*{\npnpinfo}[1]{}
9 \newcommand*{\tracingnmarks}{}
10 \newcommand*{\notespage}[1][{}]{
11 \newcommand*{\notespages}[1][{}]{
12 \newcommand*{\notesfill}[1][{}]{
13 \newcommand*{\setnotespages}[1]{}
14 \newcommand*{\definotesoption}[2]{}
15 \newcommand*{\definotesstyle}[2]{}
16 \newcommand*{\definetitlestyle}[2]{}
17 \newcommand*{\nppatchchapter}[1]{}
18 \newcommand*{\npunpatchchapter}{}

```

---

File 351 **lwarp-nowidow.sty**

§ 463 Package **nowidow**

*(Emulates or patches code by RAPHAËL PINSON.)*

nowidow (*Pkg*) nowidow is ignored.

**for HTML output:** ~~Discard all options for lwarp-nowidow~~ 11/09/20]

```

\nowidow [⟨lines⟩]
\setnowidow [⟨lines⟩]

2 \newcommand*{\nowidow}[1][{}]{
3 \newcommand*{\setnowidow}[1][{}]{


\noclub [⟨lines⟩]


```

`\setnoclub``[<lines>]``4 \newcommand*\noclub}[1][{}]``5 \newcommand*\setnoclub}[1][{}]`File 352 **lwarp-ntheorem.sty**§ 464 Package **ntheorem***(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)*ntheorem (*Pkg*) ntheorem is patched for use by lwarp.


Table 20: Ntheorem package — css styling of theorems and proofs

**Theorem:** `<div>` of class `theorembody<theoremstyle>`**Theorem Header:** `<span>` of class `theoremheader<style>`where `<theoremstyle>` is `plain`, `break`, etc.§ 464.1 **Limitations**

 **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

 **Equation numbering** ntheorem has a bug with equation numbering in  $\mathcal{A}\mathcal{M}\mathcal{S}$  environments when the option `thref` is used. lwarp does not share this bug, so equations with `\split`, etc, are numbered correctly with lwarp's HTML output, but not with the print output. It is recommended to use `cleveref` instead of ntheorem's `thref` option.

§ 464.2 **Options**Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

 **Disabled options** The options `thmmarks` and `amsmath` are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option `thref` is disabled because `cleveref` functions are used instead. `\thref` is emulated.Option `hyperref` is disabled because lwarp emulated `hyperref`.**for HTML output:** Some disabled options:

```

1 \DeclareOption{thref}{
2 \AtEndDocument{
3 \PackageWarningNoLine{lwarp}{%
4 Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5 referencing, including
6 \protect\label \space and \protect\thref.\MessageBreak
7 Cleveref does not accept ntheorem's optional\MessageBreak
8 argument for \protect\label, so it will appear\MessageBreak
9 in the text. It is recommended to remove the\MessageBreak
10 thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11 and remove any trailing optional arguments for \protect\label%
```

```

12 }%
13 }
14 }
15
16
17 \newbool{LWR@theoremmarks}
18 \boolfalse{LWR@theoremmarks}
19
20 \DeclareOption{thmarks}{
21 \booltrue{LWR@theoremmarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@theoremamsthm}
27 \boolfalse{LWR@theoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}
33 \DeclareOption{hyperref}{}
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]

```

### § 464.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \IfPackageLoadedTF{cleveref}{
39 \VerifyCommand[lwarp][ntheorem-cleveref]{\@thm}
40 {24EBE14DBADF0B9992C3EDE1D70BA897}
41 \gdef\@thm#1#2#3{%
42 \if@thmarks
43 \stepcounter{end\InTheoType ctr}%
44 \fi
45 \renewcommand{\InTheoType}{#1}%
46 \if@thmarks
47 \stepcounter{curr#1ctr}%
48 \setcounter{end#1ctr}{0}%
49 \fi
50 \refstepcounter[#1]{#2}% <<< cleveref modification
51 \theorem@prework
52 \LWR@forcenewpage% lwarp

53 \LWR@printpendingfootnotes% lwarp

54 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
55 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
56 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
57 \ifthm@inframe
58 \thm@topsep\theoremframepreskipamount
59 \thm@topsepadd\theoremframepostskipamount
60 \else
61 \thm@topsep\theoremframepreskipamount
62 \thm@topsepadd\theoremframepostskipamount

```



```

63 \fi
64 \else% oldframeskips
65 \thm@topsep\theorempreskipamount
66 \thm@topsepadd \theorempostskipamount
67 \ifvmode\advance\thm@topsepadd\partopsep\fi
68 \fi
69 \@topsep\thm@topsep
70 \@topsepadd\thm@topsepadd
71 \advance\linewidth -\theorem@indent
72 \advance\linewidth -\theorem@rightindent
73 \advance\@totalleftmargin \theorem@indent
74 \parshape \@ne \@totalleftmargin \linewidth
75 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
76 }
77 }{% not @ifpackageloaded{cleveref}
78 % \VerifyCommand[lwarp][\theorem]{\@thm}{0}
79 \gdef\@thm#1#2#3{%
80 \if@thmmarks
81 \stepcounter{end\InTheoType ctr}%
82 \fi
83 \renewcommand{\InTheoType}{#1}%
84 \if@thmmarks
85 \stepcounter{curr#1ctr}%
86 \setcounter{end#1ctr}{0}%
87 \fi
88 \refstepcounter{#2}%
89 \theorem@prework
90 \LWR@forcenewpage% lwarp

91 \LWR@printpendingfootnotes% lwarp

92 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
93 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
94 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
95 \ifthm@inframe
96 \thm@topsep\theoreminframepreskipamount
97 \thm@topsepadd\theoreminframepostskipamount
98 \else
99 \thm@topsep\theorempreskipamount
100 \thm@topsepadd\theorempostskipamount
101 \fi
102 \else% oldframeskips
103 \thm@topsep\theorempreskipamount
104 \thm@topsepadd \theorempostskipamount
105 \ifvmode\advance\thm@topsepadd\partopsep\fi
106 \fi
107 \@topsep\thm@topsep
108 \@topsepadd\thm@topsepadd
109 \advance\linewidth -\theorem@indent
110 \advance\linewidth -\theorem@rightindent
111 \advance\@totalleftmargin \theorem@indent
112 \parshape \@ne \@totalleftmargin \linewidth
113 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
114 }
115 }
116 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

117 \VerifyCommand[lwarp][ntheorem]{\theoremstyle}
118 {A735E431A49EB3A7B4BBD9AEAE7E10}
119 \gdef\theoremstyle#1{%
120 \ifundefined{th@#1}{\@warning
121 {Unknown theoremstyle `#1'. Using `plain'}}%
122 \theoremstyle{plain}
123 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
124 }%
125 {
126 \theoremstyle{#1}
127 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
128 }
129 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

130 \VerifyCommand[lwarp][ntheorem]{\@xnthm}{699CB37D7349C4F062B16B9B890FFE90}
131
132 \gdef\@xnthm#1#2[#3]{%
133 \ifthm@tempif
134 \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
135 \expandafter\ifundefined{c@#1}%
136 {\@definecounter{#1}}{%
137 \@newctr{#1}[#3]%
138 \expandafter\xdef\csname the#1\endcsname{%
139 \expandafter\noexpand\csname the#3\endcsname \@thmcountersep
140 {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
141 \expandafter\gdef\csname mkheader@#1\endcsname
142 {\csname setparams@#1\endcsname
143 \@thm{#1}{#1}{#2}
144 }%
145 \global\@namedef{end#1}{\@endtheorem}
146 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{\LWR@thmstyle#1}}}% lwarp
147 \fi
148 }
149
150 \VerifyCommand[lwarp][ntheorem]{\@ynthm}{E0E49F4C2FF76BA3024F2413E2E3DA0D}
151
152 \gdef\@ynthm#1#2{%
153 \ifthm@tempif
154 \csedef{\LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
155 \expandafter\ifundefined{c@#1}%
156 {\@definecounter{#1}}{%
157 \expandafter\xdef\csname the#1\endcsname
158 {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
159 \expandafter\gdef\csname mkheader@#1\endcsname
160 {\csname setparams@#1\endcsname
161 \@thm{#1}{#1}{#2}
162 }%
163 \global\@namedef{end#1}{\@endtheorem}
164 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{\LWR@thmstyle#1}}}% lwarp
165 \fi
166 }
167
168 \VerifyCommand[lwarp][ntheorem]{\@othm}{A6D2FCC33AB3F7C7F998399F013FB6A8}
169
170 \gdef\@othm#1[#2]#3{%
171 \ifundefined{c@#2}{\@nocounterr{#2}}%
172 {\ifthm@tempif

```

```

173 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
174 \global\@namedef{the#1}{\@nameuse{the#2}}%
175 \expandafter\protected@xdef\csname num@addtheoremLine#1\endcsname{%
176 \noexpand\@num@addtheoremLine{#1}{#3}}%
177 \expandafter\protected@xdef\csname nonum@addtheoremLine#1\endcsname{%
178 \noexpand\@nonum@addtheoremLine{#1}{#3}}%
179 \theoremkeyword{#3}%
180 \expandafter\protected@xdef\csname #1Keyword\endcsname
181 {the\theoremkeyword}%
182 \expandafter\gdef\csname mkheader@#1\endcsname
183 {\csname setparms@#1\endcsname
184 \@thm{#1}{#2}{#3}
185 }%
186 \global\@namedef{end#1}{\@endtheorem}
187 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
188 \fi}
189 }

```

#### § 464.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

190 \newcommand{\LWR@inctheorem}{%
191 \addtocounter{LWR@thisautoid}{1}%
192 \LWR@stoppars%
193 \LWR@htmltag{%
194 a id=\textquotedbl\LWR@print@mbx{autoid-\arabic{LWR@thisautoid}}\textquotedbl%
195 }%
196 \LWR@htmltag{/a}\LWR@orignewline%
197 \LWR@startpars%
198 }

```

#### § 464.5 \newtheoremstyle

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an InlineClass of class theoremheader<style>.

```

199 \VerifyCommand[lwarp][ntheorem]{\newtheoremstyle}{8173F61CEBA45226CD3015E5E258C93D}
200
201 \gdef\newtheoremstyle#1#2#3{%
202 \expandafter\ifundefined{th@#1}%
203 {\expandafter\gdef\csname th@#1\endcsname{%
204 \def\@begintheorem####1####2{%
205 \LWR@inctheorem% lwarp
206 #2}%
207 \def\@opargbegintheorem####1####2####3{%
208 \LWR@inctheorem% lwarp
209 #3}%
210 }%
211 }%
212 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}
213 }

```

§ 464.6 **Standard styles**

```

214 \renewtheoremstyle{plain}%
215 {\item[
216 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]]%
217 {\item[
218 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]]
219
220 \renewtheoremstyle{break}%
221 {\item[
222 \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
223]}%
224 {\item[
225 \InlineClass{theoremheaderbreak}%
226 {##1\ ##2\ (##3)\theorem@separator}\newline
227]}
228
229 \renewtheoremstyle{change}%
230 {\item[
231 \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]]%
232 {\item[
233 \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theorem@separator}]]
234
235 \renewtheoremstyle{changebreak}%
236 {\item[
237 \InlineClass{theoremheaderchangebreak}%
238 {##2\ ##1\theorem@separator}\newline
239]}%
240 {\item[
241 \InlineClass{theoremheaderchangebreak}%
242 {##2\ ##1\ (##3)\theorem@separator}\newline
243]}
244
245 \renewtheoremstyle{margin}%
246 {\item[
247 \InlineClass{theoremheadermargin}{##2 \quad ##1\theorem@separator}
248]}%
249 {\item[
250 \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theorem@separator}
251]}
252
253 \renewtheoremstyle{marginbreak}%
254 {\item[
255 \InlineClass{theoremheadermarginbreak}%
256 {##2 \quad ##1\theorem@separator}\newline
257]}%
258 {\item[
259 \InlineClass{theoremheadermarginbreak}%
260 {##2 \quad ##1\ (##3)\theorem@separator}\newline
261]}
262
263 \renewtheoremstyle{nonumberplain}%
264 {\item[
265 \InlineClass{theoremheaderplain}{##1\theorem@separator}]]%
266 {\item[
267 \InlineClass{theoremheaderplain}{##1\ (##3)\theorem@separator}]]
268
269 \renewtheoremstyle{nonumberbreak}%
270 {\item[
271 \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline

```

```

272]}%
273 {\item[
274 \InlineClass{theoremheaderbreak}{##1\ (##3)\theoremseparator}\newline
275]}
276
277 \renewtheoremstyle{empty}%
278 {\item[]%
279 {\item[
280 \InlineClass{theoremheaderplain}{##3}}}
281
282 \renewtheoremstyle{emptybreak}%
283 {\item[]}%
284 {\item[
285 \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

### § 464.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
286 \ifbool{LWR@theoremamsthm}{}{%
```

Upright text via CSS:

```

287 \newtheoremstyle{plainupright}%
288 {\item[
289 \InlineClass{theoremheaderplain}{##1\ ##2\theoremseparator}]]%
290 {\item[
291 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theoremseparator}]]}

```

Upright text and small caps header via CSS:

```

292 \newtheoremstyle{nonumberplainuprightsc}%
293 {\item[
294 \InlineClass{theoremheadersc}{##1\theoremseparator}]]%
295 {\item[
296 \InlineClass{theoremheadersc}{##1\ (##3)\theoremseparator}]]}
297 }% not amsthm

```

### § 464.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

298 \ifbool{LWR@theoremamsthm}{}{%

299 \ifx\thm@usestd\@undefined
300 \else
301 \theoremnumbering{arabic}
302 \theoremstyle{plain}
303 \RequirePackage{latexsym}
304 \theoremsymbol{\Box}
305 \theorembodyfont{\itshape}
306 \theoremheaderfont{\normalfont\bfseries}
307 \theoremseparator{}
308 \renewtheorem{Theorem}{Theorem}
309 \renewtheorem{theorem}{Theorem}
310 \renewtheorem{Satz}{Satz}
311 \renewtheorem{satz}{Satz}

```

```

312 \renewtheorem{Proposition}{Proposition}
313 \renewtheorem{proposition}{Proposition}
314 \renewtheorem{Lemma}{Lemma}
315 \renewtheorem{lemma}{Lemma}
316 \renewtheorem{Korollar}{Korollar}
317 \renewtheorem{korollar}{Korollar}
318 \renewtheorem{Corollary}{Corollary}
319 \renewtheorem{corollary}{Corollary}
320
321 \theoremstyle{plainupright}
322 \theorembodyfont{\upshape}
323 \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
324 \renewtheorem{Example}{Example}
325 \renewtheorem{example}{Example}
326 \renewtheorem{Beispiel}{Beispiel}
327 \renewtheorem{beispiel}{Beispiel}
328 \renewtheorem{Bemerkung}{Bemerkung}
329 \renewtheorem{bemerkung}{Bemerkung}
330 \renewtheorem{Anmerkung}{Anmerkung}
331 \renewtheorem{anmerkung}{Anmerkung}
332 \renewtheorem{Remark}{Remark}
333 \renewtheorem{remark}{Remark}
334 \renewtheorem{Definition}{Definition}
335 \renewtheorem{definition}{Definition}
336
337 \theoremstyle{nonumberplainuprightsc}
338 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
339 \renewtheorem{Proof}{Proof}
340 \renewtheorem{proof}{Proof}
341 \renewtheorem{Beweis}{Beweis}
342 \renewtheorem{beweis}{Beweis}
343 \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
344
345 \theoremsymbol{}
346 \fi
347 }% not amsthm

```

#### §464.9 amsthm option

Many of the following are not `\VerifyCommand` because they are not yet defined.

Only if the `amsthm` option was given:

```

348 \ifbool{LWR@theoremamsthm}{
349
350 \VerifyCommand[lwarp][ntheorem-amsthm]{\th@plain}
351 {1FB8AE22BD4090F90D9031CFFC57DAFB}
352 \gdef\th@plain{%
353 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
354 \def\@begintheorem##1##2{%
355 \LWR@intheorem% lwarp
356 \item[
357 \InlineClass{theoremheaderplain}{##1\ ##2.}
358]}%
359 \def\@opargbegintheorem##1##2##3{%
360 \LWR@intheorem% lwarp
361 \item[
362 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}
363]}}
364

```

```
365 \VerifyCommand[lwarp][ntheorem-amsthm]{\th@nonumberplain}
366 {3E82A39A222021777BF8221C490E86EC}
367 \gdef\th@nonumberplain{%
368 \def\theoremheaderfont{\normalfont\bfseries}\itshape%
369 \def\@begintheorem##1##2{%
370 \LWR@intheorem% lwarp
371 \item[
372 \InlineClass{theoremheaderplain}{##1.}
373]}%
374 \def\@opargbegintheorem##1##2##3{%
375 \LWR@intheorem% lwarp
376 \item[
377 \InlineClass{theoremheaderplain}{##1\ (##3).}
378]}}
379
380 \gdef\th@definition{%
381 \def\theoremheaderfont{\normalfont\bfseries}\normalfont%
382 \def\@begintheorem##1##2{%
383 \LWR@intheorem% lwarp
384 \item[
385 \InlineClass{theoremheaderdefinition}{##1\ ##2.}
386]}%
387 \def\@opargbegintheorem##1##2##3{%
388 \LWR@intheorem% lwarp
389 \item[
390 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (##3).}
391]}}
392
393 \gdef\th@nonumberdefinition{%
394 \def\theoremheaderfont{\normalfont\bfseries}\normalfont%
395 \def\@begintheorem##1##2{%
396 \LWR@intheorem% lwarp
397 \item[
398 \InlineClass{theoremheaderdefinition}{##1.}
399]}%
400 \def\@opargbegintheorem##1##2##3{%
401 \LWR@intheorem% lwarp
402 \item[
403 \InlineClass{theoremheaderdefinition}{##1\ (##3).}
404]}}
405
406 \gdef\th@remark{%
407 \def\theoremheaderfont{\itshape}\normalfont%
408 \def\@begintheorem##1##2{%
409 \LWR@intheorem% lwarp
410 \item[
411 \InlineClass{theoremheaderremark}{##1\ ##2.}
412]}%
413 \def\@opargbegintheorem##1##2##3{%
414 \LWR@intheorem% lwarp
415 \item[
416 \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}
417]}}
418
419 \gdef\th@nonumberremark{%
420 \def\theoremheaderfont{\itshape}\normalfont%
421 \def\@begintheorem##1##2{%
422 \LWR@intheorem% lwarp
423 \item[
424 \InlineClass{theoremheaderremark}{##1.}
```

```

425]}%
426 \def\@opargbegintheorem##1##2##3{%
427 \LWR@intheorem% lwarp
428 \item[
429 \InlineClass{theoremheaderremark}{##1\ (##3).}
430]}]
431
432 \gdef\th@proof{%
433 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
434 \def\@begintheorem##1##2{%
435 \LWR@intheorem% lwarp
436 \item[
437 \InlineClass{theoremheaderproof}{##1.}
438]}%
439 \def\@opargbegintheorem##1##2##3{%
440 \LWR@intheorem% lwarp
441 \item[
442 \InlineClass{theoremheaderproof}{##1\ (##3).}
443]}]
444
445
446
447 \newcounter{proof}%
448 \if@thmmarks
449 \newcounter{currproofctr}%
450 \newcounter{endproofctr}%
451 \fi
452
453 \gdef\proofSymbol{\openbox}
454
455 \newcommand{\proofname}{Proof}
456
457 \newenvironment{proof}[1][\proofname]{
458 \th@proof
459 \def\theorem@headerfont{\itshape}%
460 \normalfont
461 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
462 \@thm{proof}{proof}{#1}
463 }%
464 {\@endtheorem}
465
466 }{}% amsthm option

```

## § 464.10 Ending a theorem

Patched for css:

```

467 \let\LWR@origendtheorem\@endtheorem
468 \renewcommand{\@endtheorem}{%
469 \ifbool{LWR@theoremmarks}{%
470 \ifsetendmark%
471 \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
472 \setendmarkfalse%
473 \fi%
474 }{}%
475 \LWR@origendtheorem% also does \@endtrivlist
476 \ifbool{LWR@theoremmarks}{\global\setendmarktrue}{}%

477 \LWR@printpendingfootnotes%

```

lwarp



```
478 \endBlockClass%
479 }
```

#### § 464.11 **\NoEndMark**

```
480 \gdef\NoEndMark{\global\setendmarkfalse}
```

#### § 464.12 **List-of**

Redefined to reuse the float mechanism to add list-of-theorem links:

```
\thm@thmline {\langle 1: printed type \rangle} {\langle 2: # \rangle} {\langle 3: optional \rangle} {\langle 4: page \rangle}
```

```
481 \renewcommand{\thm@@thmline@noname}[4]{%
482 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}%
483 }
484
485 \renewcommand{\thm@@thmline@name}[4]{%
486 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}%
487 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `lwarp`:

```
488 \def\thm@@thmline{\thm@@thmline@name}
```

Patch for css:

```
489 \xpretocmd{\listtheorems}
490 {\LWR@html@elementclass{nav}{lohtm}}
491 {}
492 {\LWR@patcherror{ntheorem}{listtheorems}}
493
494 \xapptocmd{\listtheorems}
495 {\LWR@html@elementclassend{nav}{lohtm}}
496 {}
497 {\LWR@patcherror{ntheorem}{listtheorems}}
```

#### § 464.13 **Symbols**

Proof QED symbol:

```
498 \newcommand{\qed}{\quad\the\qedsymbol}
499
500 \AtBeginDocument{
501 \ifundefined{LWR@orig@openbox}{
502 \LetLtxMacro\LWR@orig@openbox\openbox
503 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
504 \LetLtxMacro\LWR@orig@Box\Box
505
506 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
507 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
508 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
509
510 \appto\LWR@restoreorigformatting{%
511 \LetLtxMacro\openbox\LWR@orig@openbox%
512 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
513 \LetLtxMacro\Box\LWR@orig@Box%
514 }% appto
515 }{\}% @ifundefined
516 }% AtBeginDocument
```

§ 464.14 **Cross-referencing**

```
\thref {<label>}
```

```
517 \newcommand*{\thref}[1]{\cref{#1}}%
```

File 353 **lwarp-octave.sty**§ 465 Package **octave**

*(Emulates or patches code by ANDREW A. CASHNER.)*

octave (*Pkg*) **octave** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \VerifyCommand[lwarp][octave]{\@PrintTicks}{3565AEEE32BD9F87397E8C9AD5B6BEA2}
3
4 \RenewDocumentCommand{\@PrintTicks}{ m }{%
5 \kern-1pt% lwarp
6 \@TickNum = #1%
7 \loop
8 \@Tick{}%
9 \advance\@TickNum by -1
10 \ifnum\@TickNum > 0
11 \repeat
12 }
```

Use unicode for the prime character:

```
13 \RenewDocumentCommand{\@Tick}{}{\HTMLUnicode{2032}}
```

Catch the inline font:

```
14 \VerifyCommand[lwarp][octave]{\pitch}{3803E3D6B44EDFF8880F06BBE60571D9}
15
16 \RenewDocumentCommand{\pitch}{ m o m }{%
17 \if@OctaveNumber%
18 {%
19 \pitchfont{%
20 \LWR@textcurrentfont{% lwarp
21 \MakeUppercase{#1}%
22 \IfValueTF{#2}{#2}{\textsubscript{#3}}%
23 }%
24 }%
25 }%
26 \else%
27 {%
28 \pitchfont{%
29 \LWR@textcurrentfont{% lwarp
30 \@GetOctaveTick{#1}[#2]{#3}%
31 }%
32 }%
33 }%
34 \fi%
```

35 }

The original was hard to adapt to lwarp's handling of &.

```

36 \StartDefiningTabulars
37 \renewcommand{\octavetable}{%
38 \begin{tabular}{ll}
39 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
40 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
41 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
42 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
43 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
44 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
45 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
46 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
47 \end{tabular}
48 }
49 \StopDefiningTabulars

```

---

File 354 **lwarp-orcidlink.sty**

§ 466 Package **orcidlink**

*(Emulates or patches code by LEO C. STEIN.)*

orcidlink (*Pkg*) orcidlink is patched for use by lwarp.

**for HTML output:**

```

1 \RequirePackage{lwarp-scalerel}
2
3 \LWR@ProvidesPackagePass{orcidlink}[2024/06/26]
4
5 \xpretocmd{\orcidlogo}
6 {\begin{lateximage}[orcidlogo]}
7 {}
8 {\LWR@patcherror{orcidlink}{orcidlogo pre}}
9
10 \xapptocmd{\orcidlogo}
11 {\end{lateximage}}
12 {}
13 {\LWR@patcherror{orcidlink}{orcidlogo post}}
14
15 \VerifyCommand[lwarp][orcidlink]{\orcidlinkX}
16 {3CDD2DC196F113AE4758968E937D7D08}
17
18 \renewrobustcmd{\orcidlinkX}[3]{%
19 \href%
20 {https://orcid.org/#2}%
21 {\ifstrempy{#1}{\#1\,}%
22 \begin{lateximage}*[orcid #2]?%
23 \orcidlogo%
24 \end{lateximage}% lwarp
25 \ifstrempy{#3}{\, #3}%
26 }%
27 }
28
29 \begin{warpMathJax}

```

```
30 \CustomizeMathJax{\newcommand{\orcidlink}[1]{} }
31 \end{warpMathJax}
```


---

File 355 **lwarp-overpic.sty**

§ 467 Package **overpic**

(Emulates or patches code by ROLF NIEPRASCHK.)

overpic (*Pkg*) overpic is patched for use by lwarp.

 **scaling** The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

See section 90.2 for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]
2 \newcommand*\overpicfontsize{12}
3 \newcommand*\overpicfontskip{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6 \begin{lateximage}%
7 \fontsize{\overpicfontsize}{\overpicfontskip}%
8 \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%
14 \begin{lateximage}%
15 \fontsize{\overpicfontsize}{\overpicfontskip}%
16 \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}
```

---

File 356 **lwarp-pagegrid.sty**

§ 468 Package **pagegrid**

pagegrid (*Pkg*) pagegrid is ignored.

**for HTML output:**


```
1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]
2 \newcommand*\pagegridsetup[1]{}
```

---

File 357 **lwarp-pagenote.sty**

§ 469 Package **pagenote**

`pagenote` (*Pkg*) `pagenote` works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

**for HTML output:**

```
1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]
```

For `MATHJAX`:

```
3 \begin{warpMathJax}
4 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{{}^{\mathrm{#1}}}}
7 \end{warpMathJax}
```

There is no `\pagenotemark`, so the following are not required:

```
\providecommand{\pagenotename}{pagenote}
\appto\LWR@syncnotenames{\LWR@synconenotename{LWRpagenote}{\pagenotename}}
```

---

File 358 **lwarp-pagesel.sty**

§ 470 Package **pagesel**

`pagesel` (*Pkg*) `pagesel` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]
```

---

File 359 **lwarp-paralist.sty**

§ 471 Package **paralist**

*(Emulates or patches code by BERND SCHANDL.)*

`paralist` (*Pkg*) `paralist` is supported with minor changes.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]
```

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert `\item` to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\LWR@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\LWR@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\LWR@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{\normalfont\textbf{#1}}
```

File 360 **lwarp-parallel.sty**

§ 472 Package **parallel**

(Emulates or patches code by MATTHIAS ECKERMANN.)

`parallel` (*Pkg*) `parallel` is emulated.

Package options are ignored. Footnotes are treated as normal `lwarp` footnotes.

Environment option `c` gives side-by-side `<div>`s of class `minipage`, each of whose width is a percent depending on the given left and right widths, proportional to `\linewidth`.

Inside each environment, `\linewidth` and `\textwidth` are set for the print-output sizes.

for HTML output: Discard all options for `lwarp-parallel`:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]

2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*{\LWR@parallel@border}
5
6 \newenvironment*{Parallel}[3][[%
7 {%
8 \LWR@printpendingfootnotes%
9 \setlength{\linewidth}{\LWR@userstextwidth}%
10 \setlength{\textwidth}{\LWR@userstextwidth}%
11 \renewcommand*{\LWR@parallel@border}{}%
12 \ifstrequal{#1}{v}%
13 {%
14 \renewcommand*{\LWR@parallel@border}{ ; border-left: 2px solid black}%
15 }%
16 }%
17 \ifblank{#2}{%
18 \ifblank{#3}{% {}{}
19 \setcounter{LWR@parallel@Lwidth}{45}%
20 \setcounter{LWR@parallel@Rwidth}{45}%
21 }% {}{}
22 }% {}{x}
23 \setlength{\LWR@templengthone}{\linewidth-#3}%
24 \setcounter{LWR@parallel@Lwidth}{%
25 90*\ratio{\LWR@templengthone}{\linewidth}%
26 }%
27 \setcounter{LWR@parallel@Rwidth}{%
```

```

28 90*\ratio{#3}{\linewidth}%
29 }%
30 }% {x}{x}
31 }% #2 blank
32 {% #2 non-blank
33 \ifblank{#3}{% {x}{x}
34 \setcounter{LWR@parallel@Lwidth}{%
35 90*\ratio{#2}{\linewidth}%
36 }%
37 \setlength{\LWR@templengthone}{\linewidth-#2}%
38 \setcounter{LWR@parallel@Rwidth}{%
39 90*\ratio{\LWR@templengthone}{\linewidth}%
40 }%
41 }% {x}{x}
42 {% {x}{x}
43 \setcounter{LWR@parallel@Lwidth}{%
44 90*\ratio{#2}{\linewidth}%
45 }%
46 \setcounter{LWR@parallel@Rwidth}{%
47 90*\ratio{#3}{\linewidth}%
48 }%
49 }% {x}{x}
50 }% #2 non-blank
51 }
52 {%
53 \ParallelAtEnd%
54 \renewcommand*\ParallelAtEnd{}%
55 \LWR@printpendingfootnotes%
56 }
57
58 \newcommand*\ParallelLText}[1]{%
59 \begin{BlockClass}[%
60 width:\arabic{LWR@parallel@Lwidth}\% ; % space
61 padding: .5ex 1\% ; % space
62]{minipage}%
63 #1%
64 \end{BlockClass}%
65 }
66
67 \newcommand*\ParallelRText}[1]{%
68 \begin{BlockClass}[%
69 width:\arabic{LWR@parallel@Rwidth}\% ; % space
70 padding: .5ex 1\% ; % space
71 \LWR@parallel@border%
72]{minipage}%
73 #1%
74 \end{BlockClass}%
75 }
76
77 \newcommand*\ParallelPar{\LWR@printpendingfootnotes}
78
79 \newcommand*\ParallelAtEnd{}

```

---

File 361 **lwarp-parcolumns.sty**

§ 473 Package **parcolumns**

(Emulates or patches code by JONATHAN SAUER.)

`parcolumns` (*Pkg*) `parcolumns` is emulated.

`rulebetween` is honored. The other keys are ignored, including `colwidths`.

Each column is placed inside a `<div>` of class `minipage`, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, `\linewidth`, `\textwidth`, and `\textheight` are set for a virtual 6 × 9 inch page, with `\linewidth` divided by the number of columns.

for HTML output: Discard all options for `lwarp-parcolumns`:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]

4 \newcounter{LWR@parcolumns@numcols}
5 \newcounter{LWR@parcolumns@thiscol}
6 \newcounter{LWR@parcolumns@width}
7 \newbool{LWR@parcolumns@started}
8 \newbool{LWR@parcolumns@rule}
9
10 \define@key{LWRparcols}{colwidths}{}
11 \define@key{LWRparcols}{distance}{}
12 \define@key{LWRparcols}{rulebetween}[true]{%
13 \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}
16 \define@key{LWRparcols}{sloppy}{}
17 \define@key{LWRparcols}{sloppyspaces}{}
18
19 \newenvironment*{parcolumns}[2][
20 {%
21 \begin{LWR@setvirtualpage}*[#2]%
22 \setcounter{LWR@parcolumns@numcols}{#2}%
23 \setcounter{LWR@parcolumns@thiscol}{1}%
24 \boolfalse{LWR@parcolumns@started}%
25 \boolfalse{LWR@parcolumns@rule}%
26 \setcounter{LWR@parcolumns@width}{%
27 85/#2
28 }%
29 \setkeys{LWRparcols}{#1}%
30 }
31 {%

32 \colplacechunks%
33 \end{LWR@setvirtualpage}%
34 }
35
36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37 \ifbool{LWR@parcolumns@started}%
38 {}%
39 {%
40 \LWR@htmldivclass{parcolumns}%
41 \booltrue{LWR@parcolumns@started}%
42 }%
43 \ifboolexpr{%
44 bool {LWR@parcolumns@rule} and
45 test {%

```



```

46 \ifnumgreater
47 {\value{LWR@parcolumns@thiscol}}
48 {1}
49 }%
50 }%
51 {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
52 {\renewcommand{\LWR@tempone}{}}%
53 \begin{BlockClass}[%
54 width:\arabic{LWR@parcolumns@width}\% ; % space
55 padding: .5ex 1\% ; % space
56 \LWR@tempone%
57]{minipage}%
58 #1%
59 \end{BlockClass}%
60 \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64 \whileboolexpr{%
65 test {%
66 \ifnumcomp%
67 {\value{LWR@parcolumns@thiscol}}
68 {<}
69 {#1}%
70 }%
71 }{%
72 \LWR@parcolumns@onecol{#1}%
73 }%
74 \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*\colplacechunks{%
78 \ifbool{LWR@parcolumns@started}%
79 {%
80 \LWR@htmldivclassend{div}%
81 \boolfalse{LWR@parcolumns@started}%
82 }%
83 {%
84 \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

---

File 362 **lwarp-parnotes.sty**

§ 474 Package **parnotes**

*(Emulates or patches code by CHELSEA HUGHES.)*

parnotes (*Pkg*) **parnotes** is supported with some patches.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{parnotes}[2019/07/23]
2 \VerifyCommand[lwarp][parnotes]{\PN@parnote@real}
3 {91361D751D6393BA644478FDE4A764DA}
4
5 \long\def\PN@parnote@real#1#2{%
6 \parnotemark{#1}%
7 % Unless this is the first parnote in \PN@text, add a separator first

```

```

8 \unless\ifx\PN@text\@empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
9 % Redefine \@currentlabel to the parnote label, so \label works
10 \g@addto@macro\PN@text{%
11% \phantomsection%
12 \def\@currentlabel{#1}%
13 \def\cref@currentlabel{% lwarp
14 [parnotemark][\arabic{parnotemark}][\theparnotemark%
15]%
16 }%
17 \g@addto@macro\PN@text{%
18 \LWR@textcurrentfont{% lwarp
19 \parnotemark{#1}\nolinebreak\thinspace#2%
20 }%
21 }%
22 }
23
24 \VerifyCommand[lwarp][parnotes]{\PN@parnotes@real}
25 {AF1257823BFCBC31ADDA4AAE1F3F3710}
26
27 \def\PN@parnotes@real{%

28 \ifPN@inparnotes
29 \else

30 \LWR@stoppars%

```

Avoid nested paragraphs:

```

31 \addtocounter{LWR@spandepth}{1}%

32 % We call \par later, so this avoids recursion with \PN@parnotes@auto
33 \PN@inparnotestruer
34% \unless\ifvmode\par\fi
35 % Avoid page breaks between a paragraph and its parnotes
36% \nopagebreak\addvspace{\parnotevskip}%
37 \begin{BlockClass}(note){footnotes}% lwarp
38 \leavevmode\LWR@orignewline%

```

Typeset the parnote inside its own group to avoid global changes:

```

39 {%
40 \parnotefmt{\PN@text}%
41 }%
42 \leavevmode\LWR@orignewline%
43 \end{BlockClass}% lwarp

44 \leavevmode\LWR@orignewline%
45 \global\def\PN@text{}%
46 %
47 % These can be enabled or disabled by package options
48 %
49 \PN@disable@indent
50 \PN@reset@optional
51 \PN@inparnotesfalse

```

Reenable normal paragraph handling:

```

52 \addtocounter{LWR@spandepth}{-1}%
53 \fi
54 }

55 \newbool{LWR@parnotes@doingauto}
56 \boolfalse{LWR@parnotes@doingauto}

57 \VerifyCommand[lwarp][parnotes]{\PN@parnotes@auto}
58 {08CC1722ABA55FA01D64F2B29C919D70}
59
60 \def\PN@parnotes@auto{%
61 \ifbool{LWR@parnotes@doingauto}{
62 \ifx\@currenvir\@PN@autopn
63 \unless\ifPN@inparnotes
64 \unless\ifx\PN@text\@empty
65 \expandafter\PN@parnotes@real
66 \fi
67 \fi
68 \fi
69 }{}%
70 }

```

Replace original logic due to the use of new L<sup>A</sup>T<sub>E</sub>X paragraph hook handling:

```

71 \renewenvironment{autopn}%
72 {\booltrue{LWR@parnotes@doingauto}}
73 {\PN@parnotes@auto}%

```

If `cleveref` is in use, name the new notes:

```

74 \AtBeginDocument{
75 \ifdef{\crefname}{
76 \crefname{parnotemark}{paragraph note}{paragraph notes}
77 \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
78 }{}
79 }

```

To nullify the footnotes where necessary:

```

80 \apptocmd{\LWR@nullifyfootnotes}{%
81 \renewcommand{\parnote}[2][{}]{%
82 \renewcommand\parnotemark[1]{}%
83 }{}{}

```

For MATHJAX:

```

84 \begin{warpMathJax}
85 \providecommand{\parnotename}{parnote}
86 \appto\LWR@syncnotenumbers{%
87 \addtocounter{parnotemark}{-1}% specific to parnotes
88 \LWR@synconenotenummer{LWRparnote}{\theparnotemark}%
89 \addtocounter{parnotemark}{1}% specific to parnotes
90 }
91 \appto\LWR@syncnotenames{\LWR@synconenotename{LWRparnote}{\parnotename}}
92 \CustomizeMathJax{\def\LWRparnote{1}}
93 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{\mathrm{#1}}}
94 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{\mathrm{#1}}}
95 \end{warpMathJax}

```

---

File 363 **lwarp-parskip.sty**

§ 475 Package **parskip**

`parskip (Pkg)` `parskip` is ignored.

**for HTML output:** Discard all options for `lwarp-parskip`.

```
1 \LWR@ProvidesPackageDrop{parskip}[2001/04/09]
```

---

File 364 **lwarp-pbalance.sty**

§ 476 Package **pbalance**

`pbalance (Pkg)` `pbalance` is ignored.

**for HTML output:**

```
1 \RequirePackage{balance}
2
3 \LWR@ProvidesPackageDrop{pbalance}[2022/07/28]

4 \newcommand\shrinkLastPage[1]{}
5 \newcommand\balancePageNum[1]{}
6 \newcommand\nopbalance{}
```

---

File 365 **lwarp-pbox.sty**

§ 477 Package **pbox**

*(Emulates or patches code by SIMON LAW.)*

`pbox (Pkg)` `pbox` is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]

2 \NewDocumentCommand{\pbox}{0{t} 0{} 0{t} m +m}{%
3 \global\booltrue{LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }
6
7 \newcommand{\settomwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

---

File 366 **lwarp-pdfcol.sty**

§ 478 Package **pdfcol**

pdfcol (*Pkg*) pdfcol is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7 \PackageInfo{lwarp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
9
10 \def\pdfcolInitStack#1{%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{%
15
16 \def\pdfcolSetCurrentColor{%
17
18 \def\pdfcolSetCurrent#1{%
```

---

File 367 **lwarp-pdfcolfoot.sty**

§ 479 Package **pdfcolfoot**

pdfcolfoot (*Pkg*) pdfcolfoot is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*\pdfcolfoot@switch{}
4
5 \newcommand*\pdfcolfoot@current{}
```

---

File 368 **lwarp-pdfcolmk.sty**

§ 480 Package **pdfcolmk**

pdfcolmk (*Pkg*) pdfcolmk is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]
```

File 369 **lwarp-pdfcolparallel.sty**§ 481 Package **pdfcolparallel**

pdfcolparallel (*Pkg*) pdfcolparallel is ignored.

**for HTML output:**

```
1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDropA{pdfcolparallel}{2016/05/16}
```

Pass options to parallel:

```
4 \DeclareOption*{%
5 \PassoptionsToPackage{\CurrentOption}{parallel}%
6 }
```

Process the options:

```
7 \LWR@ProvidesPackageDropB
```

Require parallel with the given options:

```
8 \RequirePackage{parallel}[2003/04/13]
```

Ignore the new key:

```
9 \define@key{parallel}{rulebetweencolor}{}

```

File 370 **lwarp-pdfcolparcolumns.sty**§ 482 Package **pdfcolparcolumns**

pdfcolparcolumns (*Pkg*) pdfcolparcolumns is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}
```

Pass options to parcolumns:

```
2 \DeclareOption*{%
3 \PassoptionsToPackage{\CurrentOption}{parcolumns}%
4 }
```

Process the options:

```
5 \LWR@ProvidesPackageDropB
```

Require parcolumns with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}

```

---

File 371 **lwarp-pdfcomment.sty**

§ 483 Package **pdfcomment**

pdfcomment (*Pkg*) pdfcomment is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2][{}]{
3 \newcommand{\pdfcomment}[2][{}]{
4 \newcommand{\pdfmargincomment}[2][{}]{
5 \newcommand{\pdfmarkupcomment}[3][]{#2}
6 \newcommand{\pdfreetextcomment}[2][{}]{
7 \newcommand{\pdfsquarecomment}[2][{}]{
8 \newcommand{\pdfcirclecomment}[2][{}]{
9 \newcommand{\pdflinecomment}[2][{}]{
10 \newcommand{\pdftooltip}[3][]{#2}
11 \newcommand{\pdfcommentsetup}[2][{}]{
12 \newcommand{\listofpdfcomments}[1][{}]{
13 \newcommand{\setliststyle}[1]{
14 \newcommand{\defineliststyle}[2]{
15 \newcommand{\defineavatar}[2]{
16 \newcommand{\definestyle}[2]{

```

For MATHJAX:

```
17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][]{#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][]{#2}}
20 \end{warpMathJax}

```

---

File 372 **lwarp-pdfcrypt.sty**

§ 484 Package **pdfcrypt**

pdfcrypt (*Pkg*) pdfcrypt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{

```

---

File 373 **lwarp-pdflscope.sty**

§ 485 Package **pdflscope**

pdflscope (*Pkg*) pdflscope is ignored.

**for HTML output:** Discard all options for `lwarp-pdflscape`:

```
1 \LWR@ProvidesPackageDrop{pdf\lscape}[2019/12/05]

2 \let\landscape\relax
3 \let\endlandscape\relax
4
5 \newenvironment*{landscape}{}{}
```

---

File 374 **lwarp-pdfmarginpar.sty**

§ 486 Package **pdfmarginpar**

`pdfmarginpar` (*Pkg*) `pdfmarginpar` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]

2 \newcommand{\pdfmarginpar}[2][{}]{
3 \newcommand{\pdfmarginparset}[1]{}
```

---

File 375 **lwarp-pdfpages.sty**

§ 487 Package **pdfpages**

*(Emulates or patches code by ANDREAS MATTHIAS.)*

`pdfpages` (*Pkg*) `pdfpages` is patched for use by `lwarp`.

Option `link` and `linkname` work:

---

```
\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{some text}
```

---

Options which make no sense in HTML are disabled.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfpages}[2025/01/30]

Disable option which have no meaning for HTML output:

```
2 \define@key{pdfpages}{fitpaper}[false]{
3 \define@key{pdfpages}{landscape}[false]{
4 \define@key{pdfpages}{openright}[false]{
5 \define@key{pdfpages}{signature}{}
6 \define@key{pdfpages}{signature*}{}
7 \define@key{pdfpages}{booklet}[false]{
8 \define@key{pdfpages}{rotateoversize}[false]{
9 \define@key{pdfpages}{doublepages}[false]{
10 \define@key{pdfpages}{doublepagetwist}[false]{
11 \define@key{pdfpages}{doublepagetwistodd}[false]{
12 \define@key{pdfpages}{doublepagetwist*}[false]{
13 \define@key{pdfpages}{doublepagetwistodd*}[false]{
```



```

14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}
17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}
```

Emulate a bit of eso-pic:

```

25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

\LWR@esopic@newpage

At each \newpage.

```
32 \newcommand*{\LWR@esopic@newpage}{%
```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {%

```

If the link option was specified, add a hyper target:

```

36 \ifAM@link%
37 \hypertarget{\AM@linkname.\AM@page}{}%
38 \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39 \begingroup%
40 \setlength{\unitlength}{1in}%
41 \begin{picture}(8,10.5)%
42 \ESO@HookIIBG%
43 \end{picture}%
44 \endgroup%
45 \global\let\ESO@HookIIBG@empty%
46 }
47 }

```

\AM@output

Patched to use \LWR@esopic@newpage.

```

48 \VerifyCommand[lwarp][pdfpages]{\AM@output@i}
49 {D0BFE89856940CA3EA9196AA08AA8A95}
50
51 \xpatchcmd{\AM@output@i}
52 {\clearpage}%
53 {\LWR@esopic@newpage}

```

```

54 {}
55 {\LWR@patcherror{pdfpages}{AM@output-1}}
56
57 \xpatchcmd{\AM@output@i}
58 {\clearpage}%
59 {\LWR@esopic@newpage}
60 {}
61 {\LWR@patcherror{pdfpages}{AM@output-2}}
62
63 \xpatchcmd{\AM@output@i}
64 {\newpage}
65 {\LWR@esopic@newpage}
66 {}
67 {\LWR@patcherror{pdfpages}{AM@output-3}}

```

`\includepdf`

Patched to set the user's paper size.

```

68 \xpretocmd{\includepdf}{%
69 \begingroup%
70 \setlength{\paperwidth}{\LWR@userspaperwidth}%
71 \setlength{\paperheight}{\LWR@userspaperheight}%
72 }{}{}
73
74 \xapptocmd{\includepdf}{%
75 \endgroup%
76 }{}{}

```

`\includepdfmerge`

Patched to set the user's paper size.

```

77 \xpretocmd{\includepdfmerge}{%
78 \begingroup%
79 \setlength{\paperwidth}{\LWR@userspaperwidth}%
80 \setlength{\paperheight}{\LWR@userspaperheight}%
81 }{}{}
82
83 \xapptocmd{\includepdfmerge}{%
84 \endgroup%
85 }{}{}

```

`\AM@hyper@begin@i`Hyper links are created by `\LWR@esopic@newpage`, so don't create them here:

```
86 \renewcommand{\AM@hyper@begin@i}{}

```

File 376 **lwarp-pdfprivacy.sty**§ 488 Package **pdfprivacy**pdfprivacy (*Pkg*) pdfprivacy is ignored.**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

---

File 377 **lwarp-pdfrender.sty**

§ 489 Package **pdfrender**

pdfrender (*Pkg*) pdfrender is allowed during HTML, but it has no effect on HTML text output. pdfrender is enabled for use with xfakebold, and it is enabled during HTML so that it may be in use when an SVG math image is started. I.e. xfakebold's `\setBold` may be used outside of a math expression and still be detected when the math begins.

The lwarp-pdfrender package is present because it used to disable pdfrender, so this newer version is to overwrite older versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfrender}[2019/12/29]

---

File 378 **lwarp-pdfsync.sty**

§ 490 Package **pdfsync**

(Emulates or patches code by J. LAURENS.)

pdfsync (*Pkg*) pdfsync is ignored.

**for HTML output:** Discard all options for lwarp-pdfsync:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]

2 \newcommand*\pdfsync{}
3 \newcommand*\pdfsyncstart{}
4 \newcommand*\pdfsyncstop{}
```


---

File 379 **lwarp-pdftricks.sty**

§ 491 Package **pdftricks**

(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)

pdftricks (*Pkg*) pdftricks is patched for use by lwarp.

 **convert image files** The pdftricks image files `<jobname>-fig*.pdf` must be converted to `.svg`, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig\*.pdf**

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]

Reuse the print-mode images:

```
2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}
```

If the .pdf images have not yet been converted to .svg then an error about a missing file will occur. Warn the user to convert the images.

```

3 \PackageWarning{lwarp-pdftricks}{%
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'lwarpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'lwarpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}

```

---

File 380 **lwarp-pdfx.sty**

§ 492 Package **pdfx**

pdfx (*Pkg*) pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

---

File 381 **lwarp-perpage.sty**

§ 493 Package **perpage**

(*Emulates or patches code by DAVID KASTRUP.*)

perpage (*Pkg*) perpage is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines \the<countname> to include \theperpage, it is necessary to place that redefinition inside a warpprint environment to avoid modifying the HTML definitions.

\AddAbsoluteCounter must not be inside warpprint, as the counter must be added for HTML also, although it is not incremented.

[footnote numbering](#) To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For bigfoot, manyfoot, or perpage:

```

\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}

```

The footnotes are reset when they are printed, according to section level as set by FootnoteDepth, which is not necessarily by HTML page. This is recommended for \alph, \Alph, or \fnsymbol footnotes, due to the limited number of symbols which are available.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]

```

2 \newcommand\AddAbsoluteCounter[1]
3 {
4 \ifundefined{c@abs#1}{%
5 \expandafter\newcount\csname c@abs#1\endcsname
6 \global\value{abs#1}\@ne
7 \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8 \expandafter\xdef\csname theabs#1\endcsname{%
9 \noexpand\number \csname c@abs#1\endcsname
10 }%
11 \global\@namedef{c@pabs#1}{\pp@cl@begin
12 \stepcounter{abs#1}%
13 \pp@cl@end}%
14 \@addtoreset{pabs@#1}{#1}
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*\MakePerPage[2][1]{%
23 \ifltxcounter{#2Reset}{%
24 \setcounter{#2Reset}{#1}%
25 }{
26
27 }%
28 }
29
30 \newcommand*\MakeSorted[1]{}
31
32 \newcommand*\MakeSortedPerPage[2][1]{%
33 \ifltxcounter{#2Reset}{%
34 \setcounter{#2Reset}{#1}%
35 }{
36 }%
37 }
38
39 \newcommand*\theperpage{1}

```

---

File 382 **lwarp-pfnote.sty**

§ 494 Package **pfnote**

pfnote (*Pkg*) pfnote is ignored.

**pfnote** While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. **pfnote numbers** lwarp therefore uses continuous footnote numbering even for pfnote.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 383 **lwarp-phfqit.sty**

§ 495 Package **phfqit**

*(Emulates or patches code by PHILIPPE FAIST.)*

phfqit (*Pkg*) **phfqit** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]
2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%
6 text-decoration: overline underline ;
7]{bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }
```

---

File 384 **lwarp-physics.sty**

§ 496 Package **physics**

*(Emulates or patches code by SERGIO C. DE LA BARRERA.)*

physics (*Pkg*) **physics** works as-is for HTML with SVG math.

For **MATHJAX**, the **MATHJAX v3 physics** extension is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.
2 \begin{warpMathJax}
3 \PackageNoteNoLine{lwarp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}
```

---

File 385 **lwarp-physunits.sty**

§ 497 Package **physunits**

*(Emulates or patches code by BRIAN W. MULLIGAN.)*

physunits (*Pkg*) **physunits** is supported as-is for SVG math, and is emulated for **MATHJAX**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]
```

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}[1][]{\, \mathrm{#1V}}}
7 \CustomizeMathJax{\newcommand{\Volt}[1][]{\, \mathrm{#1V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][]{\, \mathrm{#1C}}}
9 \CustomizeMathJax{\newcommand{\esu}{\, \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}[1][]{\, \mathrm{#1\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}[1][]{\, \mathrm{#1A}}}
12 \CustomizeMathJax{\newcommand{\Farad}[1][]{\, \mathrm{#1F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}[1][]{\, \mathrm{#1T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}[1][]{\, \mathrm{#1G}}}
15 \CustomizeMathJax{\newcommand{\Henry}[1][]{\, \mathrm{#1H}}}
16 \CustomizeMathJax{\newcommand{\eV}[1][]{\, \mathrm{#1eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\, \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\, \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}[1][]{\, \mathrm{#1J}}}
20 \CustomizeMathJax{\newcommand{\Joule}[1][]{\, \mathrm{#1J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\, \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\, \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\, \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}[1][]{\, \mathrm{#1cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\, \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\, \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}[1][]{\, \mathrm{#1W}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\, \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\, \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\, \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}[1][]{\, \mathrm{#1m}}}
32 \CustomizeMathJax{\newcommand{\m}[1][]{\, \mathrm{#1m}}}
33 \CustomizeMathJax{\newcommand{\km}{\, \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\, \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}[1][]{\, \mathrm{#1pc}}}
36 \CustomizeMathJax{\newcommand{\ly}[1][]{\, \mathrm{#1ly}}}
37 \CustomizeMathJax{\newcommand{\cm}{\, \mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\, \mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\, \mathrm{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\, \mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\, \mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][]{\, \mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][]{\, \mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\, \mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\, \mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][]{\, \mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\, \mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][]{\, \mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\, \mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\, \mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\, \mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][]{\, \mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][]{\, \mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][]{\, \mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\, \mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmps}{\, \mathrm{km}\, \mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\, \mathrm{km}\, \mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}[1][]{\, \mathrm{#1m}\, \mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\, \mathrm{mi}\, \mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\, \mathrm{kts}}}

```

```

62
63 \CustomizeMathJax{\newcommand{\mpss}[1][]{\, \mathrm{#1m}\, \mathrm{s}^{-2}}}
64 \CustomizeMathJax{\newcommand{\gacc}{\, \mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftps}[1][]{\, \mathrm{ft}\, \mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][]{\, \mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][]{\, \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\, ^\circ\mathrm{C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\, ^\circ\mathrm{R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\, ^\circ\mathrm{F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\, \mathrm{rev}\, \mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][]{\, \mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][]{\, \mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\, \mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][]{\, \mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\, \mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\, \mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lpsi}{\, \mathrm{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\, \mathrm{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][]{\, \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}[1][]{\, \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\, \mathrm{mol}}}
85 \end{warpMathJax}

```

---

File 386 **lwarp-picinpar.sty**

§ 498 Package **picinpar**

*(Emulates or patches code by FRIEDHELM SOWA.)*

picinpar (*Pkg*) picinpar is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3 \if #2r%
4 \begin{BlockClass}[float:right](note){marginblock}%
5 \else%
6 \begin{BlockClass}[float:left](note){marginblock}%
7 \fi%
8 #3\par%
9 #4%
10 \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.

```

16 \def\LWR@HTML@framepic#1{%
17 \begin{BlockClass}{framebox}
18 \expandafter\box\csname #1box\endcsname%

```



```

19 \end{BlockClass}
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23 \begin{BlockClass}{framebox}
24 \expandafter\box\csname #1box\endcsname%
25 \end{BlockClass}
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}
30 #1: #2
31 \end{BlockClass}
32 }
33 \LWR@formatted{@makewincaption}

```

With HTML output, figwindow and tabwindow must not pre-decrement their counters.

```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 \advance\c@figure -1
36 \window[#1,#2,{#3},{\def\capttype{figure}%
37 \wincaption#4\par}] }
38
39 \def\endLWR@HTML@figwindow{\endwindow}
40
41 \LWR@formattedenv{figwindow}

```

For tabwindow, to change the catcode of &, \StartDefiningTabulars is used before absorbing the arguments, and \EndDefiningTabulars is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 \advance\c@table -1
44 \window[#1,#2,{#3},{\def\capttype{table}%
45 \wincaption#4\par}] }
46
47 \newcommand*\LWR@HTML@tabwindow{%
48 \StartDefiningTabulars%
49 \LWR@HTML@subtabwindow%
50 }
51
52 \def\endLWR@HTML@tabwindow{%
53 \endwindow%
54 \StopDefiningTabulars%
55 }
56
57 \LWR@formattedenv{tabwindow}

```

---

File 387 **lwarp-pifont.sty**

§ 499 Package **pifont**

*(Emulates or patches code by WALTER SCHMIDT.)*

pifont (*Pkg*) pifont is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]
2 \renewcommand{\Pisymbol}[2]{%
3 \begin{lateximage}*[Pisymbol][pisymbol#1#2]%
4 {\Pifont{#1}\char#2}%
5 \end{lateximage}%
6 }
7
8 \newcommand{\LWR@HTML@Pifill}[2]{
9 \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14 \par\noindent\hspace*{0.5in}
15 \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}
16 }
17 \LWR@formatted{Piline}

```

---

File 388 **lwarp-pinlabel.sty**

§ 500 Package **pinlabel**

*(Emulates or patches code by COLIN ROURKE.)*

pinlabel (*Pkg*) pinlabel is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pinlabel}% no date given
2 \xpretocmd{\psfig}
3 {\begin{lateximage}[-pinlabel--\PackageDiagramAltText]?}%
4 {}
5 {\LWR@patcherror{pinlabel}{psfigA}}
6
7 \xapptocmd{\psfig}
8 {\end{lateximage}}
9 {}
10 {\LWR@patcherror{pinlabel}{psfigB}}

```

---

File 389 **lwarp-placeins.sty**

§ 501 Package **placeins**

*(Emulates or patches code by DONALD ARSENEAU.)*

placeins (*Pkg*) placeins is ignored.

Discard all options for lwarp-placeins:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]  
2 \newcommand\*{\FloatBarrier}{}  

---

File 390 **lwarp-plarydshln.sty**

§ 502 Package **plarydshln**

plarydshln (*Pkg*) plarydshln is emulated by lwarp-arydshln.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]  
2 \LWR@origRequirePackage{lwarp-arydshln}  

---

File 391 **lwarp-plext.sty**

§ 503 Package **plext**

plext (*Pkg*) plext is preloaded by jarticle and related classes.

**for HTML output:** 1 \LWR@loadbefore{plext}  
2  
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]  
4 \let\tate\relax  
5  
6 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}  
7  
8 % \layoutfloat(width,height)[pos]#4  
9 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}  
10  
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]  
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}  
13  
14 \LetLtxMacro\pcaption\caption  
15  
16 % \layoutcaption<dir>(width)[pos]  
17 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}  
18  
19 \let\captiondir\relax

Add the optional `<t/y>` direction:

```

20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{ } O{t} m}
21 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22 {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }

```

picture, as modified by `pext`, is encapsulated by the `lwarp` core.

#### File 392 **lwarp-plextarydshln.sty**

### § 504 Package **plextarydshln**

`plextarydshln` (*Pkg*) `plextarydshln` is emulated by `lwarp-arydshln`.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]
2 \LWR@origRequirePackage{lwarp-arydshln}

```

#### File 393 **lwarp-plextcolortbl.sty**

### § 505 Package **plextcolortbl**

`plextcolortbl` (*Pkg*) `plextcolortbl` is emulated by `lwarp-colortbl`.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]
2 \LWR@origRequirePackage{lwarp-colortbl}

```

#### File 394 **lwarp-plimsoll.sty**

### § 506 Package **plimsoll**

*(Emulates or patches code by PALLE JØRGENSEN.)*

`plimsoll` (*Pkg*) `plimsoll` is used as-is for SVG math, and emulated for MATHJAX.

The `circ` option is honored. For MATHJAX, `\plimsollsans` is the same as `\plimsollroman`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}
4
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}
7
8 \ifdefstring{\stst}{^{\circ}}
9 {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}
10 {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}
11 \end{warpMathJax}

```

---

File 395 **lwarp-prelim2e.sty**

§ 507 Package **prelim2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

prelim2e (*Pkg*) **prelim2e** is ignored.

**for HTML output:** Discard all options for **lwarp-prelim2e**:

```

1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]
2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

---

File 396 **lwarp-prettyref.sty**

§ 508 Package **prettyref**

*(Emulates or patches code by KEVIN S. RULAND.)*

prettyref (*Pkg*) **prettyref** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]
2 \newrefformat{fig}{Figure \ref{#1}}
3 \newrefformat{tab}{Table \ref{#1}}

```

---

File 397 **lwarp-preview.sty**

§ 509 Package **preview**

preview (*Pkg*) **preview** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]

```

```

2 \newenvironment{preview}{}{}
3 \newenvironment{nopreview}{}{}
4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}
6 \newcommand{\PreviewSnarfEnvironment}[2]{}{}
7 \NewDocumentCommand{\PreviewOpen}{s o}{}
8 \NewDocumentCommand{\PreviewClose}{s o}{}
9 \let\ifPreview\iffalse% \fi for syntax highlighting

```


---


File 398 **lwarp-psfrag.sty**

§ 510 Package **psfrag**

(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)

psfrag (*Pkg*) psfrag is patched for use by lwarp.

 **use psfrags** The psfrags environment is modified to use `lateximage` to encapsulate the image. Always use a psfrags environment to contain any local `\psfrag` macros and the associated `\includegraphics` or `\epsfig` calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

 **Tip:** Use a mono-spaced font for the tags in the EPS file.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

A `lateximage` captures the modified image from the document.

```

2 \BeforeBeginEnvironment{psfrags}{%
3 \begin{lateximage}[-psfrags~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}

```

---

File 399 **lwarp-psfragx.sty**

§ 511 Package **psfragx**

(Emulates or patches code by PASCAL KOCKAERT.)

psfragx (*Pkg*) psfragx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A `lateximage` captures the modified image from the document.

```

2 \VerifyCommand[lwarp][psfragx]{\pfx@includegraphicx}
3 {45FCF58D66C0BFFFC685913A78CADF20D}
4
5 \def\pfx@includegraphicx#1#2{%
6 \begin{lateximage}[-psfragx~\PackageDiagramAltText]?%
7 \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
8 \end{lateximage}%
9 }

```

---

```

10
11 \VerifyCommand[lwarp][psfragx]{\@@@overpix}
12 {DD69D71E9C551D4D568AE4269AAAC1C0}
13
14 \def\@@@overpix[#1]<#2>[#3]#4{%
15 \begin{lateximage}[-psfragx-~\PackageDiagramAltText]?%
16 \pfx@overpix{#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
17 }
18
19 \VerifyCommand[lwarp][psfragx]{\endoverpix}
20 {722C858D87F96798ABE0BAF89CB13373}
21
22 \def\endoverpix{%
23 \endpfx@overpix%
24 \end{lateximage}%
25 }

```

---

File 400 **lwarp-pst-eps.sty**

§ 512 Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

pst-eps (*Pkg*) pst-eps is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][{}]{

```

---


File 401 **lwarp-pstool.sty**

§ 513 Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

pstool (*Pkg*) pstool is patched for use by lwarp.

\graphicspath is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk images**

.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

```

Each image is placed inside a `lateximage` to capture the results of `psfrag`.

```


2 \renewcommand\pstool@alwaysprocess[3][[]]{%
3 \begin{lateximage}[-pstool-~\PackageDiagramAltText]?%
4 \includegraphics{#2.pdf}%
5 \end{lateximage}%
6 }
7 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@psfragfig[4]{%
11 \begin{lateximage}[-pstool-~\PackageDiagramAltText]?%
12 \includegraphics{#2.pdf}%
13 \end{lateximage}%
14 }
```

File 402 **lwarp-pstricks.sty**

§ 514 Package **pstricks**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

`pstricks` (*Pkg*) `pstricks` is patched for use by `lwarp`.

 **use `pspicture`** All `pstricks` content should be contained inside a `pspicture` environment.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]
2 \BeforeBeginEnvironment{pspicture}{%
3 \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8 \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}
```

File 403 **lwarp-pxatbegshi.sty**

§ 515 Package **pxatbegshi**

`pxatbegshi` (*Pkg*) `pxatbegshi` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]
2 \LWR@origRequirePackage{lwarp-atbegshi}
```

File 404 **lwarp-pxeveryshi.sty**

§ 516 Package **pxeveryshi**

`pxeveryshi` (*Pkg*) `pxeveryshi` is ignored.



**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]  
2 \LWR@origRequirePackage{lwarp-everyshi}

---

File 405 **lwarp-pxfonts.sty**

§ 517 Package **pxfonts**

*(Emulates or patches code by YOUNG RYU.)*

pxfonts (*Pkg*) pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{pxfonts}
6
7 \LWR@mathjax@addgreek@l@up@{}{up}
8 \end{warpMathJax}
```

---

File 406 **lwarp-pxftnright.sty**

§ 518 Package **pxftnright**

pxftnright (*Pkg*) pxftnright is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]  
2 \LWR@origRequirePackage{lwarp-ftnright}

---

File 407 **lwarp-pxjahyper.sty**

§ 519 Package **pxjahyper**

pxjahyper (*Pkg*) pxjahyper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 408 **lwarp-pythontex.sty**

§ 520 Package **pythontex**

*(Emulates or patches code by GEOFFREY M. POORE.)*

pythontex (*Pkg*) pythontex is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pythontex}[2021/06/06]
2 \xpatchcmd{\pytx@FVB@SaveVerbatim}
3 {\FV@Scan}
4 {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
5 {}
6 {\LWR@patcherror{pythontex}{\pytx@FVB@SaveVerbatim}}
7
8 \xpatchcmd{\pytx@FVB@VerbatimOut}
9 {\FV@Scan}
10 {\boolfalse{LWR@HTMLsanitize@tmpb@enable}\FV@Scan}
11 {}
12 {\LWR@patcherror{pythontex}{\pytx@FVB@VerbatimOut}}
```

---

File 409 **lwarp-quotchap.sty**

§ 521 Package **quotchap**

*(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)*

quotchap (*Pkg*) quotchap is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]
2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}
```

Deactivate the quote printing:

```

13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%
```

Remember the width, adjusted for HTML, and make the length assignment global, per:

<https://tex.stackexchange.com/questions/300823/why-is-setlength-ineffective-inside-a-tabular-environment>

```

17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%
```

Remember the body, and activate the quote printing:

```
19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }
```

The quotation author is placed inside a <div> of class qauthor:

```
22 \newcommand{\qauthor}[1]{%
23 \LWR@stoppars%
24 \begin{BlockClass}{qauthor}%
25 {#1}%
26 \end{BlockClass}%
27 \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```
29 \newcommand{\qsetcnfont}[1]{%
30 \providecommand*\quotefont{}}
31 \providecommand*\qauthorfont{}
```

File 410 **lwarp-quoting.sty**

§ 522 Package **quoting**

*(Emulates or patches code by THOMAS TITZ.)*

quoting (*Pkg*) quoting is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```
2 \VerifyEnvironment[lwarp][quoting]{quoting}
3 {AEC586766C9109C2889BDED4AE083C05}{8CE7FB71438699772DFD79A2BC803AB3}
4
5 \xpatchcmd{\quoting}{\quo@begintext}
6 {\begin{LWR@blocktextcurrentfont}\quo@begintext}
7 {}
8 {\LWR@patcherror{quoting}{quoting}}
9
10 \xpatchcmd{\endquoting}{\quo@endtext}
11 {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
12 {}
13 {\LWR@patcherror{quoting}{endquoting}}
```

File 411 **lwarp-ragged2e.sty**

§ 523 Package **ragged2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

ragged2e (*Pkg*) ragged2e is emulated.

Discard all options for lwarp-ragged2e:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*\justifying{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}{\center}{\endcenter}
21 \newenvironment*{FlushLeft}{\flushleft}{\endflushleft}
22 \newenvironment*{FlushRight}{\flushright}{\endflushright}
23 \newenvironment*{justify}{\justifying}{\endjustifying}

```

---

File 412 **lwarp-realscripts.sty**

§ 524 Package **realscripts**

*(Emulates or patches code by WILL ROBERTSON.)*

realscripts (*Pkg*) **realscripts** is emulated. See `lwarp.css` for the `<span>` of class `supsubscript`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
5 \LWR@HTML@textsubscript{#1}
6 }
7
8 \LWR@formatted{realsubscript}
9
10
11 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
12 \LWR@HTML@textsuperscript{#1}
13 }
14
15 \LWR@formatted{realsuperscript}
16
17
18 \ExplSyntaxOff
19
20
21 \newcommand*\LWR@realscriptsalign{}
22
23 \newcommand*\LWR@setrealscriptsalign[1]{%

```

```

24 \renewcommand*\LWR@realscriptsalign{}%
25 \ifthenelse{\equal{#1}{c}}{%
26 \renewcommand{\LWR@realscriptsalign}{%
27 \LWR@print@embox{text-align:center} ; %
28 }%
29 }{}%
30 \ifthenelse{\equal{#1}{r}}{%
31 \renewcommand{\LWR@realscriptsalign}{%
32 \LWR@print@embox{text-align:right} ; %
33 }%
34 }{}%
35 }
36
37 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
38 \LWR@setrealscriptsalign{#2}%
39 \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
40 #4\textsubscript{#3}%
41 }%
42 }
43 \LWR@formatted{textsubsuperscript}
44
45 \FilenameNullify{%
46 \RenewDocumentCommand{\textsuperscript}{s m}{}%
47 \RenewDocumentCommand{\textsubscript}{s m}{}%
48 \renewcommand{\fakesubscript}[1]{}%
49 \renewcommand{\fakesuperscript}[1]{}%
50 \renewcommand{\realsubscript}[1]{}%
51 \renewcommand{\realsuperscript}[1]{}%
52 \renewcommand{\textsubsuperscript}[2]{}%
53 \renewcommand{\textsupersubscript}[2]{}%
54 }

```

---

File 413 **lwarp-refcheck.sty**

§ 525 Package **refcheck**

refcheck (*Pkg*) refcheck is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbld{}
9 \def\ignoreunlbld{}
10 \newcommand*\refcheckxrdoc}[2][{}

```

---

File 414 **lwarp-register.sty**

§ 526 Package **register**

(Emulates or patches code by MATTHEW LOVELL.)

register (*Pkg*) register is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{register}[2019/01/01]

Not using `\VerifyCommand` here because these patches are not likely to be affected by changes in the original.

```

2 \xpatchcmd{\register}
3 {\centering}
4 {%
5 \begin{center}%
6 \begin{lateximage}[-register-~\PackageDiagramAltText]?%
7 }
8 {}
9 {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12 {\leftskip}
13 {%
14 \end{lateximage}\end{center}%
15 \leftskip%
16 }%
17 {}
18 {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21 {%
22 \begin{center}%
23 \begin{lateximage}[-register-~\PackageDiagramAltText]?%
24 }
25 {}
26 {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29 {\leftskip}
30 {%
31 \end{lateximage}\end{center}%
32 \leftskip%
33 }%
34 {}
35 {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}

```

---

File 415 **lwarp-reysize.sty**

§ 527 Package **reysize**


(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)

reysize (*Pkg*) reysize is patched for use by lwarp, and emulated for MATHJAX.

For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\reysize`, `\larger`, `\smaller`, and `\relscale*` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{relsize}[2013/03/29]

2 \let\LWR@origrelsize\relsize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\LWR@textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%
11 \let\relsize\LWR@origrelsize%
12 \LetLtxMacro\larger\LWR@origlarger%
13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%
17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@relsizetemp}
21
22 \renewcommand*{\relsize}[1]{%
23 \renewcommand*{\larger}[1][1]{%
24 \renewcommand*{\smaller}[1][1]{%
25 \renewcommand*{\relscale}[1]{%
26
27 \renewcommand*{\textlarger}[2][1]{%
28 \setcounter{LWR@relsizetemp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textlarger}{#2}%
30 }
31
32 \renewcommand*{\textsmaller}[2][1]{%
33 \setcounter{LWR@relsizetemp}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*{\textscale}[2]{%
38 \setcounter{LWR@relsizetemp}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{textscale}{#2}%
40 }

```

**For MATHJAX:**

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}


```

---

File 416 **lwarp-repeatindex.sty**

§ 528 Package **repeatindex**

repeatindex (*Pkg*) repeatindex is emulated for lwarp.

 **style file** lwarp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarp-repeatindex}]{lwarp}
```

where lwarp\_repeatindex.ist may be copied from the following modified version of lwarp.ist:

```
preamble
"\begin{theindex}
 \providecommand*\lettergroupDefault[1]{}
 \providecommand*\lettergroup[1]{%
 \par\textbf{#1}\par
 \nopagebreak
 }
"
headings_flag 1
heading_prefix "
 \lettergroup{"
heading_suffix "}"
delim_0 "], \hyperindexref{"
delim_1 " ", \hyperindexref{"
delim_2 " ", \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t ""
item_0 "\n \item ["
```

(The modifications are the delim\_0 and item\_0 entries.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the lwarp core, \LWR@indexitem is modified to accept the optional \item argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

---

File 417 **lwarp-repltext.sty**

§ 529 Package **repltext**

repltext (*Pkg*) repltext is ignored.



**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```
2 \newcommand{\repltext}[2]{#2}
3 \newcommand*\prevrepl{}
```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}
```

File 418 **lwarp-resizegather.sty**

§ 530 Package **resizegather**

resizegather (*Pkg*) **resizegather** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```
2 \newcommand*\resizegathersetup[1]{}

```

File 419 **lwarp-returntogrid.sty**

§ 531 Package **returntogrid**

returntogrid (*Pkg*) **returntogrid** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]

```
2 \NewDocumentCommand\returntogrid{ 0 {} }{}
3 \NewDocumentCommand\returntogridsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}


```

File 420 **lwarp-rlepsz.sty**

§ 532 Package **rlepsz**

*(Emulates or patches code by MICHAEL GREENE, COLIN ROURKE.)*

rlepsz (*Pkg*) **rlepsz** is patched for use by lwarp.

 **Rename the style file!** The file rlepsz.tex must be copied to rlepsz.sty for lwarp to detect and patch it.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rlepsz}% No date given.

```
2 \xpretocmd{\relabelbox}
3 {\begin{lateximage}}
4 {}
5 {\LWR@patcherror{rlepsz}{relabelbox}}
```

```

6
7 \xapptocmd{\endrelabelbox}
8 {\end{Lateximage}}
9 {}
10 {\LWR@patcherror{rlepsf}{endrelabelbox}}

```

---

File 421 **lwarp-rmathbr.sty**

§ 533 Package **rmathbr**

*(Emulates or patches code by DENIS RYABOV.)*

rmathbr (*Pkg*) **rmathbr** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def*{~}}
4 \CustomizeMathJax{\newcommand{\cdott}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}

```

---

File 422 **lwarp-rmpage.sty**

§ 534 Package **rmpage**

rmpage (*Pkg*) **rmpage** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

```

---

File 423 **lwarp-romanbar.sty**

§ 535 Package **romanbar**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

romanbar (*Pkg*) **romanbar** is patched for use by lwarp.

An inline class with an overline and underline is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4 text-decoration: overline underline ;
5]{romanbar}{#1}%
6 }

```

---

File 424 **lwarp-romanbarpagenumber.sty**

§ 536 Package **romanbarpagenumber**

romanbarpagenumber (*Pkg*) romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

File 425 **lwarp-rotating.sty**

§ 537 Package **rotating**

*(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)*

rotating (*Pkg*) rotating is emulated.

All rotations are ignored in HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rotating}[2016/08/11]  
 2 \RequirePackage{graphicx}  
 3 \LetLtxMacro\LWR@HTML@sidewaystable\table  
 4 \let\endLWR@HTML@sidewaystable\endtable  
 5 \LWR@formattedenv{sidewaystable}  
 6  
 7 \LetLtxMacro\LWR@HTML@sidewaysfigure\figure  
 8 \let\endLWR@HTML@sidewaysfigure\endfigure  
 9 \LWR@formattedenv{sidewaysfigure}  
 10  
 11 \newenvironment\*{LWR@HTML@sideways}{}{}  
 12 \LWR@formattedenv{sideways}  
 13  
 14 \newenvironment\*{LWR@HTML@turn}[1]{}{}  
 15 \LWR@formattedenv{turn}  
 16  
 17 \newenvironment\*{LWR@HTML@rotate}[1]{}{}  
 18 \LWR@formattedenv{rotate}  
 19  
 20 \NewDocumentCommand{\LWR@HTML@turnbox}{m +m}{#2}  
 21 \LWR@formatted{turnbox}  
 22  
 23 \let\LWR@HTML@rotcaption\caption  
 24 \LWR@formatted{rotcaption}  
 25  
 26 \let\LWR@HTML@makerotcaption\makecaption  
 27 \LWR@formatted{makerotcaption}

---

File 426 **lwarp-rotfloat.sty**

§ 538 Package **rotfloat**

(Emulates or patches code by AXEL SOMMERFELDT.)

rotfloat (*Pkg*) rotfloat is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]
2
3 \RequirePackage{float}
4 \RequirePackage{rotating}

```

`\newfloat` {<1: type>} {<2: placement>} {<3: ext>} [<4: within>]

Emulates the `\newfloat` command from the `float` package. Sideways floats are `\let` to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}%
7 {%
8 \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11 \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```

15 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{LWR@floatstyle@sideways#1}{\LWR@floatstyle}%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later:

```

17 \cslet{listof#1s}\relax%
18 \cslet{listof#1es}\relax%
19 \cslet{listofsideways#1s}\relax%
20 \cslet{listofsideways#1es}\relax%
21 }

```

---

File 427 **lwarp-rviewport.sty**

§ 539 Package **rviewport**

rviewport (*Pkg*) rviewport is honored inside a `lateximage`, and otherwise ignored for HTML output.

If `rviewport` is important for an image, enclose the image inside a `lateximage` environment.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]
2 \define@key{igraph}{rviewport}{}

```

---

File 428 **lwarp-savetrees.sty**

§ 540 Package **savetrees**

`savetrees` (*Pkg*) `savetrees` is ignored.

**for HTML output:** Discard all options for `lwarp-savetrees`:

```
1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]
```

---

File 429 **lwarp-scalefnt.sty**

§ 541 Package **scalefnt**

*(Emulates or patches code by D. CARLISLE.)*

`scalefnt` (*Pkg*) `scalefnt` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{scalefnt}
2 \DeclareRobustCommand\scalefont[1]{}

```

---

File 430 **lwarp-scalerel.sty**

§ 542 Package **scalerel**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

`scalerel` (*Pkg*) `scalerel` is used as-is for SVG math, and is emulated and ignored for `MATHJAX`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]
```

For `MATHJAX`:

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][\#2]}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][\#2\#3]}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][\#2]}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][\#2\#3]}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][\#2]}

```

```

12 \CustomizeMathJax{\newcommand{\stretchto}[3][\#2]}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][\#2\#3\#4]}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][\#2\#3\#4]}
15 \CustomizeMathJax{\newcommand{\hstretch}[2]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]}
24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]}
25 \end{warpMathJax}

```

---

File 431 **lwarp-schemata.sty**

§ 543 Package **schemata**

(Emulates or patches code by CHARLES P. SCHAUM.)

schemata (*Pkg*) schemata is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

```

2 \LetLtxMacro\LWR@schemata@origschema\schema
3 \LetLtxMacro\LWR@schemata@origSchema\Schema
4
5 \renewcommand{\schema}[3][open]{%
6 \begin{lateximage}[-schemata~\PackageDiagramAltText]?%
7 \LWR@print@normalsize%
8 \LWR@schemata@origschema[\#1]{\#2}{\#3}%
9 \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{lateximage}[-schemata~\PackageDiagramAltText]?%
14 \LWR@print@normalsize%
15 \LWR@schemata@origSchema[\#1]{\#2}{\#3}{\#4}{\#5}%
16 \end{lateximage}%
17 }

```

---

File 432 **lwarp-scrextend.sty**

§ 544 Package **scrextend**

scrextend (*Pkg*) scrextend is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. \DeclareDocumentCommand is used to overwrite the koma-script definitions.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]

```

2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}
9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin{}
14 \providecommand*\coverpagebottommargin{}
15 \providecommand*\coverpageleftmargin{}
16 \providecommand*\coverpagerightmargin{}
17

```

### Title page:

```

18 \AtBeginDocument{
19 \let\LWR@koma@orig@maketitle\maketitle
20 \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \providecommand*\@maketitle{}
24 \renewrobustcmd{\@maketitle}{%
25 \ifdefvoid{\@titlehead}{}{%
26 \begin{BlockClass}{titlehead}%
27 \@titlehead%
28 \end{BlockClass}%
29 }%
30 \ifdefvoid{\@subject}{}{%
31 \begin{BlockClass}{subject}%
32 \@subject%
33 \end{BlockClass}%
34 }%
35 \LWR@stoppars%
36 \LWR@htmltag{\LWR@tagtitle}%
37 \@title%
38 \LWR@htmltag{\LWR@tagtitleend}%
39 \ifdefvoid{\@subtitle}{}{%
40 \begin{BlockClass}{subtitle}%
41 \@subtitle%
42 \end{BlockClass}%
43 }%
44 \LWR@startpars%
45 \begin{BlockClass}{author}%

46 \renewcommand*\cr{}{}%
47 \renewcommand*\crr{}{}%
48 \renewcommand*\noalign{}{}%

49 \renewcommand{\and}{%
50 \end{BlockClass}%
51 \begin{BlockClass}{oneauthor}%
52 }%
53 \begin{BlockClass}{oneauthor}%
54 \@author%
55 \end{BlockClass}%

```

```

56 \end{BlockClass}%
57 \begin{BlockClass}{titledate}%
58 \@date%
59 \end{BlockClass}%
60 \ifdefvoid{\@published}{}{%
61 \begin{BlockClass}{published}%
62 \@published%
63 \end{BlockClass}%
64 }%
65 }
66
67 \AddSubtitlePublished
68
69 \DeclareDocumentCommand{\extratitle}{m}{}
70 \DeclareDocumentCommand{\frontispiece}{m}{}
71
72 \def\@titlehead{}%
73 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{#1}}%
74
75 \def\@subject{}%
76 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{#1}}%
77
78 % \subtitle and \published are defined by \AddSubtitlePublished
79
80 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
81
82 \DeclareDocumentCommand{\uppertitleback}{m}{}
83 \DeclareDocumentCommand{\lowertitleback}{m}{}
84 \DeclareDocumentCommand{\dedication}{m}{}
85
86 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
87
88 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
89 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
90 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
91 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpaper}{}{}
93 \DeclareDocumentCommand{\cleardoubleoddpaperusingstyle}{m}{}
94 \DeclareDocumentCommand{\cleardoubleoddpaperemptypage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddpaperplainpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleoddpaperstandardpage}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpaper}{}{}
98 \DeclareDocumentCommand{\cleardoubleevenpaperusingstyle}{m}{}
99 \DeclareDocumentCommand{\cleardoubleevenpaperemptypage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenpaperplainpage}{}{}
101 \DeclareDocumentCommand{\cleardoubleevenpaperstandardpage}{}{}
102
103 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{}%
104 \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
105 }
106
107 \DeclareDocumentCommand{\multfootsep}{}{, }
108
109 \DeclareDocumentCommand{\footref}{m}{%
110 \begingroup
111 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
112 \endgroup
113 \@footnotemark
114 }
115

```



```

116 \DeclareDocumentCommand{\deffootnote}{o m m m}{ }
117 \DeclareDocumentCommand{\deffootnotemark}{m}{ }
118 \DeclareDocumentCommand{\setfootnoterule}{o m}{ }
119 \DeclareDocumentCommand{\raggedfootnote}{ }{ }

120 \DeclareDocumentCommand{\dictum}{o m}{
121 \begin{LWR@BlockClassWP}{\LWR@print@embox{text-align:right}}{ }\dictum}
122 #2
123 \IfValueT{#1}
124 {
125 \LWR@stoppars%
126 \ifbool{FormatWP}
127 {\begin{BlockClass}[\LWR@print@embox{border-top: } 1px solid gray]{dictumauthor}}
128 {\begin{BlockClass}{dictumauthor}}
129 \dictumauthorformat{#1}
130 \end{BlockClass}
131 }
132 \end{LWR@BlockClassWP}
133 }
134
135 \DeclareDocumentCommand{\dictumwidth}{ }{ }
136 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
137 \DeclareDocumentCommand{\dictumrule}{ }{ }
138 \DeclareDocumentCommand{\raggeddictum}{ }{ }
139 \DeclareDocumentCommand{\raggeddictumtext}{ }{ }
140 \DeclareDocumentCommand{\raggeddictumauthor}{ }{ }
141
142 \DeclareDocumentEnvironment{labeling}{o m}
143 {%
144 \def\sc@septext{#1}%
145 \list{ }{ }%
146 \let\makelabel\labelinglabel%
147 }
148 {
149 \endlist
150 }
151
152 \DeclareDocumentCommand{\labelinglabel}{m}{%
153 #1 \quad \sc@septext%
154 }
155
156 \let\addmargin\relax
157 \let\endaddmargin\relax
158 \cslet{addmargin*}{\relax}
159 \cslet{endaddmargin*}{\relax}

160 \NewDocumentEnvironment{addmargin}{s O{ } m}
161 {
162 \LWR@stoppars%
163 \setlength{\LWR@templengthtwo}{#3}
164 \ifblank{#2}
165 {
166 \begin{BlockClass}[
167 \LWR@print@embox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
168 \LWR@print@embox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
169]{addmargin}
170 }
171 {
172 \setlength{\LWR@templengthone}{#2}

```

```

173 \begin{BlockClass}[
174 \LWR@print@exbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
175 \LWR@print@exbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
176]{addmargin}
177 }
178 }
179 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

180
181 \ExplSyntaxOn
182 \cs_new:cpn {addmargin*} {\addmargin*}
183 \cs_new_eq:cN {endaddmargin*} \endaddmargin
184 \ExplSyntaxOff
185
186 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

---

File 433 **lwarp-scrhack.sty**

§ 545 Package **scrhack**

scrhack (*Pkg*) scrhack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

---

File 434 **lwarp-scrlayer.sty**

§ 546 Package **scrlayer**

*(Emulates or patches code by MARKUS KOHM.)*

scrlayer (*Pkg*) scrlayer is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```

2 \newcommand*\DeclareSectionNumberDepth[2]{}
3 \newcommand*\DeclareLayer[2]{}
4 \newcommand*\DeclareNewLayer[2]{}
5 \newcommand*\ProvideLayer[2]{}
6 \newcommand*\RedeclareLayer[2]{}
7 \newcommand*\ModifyLayer[2]{}
8 \newcommand*\Layerhalign{}
9 \newcommand*\Layervalign{}
10 \newcommand*\Layerxoffset{}
11 \newcommand*\Layeryoffset{}
12 \newcommand*\Layerwidth{}
13 \newcommand*\Layerheight{}
14 \providecommand*\LenToUnit[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
15 \newcommand*\putUL[1]{}

```

```

16 \newcommand*\putUR}[1]{}
17 \newcommand*\putLL}[1]{}
18 \newcommand*\putLR}[1]{}
19 \newcommand*\putC}[1]{}
20 \newcommand*\GetLayerContents}[1]{}
21 \newcommand*\IfLayerExists}[3]{#3}
22 \newcommand*\DestroyLayer}[1]{}
23 \newcommand*\LayerContentsMeasure{}
24 \newcommand*\CurrentPageStyle{}
25 \newcommand*\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*\DeclarePageStyleAlias}[2]{}
28 \newcommand*\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*\ProvidePageStyleAlias}[2]{}
30 \newcommand*\RedeclarePageStyleAlias}[2]{}
31 \newcommand*\DestroyPageStyleAlias}[1]{}
32 \newcommand*\GetRealPageStyle}[1]{}
33 \newcommand*\DeclarePageStyleByLayers}[3][{}
34 \newcommand*\DeclareNewPageStyleByLayers}[3][{}
35 \newcommand*\ProvidePageStyleByLayers}[3][{}
36 \newcommand*\RedeclarePageStyleByLayers}[3][{}
37 \NewDocumentCommand*\ForEachLayerOfPageStyle}{s m m}{}
38 \newcommand*\AddLayersToPageStyle}[2]{}
39 \newcommand*\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*\AddToLayerPageStyleOptions}[2]{}
47 \newcommand*\IfLayerPageStyleExists}[3]{#3}
48 \newcommand*\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand*\IfLayerAtPageStyle}[4]{#4}
50 \newcommand*\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand*\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*\DestroyRealLayerPageStyle}[1]{}
53 \@ifundefined{footheight}{\newlength\footheight}{}
54 \DeclareDocumentCommand*\automark}{s o m}{}
55 \DeclareDocumentCommand*\manualmark}{}{}
56 \DeclareDocumentCommand*\MakeMarkcase}{m}{#1}

57 \newcommand*\partmarkformat}{}
58 \if@chapter
59 \newcommand*\chaptermarkformat}{}
60 \fi
61 \newcommand*\sectionmarkformat}{}
62 \DeclareDocumentCommand*\GenericMarkFormat}{m}{}

63 \newcommand*\@mkleft}[1]{}
64 \newcommand*\@mkright}[1]{}
65 \newcommand*\@mkdouble}[1]{}
66 \newcommand*\@mkboth}[2]{}
67 \newcommand*\scrLayerInitInterface}[1][{}
68 \newcommand*\scrLayerAddToInterface}[3][{}
69 \newcommand*\scrLayerAddCsToInterface}[3][{}
70 \newcommand*\scrLayerOnAutoRemoveInterface}[2][{}

```

---

File 435 **lwarp-scrlayer-notecolumn.sty**

§ 547 Package **scrlayer-notecolumn**

*(Emulates or patches code by MARKUS KOHM.)*

scrlayer-notecolumn (*Pkg*) scrlayer-notecolumn is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}[2018/02/02]

```

2 \newcommand*\DeclareNoteColumn}[2][{}]{
3 \newcommand*\DeclareNewNoteColumn}[2][{}]{
4 \newcommand*\ProvideNoteColumn}[2][{}]{
5 \newcommand*\RedeclareNoteColumn}[2][{}]{
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{#3}}
7 \newcommand*\syncwithnotecolumn}[1][{}]{
8 \newcommand*\syncwithnotecolumns}[1][{}]{
9 \newcommand*\clearnotecolumn}[1][{}]{
10 \newcommand*\clearnotecolumns}[1][{}]{

```

---

File 436 **lwarp-scrlayer-scrpage.sty**

§ 548 Package **scrlayer-scrpage**

*(Emulates or patches code by MARKUS KOHM.)*

scrlayer-scrpage (*Pkg*) scrlayer-scrpage is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{s o m}{}
4 \NewDocumentCommand{\cehead}{s o m}{}
5 \NewDocumentCommand{\rehead}{s o m}{}
6 \NewDocumentCommand{\lohead}{s o m}{}
7 \NewDocumentCommand{\cohead}{s o m}{}
8 \NewDocumentCommand{\rohead}{s o m}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}
10 \NewDocumentCommand{\cefoot}{s o m}{}
11 \NewDocumentCommand{\refoot}{s o m}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}
14 \NewDocumentCommand{\rofoot}{s o m}{}
15 \NewDocumentCommand{\ohead}{s o m}{}
16 \NewDocumentCommand{\chead}{s o m}{}
17 \NewDocumentCommand{\ihead}{s o m}{}
18 \NewDocumentCommand{\ofoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}

```

```

21 \NewDocumentCommand{\automark}{som}{}
22 \newcommand*{\manualmark}{}

23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}

24 \let\headmark\leftmark
25 \providecommand{\pnumfont}{\normalfont}%
26 \DeclareRobustCommand\pagemark{{\pnumfont{\thepage}}}%

27 \newcommand*{\defpairofpagestyles}[3][{}]{
28 \newcommand*{\newpairofpagestyles}[3][{}]{
29 \newcommand*{\renewpairofpagestyles}[3][{}]{
30 \newcommand*{\providepairofpagestyles}[3][{}]{

31 \newcommand*{\clearmainofpairofpagestyles}{}
32 \newcommand*{\clearplainofpairofpagestyles}{}
33 \newcommand*{\clearpairofpagestyles}{}
34 \newcommand*{\clearscrheadings}{}
35 \newcommand*{\clearscrheadfoot}{}
36 \newcommand*{\clearscrplain}{}

37 \NewDocumentCommand{\deftriplepagestyle}{m o m m m m m m}{}
38 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
39 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
40 \NewDocumentCommand{\providetriplepagestyle}{m o o m m m m m m}{}
41 \newcommand*{\defpagestyle}[3]{
42 \newcommand*{\newpagestyle}[3]{
43 \newcommand*{\providepagestyle}[3]{
44 \newcommand*{\renewpagestyle}[3]{

```

---

File 437 **lwarp-scrpage2.sty**

§ 549 Package **scrpage2**

*(Emulates or patches code by MARKUS KOHM.)*

scrpage2 (*Pkg*) scrpage2 is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}

```

```

15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m}{}
29 \newcommand{\partmarkformat}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\subparagraphmarkformat}{}
38
39 \newcommand*{\clearscrheadings}{}
40 \newcommand*{\clearscrheadfoot}{}
41 \newcommand*{\clearscrplain}{}

```

---

File 438 **lwarp-section.sty**

§ 550 Package **section**

`section (Pkg)` `section` is ignored.

*(Emulates or patches code by OLIVER PRETZEL.)*

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsiZe{\huge}\else
4 \def\chsize{\huge}\def\hdsiZe{\Huge}
5 \fi
6 \let\ttsiZe\LARGE
7 \let\ausiZe\large
8 \let\dasiZe\large
9 \let\secsiZe\LARGE
10 \let\subsiZe\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase

```

```

21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newskip\secpstskp
28 \newdimen\subindent
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi

```

---

File 439 **lwarp-sectionbreak.sty**

§ 551 Package **sectionbreak**

*(Emulates or patches code by MICHAL HOFTICH.)*

`sectionbreak` (*Pkg*) `sectionbreak` is patched for use by `lwarp`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

```

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12

```

---

File 440 **lwarp-sectsty.sty**

§ 552 Package **sectsty**

*(Emulates or patches code by ROWLAND McDONNELL.)*

`sectsty` (*Pkg*) `sectsty` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

```

2 \newcommand*\partfont [1] {}
3 \newcommand*\partnumberfont [1] {}
4 \newcommand*\parttitlefont [1] {}
5 \newcommand*\chapterfont [1] {}
6 \newcommand*\chapternumberfont [1] {}
7 \newcommand*\chaptertitlefont [1] {}
8 \newcommand*\sectionfont [1] {}
9 \newcommand*\subsectionfont [1] {}

```

```

10 \newcommand*\subsubsectionfont [1] {}
11 \newcommand*\paragraphfont [1] {}
12 \newcommand*\subparagraphfont [1] {}
13 \newcommand*\minisecfont [1] {}
14 \newcommand*\allsectionsfont[1] {}
15 \newcommand{\nohang}{}

```

`\sectionrule` is only to be used in `*font` commands, thus it is ignored.

```

16 \newcommand*\sectionrule[5]{}
17
18 \def\ulemheading#1#2{}

```

---

File 441 **lwarp-selectp.sty**

§ 553 Package **selectp**

`selectp` (*Pkg*) `selectp` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp}% no date given

```
2 \newcommand*\outputonly}[1]{}

```

---

File 442 **lwarp-semantic-markup.sty**

§ 554 Package **semantic-markup**

*(Emulates or patches code by ANDREW A. CASHNER.)*

`semantic-markup` (*Pkg*) `semantic-markup` is patched for use by `lwarp`.



If using the `endnotes` option, add `\theendnotes` where desired.

**for HTML output:** 1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```

2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{}{%
4 \let\footnote=\endnote
5 \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi

```

HTML unicode characters from `musicography` are used.

```

8 \RequirePackage{musicography}
9
10 \let\fl\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural

```



The `\musfig` is placed inside a hashed image, with a simple alt tag.

```

13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16 \LWR@subsingledollar*%
17 {#1/#2}% alt tag
18 {musfig}% addl' hashing
19 {% contents
20 \LWR@origensuredmath{%
21 \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}%
22 }%
23 }%
24 }

```

The `\meter` is taken from musicography, and becomes a hashed image with a simple alt tag.

```

25 \RenewDocumentCommand{\meter}{ m m }{%
26 \musMeter{#1}{#2}%
27 }

```

---


File 443 **lwarp-seqsplit.sty**

§ 555 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

`seqsplit` (*Pkg*) `seqsplit` is patched for use by `lwarp`.

For HTML output, the results are similar to print mode, and respond to window size.

 **svg math results** For SVG math, the output differs from print mode in that the contents are formatted in a minipage, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** `1 \LWR@ProvidesPackagePass{seqsplit}[2006/08/07]`

Special handling because `lwarp` uses a box for SVG math, which does not normally allow line breaks, so a print-mode minipage must be used to allow line breaks. The minipage will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro\LWR@orig@seqsplit\seqsplit
4
5 \renewcommand*{\seqsplit}[1]{%
6 \ifmmode%
7 \begin{LWR@print@minipage}{6in}%
8 \LWR@orig@seqsplit{#1}%
9 \end{LWR@print@minipage}%
10 \else%
11 \InlineClass[word-wrap:break-word]{seqsplit}{\LWR@orig@seqsplit{#1}}%
12 \fi
13 }

```

Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```

14 \AtBeginDocument{
15 \newcommand*\LWR@HTML@seqinsert}{%
16 \LWR@htmlcomment{ }%
17 }
18 \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}

```

---

File 444 **lwarp-setspace.sty**

§ 556 Package **setspace**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

setspace (*Pkg*) **setspace** is emulated.

Discard all options for **lwarp-setspace**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSinglespace[1]{}
5 \newcommand*\singlespacing{}
6 \newcommand*\onehalfspacing{}
7 \newcommand*\doublespacing{}
8
9 \newenvironment*{singlespace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singlespace}
13 }
14 {\endBlockClass}
15
16 \newenvironment*{singlespace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singlespace}
20 }
21 {\endBlockClass}
22
23 \newenvironment*{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment*{onehalfspace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfspace}
33 }

```

```

34 {\endBlockClass}
35
36 \newenvironment*{doublespace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doublespace}
40 }
41 {\endBlockClass}

```

---

File 445 **lwarp-shadethm.sty**

§ 557 Package **shadethm**

*(Emulates or patches code by JIM HEFFERON.)*

shadethm (*Pkg*) shadethm is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]

```

2 \newenvironment{LWR@HTML@shadebox}
3 {%
4 \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5 \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6 \begin{BlockClass}[%
7 background: \LWR@origpound\LWR@tempcolor ;
8 border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9]{shadebox}
10 }%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}

```

---

File 446 **lwarp-shadow.sty**

§ 558 Package **shadow**

*(Emulates or patches code by MAURO ORLANDINI.)*

shadow (*Pkg*) shadow is emulated.

**for HTML output:** Discard all options for lwarp-shadow:

```

1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }

```

---

File 447 **lwarp-shapepar.sty**

§ 559 Package **shapepar**

*(Emulates or patches code by DONALD ARSENEAU.)*

shapepar (*Pkg*) shapepar is patched for use by lwarp. Shapes appear in print mode, as well as inside a latex image, but are ignored for HTML.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]
2 \newcommand*\LWR@HTML@shapepar}[2][]{ }
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}
```

---

File 448 **lwarp-showidx.sty**

§ 560 Package **showidx**

showidx (*Pkg*) showidx is ignored.

**for HTML output:** Discard all options for lwarp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]

\@wrindex is redefined \AtBeginDocument by the lwarp core.
```

---

File 449 **lwarp-showkeys.sty**

§ 561 Package **showkeys**

*(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)*

showkeys (*Pkg*) showkeys is ignored.

**for HTML output:** Discard all options for lwarp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
2 \NewDocumentCommand{\showkeys}{s}{}
```

---

File 450 **lwarp-showlabels.sty**

§ 562 Package **showlabels**

showlabels (*Pkg*) showlabels is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{showlabels}[2021/10/27]

2 \providecommand{\showlabelfont}{}
3 \providecommand{\showlabelsetlabel}[1]{}
4 \newcommand*{\showlabels}[2]{}
5 \newcommand*{\showlabelrefline}{}
6 \newcommand*{\showlabelsinline}{}

```

---

File 451 **lwarp-showtags.sty**

§ 563 Package **showtags**

`showtags` (*Pkg*) `showtags` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{showtags}% no version is given

2 \newcommand{\thecitetag}[1]{}

```

---

File 452 **lwarp-shuffle.sty**

§ 564 Package **shuffle**

*(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)*

`shuffle` (*Pkg*) `shuffle` is emulated for SVG math, and also emulated for MATHJAX.

The font used for `shuffle` may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for `\cshuffle` a `\bar` is added.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}

3 \newcommand*\LWR@shuffle@start}{%
4 \hspace*{.2em}
5 \begin{picture}(.75,0.65)
6 \setlength{\unitlength}{1em}
7 \put(0,0){\line(1,0){.75}}
8 \put(0,0){\line(0,1){.5}}
9 \put(.375,0){\line(0,1){.5}}
10 \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*\LWR@shuffle@finish}{%
14 \end{picture}
15 \hspace*{.75em}
16 \hspace*{.2em}
17 }
18
19 \newcommand*\shuffle}{%
20 \LWR@shuffle@start%
21 \LWR@shuffle@finish%

```

```

22 }
23
24 \newcommand*{\cshuffle}{%
25 \LWR@shuffle@start%
26 \put(.05,.65){\line(1,0){.65}}%
27 \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand{\shuffle}{\mathbin{\unicode{0x29E2}}}}
31 \CustomizeMathJax{\newcommand{\cshuffle}{%
32 \mathbin{\LWRoverlaysymbols{\raise{.6ex}{-}}{\unicode{0x29E2}}}}%
33 }}
34 \end{warpMathJax}

```

---

File 453 **lwarp-sidecap.sty**

§ 565 Package **sidecap**

*(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)*

sidecap (*Pkg*) sidecap is emulated.

**for HTML output:** Discard all options for lwarp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```

See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>  
regarding the creation of starred environments with xparse.

```

2 \NewDocumentEnvironment{SCTable}{soo}
3 {\IfValueTF{#3}{\table[#3]{\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpn {SCTable*} {\SCTable*}
8 \cs_new_eq:cN {endSCTable*} \endSCTable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]{\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```

File 454 **lwarp-sidenotes.sty**

§ 566 Package **sidenotes**

(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)

sidenotes (*Pkg*) Patched for lwarp.

**for HTML output:** Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with lwarp.

An ARIA note role is not assigned since the caption is an important part of the figure.

\sidecaption

```
* [entry] [offset] {text}
2 \VerifyCommand[lwarp][sidenotes]{\sidecaption}{2EFE2196F612943BCF13746EC12E69D6}
3
4 \RenewDocumentCommand \sidecaption {s o o m}
5 {
6 \LWR@stoppars
7 \begingroup
8 \captionsetup{style=sidecaption}%
9 \IfBooleanTF{#1}
10 { % starred
11 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
12 \caption*{#4}%
13 \end{BlockClass}
14 }
15 { % unstarred
16 \IfNoValueOrEmptyTF{#2}
17 {\def\@sidenotes@sidecaption@tof{#4}}
18 {\def\@sidenotes@sidecaption@tof{#2}}
19 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}%
20 \caption[\@sidenotes@sidecaption@tof]{#4}
21 \end{BlockClass}
22 }
23 \endgroup
24 \LWR@startpars
25 }
```

Borrowed from the lwarp version of keyfloat:

```
26 \NewDocumentEnvironment{KFLT@sidenotes@marginfloat}{0{-1.2ex} m}
27 {% start
28 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{marginblock}%
29 \renewcommand*\@capttype{#2}%
30 }
31 {%
32 \endLWR@BlockClassWP%
33 }
34
35 \RenewDocumentEnvironment{marginfigure}{o}
```

```

36 {\begin{KFLTsidenotes@marginfloat}{figure}}
37 {\end{KFLTsidenotes@marginfloat}}
38
39 \RenewDocumentEnvironment{margintable}{o}
40 {\begin{KFLTsidenotes@marginfloat}{table}}
41 {\end{KFLTsidenotes@marginfloat}}

```

The following were changed by `sidenotes`, and now are reset back to their `lwarp`-supported originals:

Restoring the definition from the  $\text{\LaTeX}2_{\epsilon}$  `article.cls` source:

```

42 \renewenvironment{figure*}
43 {\@dblfloat{figure}}
44 {\end@dblfloat}
45
46 \renewenvironment{table*}
47 {\@dblfloat{table}}
48 {\end@dblfloat}

```

For `MATHJAX`:



Note that `sidenotes` does not support `\sidenote` inside math in print mode. Use `\sidenotemark` and `\sidenotetext` instead.

```

49 \begin{warpMathJax}
50 \providecommand{\sidenotename}{sidenote}
51 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRsidenote}{\thesidenote}}
52 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRsidenote}{\sidenotename}}
53 \CustomizeMathJax{\def\LWRsidenote{1}}
54 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWRsidenote]{{}^{\mathrm{#1}}}}
55 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWRsidenote]{{}^{\mathrm{#1}}}}
```

File 455 **lwarp-simplebnf.sty**

§ 567 Package **simplebnf**

*(Emulates or patches code by JAY LEE.)*

`simplebnf` (*Pkg*) `simplebnf` is patched for use by `lwarp`.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{simplebnf}[2023-11-25]`

The entire object is placed inside a `lateximage` whose `alt` text is the  $\text{\LaTeX}$  source BNF expression.

```

2 \ExplSyntaxOn
3
4 \VerifyEnvironment[lwarp][simplebnf]{bnf}
5 {A7E8911B9291D4EB7C1CD8366CD75341}{3B45D7D9107687D718F5303B6632776C}

```



```

6
7 \RenewDocumentEnvironment { bnf } { d() O{llcll} +b }
8 {
9 \begin{lateximage}[bnf:\space\detokenize{#3}]?%
10
11 \IfNoValueF { #1 }
12 { \keys_set:nn { simplebnf } { #1 } }
13
14 __simplebnf_build_grammar:n { #3 }
15
16 \begin{@simplebnf_tblr_env}[expand=__simplebnf_table_tl]{#2}
17 \tl_use:N __simplebnf_table_tl
18 \end{@simplebnf_tblr_env}
19 \end{lateximage}% lwarp
20 }
21 { }
22
23 \VerifyEnvironment[lwarp][simplebnf]{bnfgrammar}
24 {E7326E6CAE6E35827E866B4A08C5CEA8}{A9B27A2478E8BD67B19E94ECF8A44F14}
25
26 \RenewDocumentEnvironment { bnfgrammar } { O{llcll} O{[^\\]|\\|[^\\]} O{\\|\\}| +b }
27 {
28 \msg_warning:nn { simplebnf } { dep }
29 \begin{center}
30 \begin{lateximage}[bnf:\space\detokenize{#4}]?%
31 \begin{tabular}{#1}
32 \@dep__simplebnf_typeset_grammar:nnn { #2 } { #3 } { #4 }
33 \tl_use:N __simplebnf_table_tl
34 \end{tabular}
35 \end{lateximage}% lwarp
36 \end{center}
37 }
38 { }
39
40 \ExplSyntaxOff

```

---

File 456 **lwarp-SIunits.sty**

§ 568 Package **Slunits**

*(Emulates or patches code by MARCEL HELDOORN.)*

SIunits (*Pkg*) Slunits is patched for use by lwarp.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the L<sup>A</sup>T<sub>E</sub>X code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For MATHJAX, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in MATHJAX, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with MATHJAX instead of an SVG image.

**for HTML output:** 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML alt tag:

```

2 \ifbool{mathjax}{
3 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4 \begingroup%
5 \boolfalse{LWR@HTMLsanitize@tmpb@removebackslash}%
6 \LWR@subsingledollar*% lwarp
7 {% alt tag
8 \textbackslash{}unit%
9 \{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}\}%
10 \{ \LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}% extra space
11 }%
12 {SIunits}% add'l hashing
13 {%
14 #1\,{#2}%
15 }% contents
16 \endgroup%
17 }
18 }{% not MathJax
19 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
20 \@inunitcommandtrue% original
21 \LWR@subsingledollar*% lwarp
22 {% alt tag
23 \textbackslash{}unit{\LWR@HTMLsanitizedetokenized{\detokenize{#1}}\}%
24 \{ \LWR@HTMLsanitizedetokenized{\detokenize{#2}}\}% extra space
25 }%
26 {SIunits}% add'l hashing
27 {%
28 \LWR@origensuredmath{% lwarp modification
29 \SI@fstyle{%
30 {#1}\@qsk\period@active{#2}%
31 }% original
32 }%
33 }% contents
34 \@inunitcommandfalse% original
35 }
36 }{% not MathJax
37 \LWR@formatted{unit}

```

For MATHJAX:

```

38 \begin{warpMathJax}
39 \LWR@infoprocessingmathjax{SIunits}
40
41 \CustomizeMathJax{\newcommand{\one}{}{}}
42 \CustomizeMathJax{\newcommand{\meter}{\metre}}
43 \CustomizeMathJax{\newcommand{\deka}{\deca}}
44 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
45 \CustomizeMathJax{\newcommand{\per}{/}}
46 \CustomizeMathJax{\newcommand{\usk}{\;}}
47 \CustomizeMathJax{\newcommand{\unit}[2]{#1\,{#2}}}
48 \CustomizeMathJax{\newcommand{\power}[2]{#1^{#2}}}
49
50 \AtBeginDocument{%
51 \if@redefsquare
52 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
53 \else
54 \if@defsquaren
55 \CustomizeMathJax{\newcommand{\squaren}[1]{\power{#1}{2}}}
56 \else

```

```

57 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
58 \fi %\if@defsquaren
59 \fi %\if@redefsquare
60 } %\AtBeginDocument
61
62 \CustomizeMathJax{\newcommand{\squared}{^2}}
63 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{#1}{3}}}
64 \CustomizeMathJax{\newcommand{\cubed}{^3}}
65 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{#1}{4}}}
66 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{#1}{-1}}}
67 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
68 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{#1}{-2}}}
69 \CustomizeMathJax{\newcommand{\rpsquared}{^-2}}
70 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{#1}{-3}}}
71 \CustomizeMathJax{\newcommand{\rpcubed}{^-3}}
72 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{#1}{-4}}}
73 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
74 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
75 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
76 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
77 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
78 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
79 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
80 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
81 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
82 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
83 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
84 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
85 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
86 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
87 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
88 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
89 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
90 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
91 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
92 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
93 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
94 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
95 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
96 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
97 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
98 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
99 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
100 \CustomizeMathJax{\newcommand{\millid}{\power{10}{-3}}}
101 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
102 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
103 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
104 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
105 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
106 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
107 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
108 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
109 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
110 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
111 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
112 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
113 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
114 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
115 \CustomizeMathJax{\newcommand{\kilogram}{\kilo\gram}}
116 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}

```

```

117 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
118 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
119 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
120 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
121 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
122 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
123 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
124 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
125 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
126 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
127 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
128 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
129 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
130 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
131 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
132 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
133 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
134 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
135 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
136 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
137 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
138 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
139 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
140 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
141 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
142 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
143
144 \ifdef{\radianbase}{
145 \CustomizeMathJax{\newcommand{\radianbase}%
146 {\metre\usk\reciprocal\metre}}
147 \CustomizeMathJax{\newcommand{\steradianbase}%
148 {\squaremetre\usk\rpsquare\metre}}
149 \CustomizeMathJax{\newcommand{\hertzbase}%
150 {\reciprocal\second}}
151 \CustomizeMathJax{\newcommand{\newtonbase}%
152 {\metre\usk\kilogram\usk\second\rpsquared}}
153 \CustomizeMathJax{\newcommand{\pascalbase}%
154 {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}
155 \CustomizeMathJax{\newcommand{\joulebase}%
156 {\squaremetre\usk\kilogram\usk\second\rpsquared}}
157 \CustomizeMathJax{\newcommand{\wattbase}%
158 {\squaremetre\usk\kilogram\usk\rpcubic\second}}
159 \CustomizeMathJax{\newcommand{\coulombbase}%
160 {\ampere\usk\second}}
161 \CustomizeMathJax{\newcommand{\voltbase}%
162 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}
163 \CustomizeMathJax{\newcommand{\faradbase}%
164 {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}
165 \CustomizeMathJax{\newcommand{\ohmbase}%
166 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}
167 \CustomizeMathJax{\newcommand{\siemensbase}%
168 {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}
169 \CustomizeMathJax{\newcommand{\weberbase}%
170 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
171 \CustomizeMathJax{\newcommand{\teslabase}%
172 {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
173 \CustomizeMathJax{\newcommand{\henrybase}%
174 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}
175 \CustomizeMathJax{\newcommand{\celsiusbase}%
176 {\kelvin}}

```

```
177 \CustomizeMathJax{\newcommand{\lumenbase}%
178 {\candela\usk\squaremetre\usk\rpsquare\metre}}
179 \CustomizeMathJax{\newcommand{\luxbase}%
180 {\candela\usk\squaremetre\usk\rfourth\metre}}
181 \CustomizeMathJax{\newcommand{\becquerelbase}%
182 {\hertzbase}}
183 \CustomizeMathJax{\newcommand{\graybase}%
184 {\squaremetre\usk\second\rpsquared}}
185 \CustomizeMathJax{\newcommand{\sievertbase}%
186 {\graybase}}
187 \CustomizeMathJax{\newcommand{\katalbase}%
188 {\rp\second\usk\mole }}
189 }{}
190
191 \ifdef{\derradian}{
192 \CustomizeMathJax{\newcommand{\derradian}%
193 {\metre\usk\reciprocal\metre}}
194 \CustomizeMathJax{\newcommand{\dersteradian}%
195 {\squaremetre\usk\rpsquare\metre}}
196 \CustomizeMathJax{\newcommand{\derhertz}%
197 {\reciprocal\second}}
198 \CustomizeMathJax{\newcommand{\dernewton}%
199 {\metre\usk\kilogram\usk\second\rpsquared}}
200 \CustomizeMathJax{\newcommand{\derpascal}%
201 {\newton\usk\rpsquare\metre}}
202 \CustomizeMathJax{\newcommand{\derjoule}%
203 {\newton\usk\metre}}
204 \CustomizeMathJax{\newcommand{\derwatt}%
205 {\joule\usk\reciprocal\second}}
206 \CustomizeMathJax{\newcommand{\dercoulomb}%
207 {\ampere\usk\second}}
208 \CustomizeMathJax{\newcommand{\dervolt}%
209 {\watt\usk\reciprocal\ampere}}
210 \CustomizeMathJax{\newcommand{\derfarad}%
211 {\coulomb\usk\reciprocal\volt}}
212 \CustomizeMathJax{\newcommand{\derohm}%
213 {\volt\usk\reciprocal\ampere}}
214 \CustomizeMathJax{\newcommand{\dersiemens}%
215 {\ampere\usk\reciprocal\volt}}
216 \CustomizeMathJax{\newcommand{\derweber}%
217 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
218 \CustomizeMathJax{\newcommand{\dertesla}%
219 {\weber\usk\rpsquare\metre}}
220 \CustomizeMathJax{\newcommand{\derhenry}%
221 {\weber\usk\reciprocal\ampere}}
222 \CustomizeMathJax{\newcommand{\dercelsius}%
223 {\kelvin}}
224 \CustomizeMathJax{\newcommand{\derlumen}%
225 {\candela\usk\steradian}}
226 \CustomizeMathJax{\newcommand{\derlux}%
227 {\lumen\usk\rpsquare\metre}}
228 \CustomizeMathJax{\newcommand{\derbecquerel}%
229 {\derhertz}}
230 \CustomizeMathJax{\newcommand{\dergray}%
231 {\joule\usk\reciprocal\kilogram}}
232 \CustomizeMathJax{\newcommand{\dersievert}%
233 {\dergray}}
234 \CustomizeMathJax{\newcommand{\derkatal}%
235 {\katalbase}}
236 }{}
```

```

237
238 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
239 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
240 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
241 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
242 \CustomizeMathJax{\newcommand{\paminute}{^\prime}}
243 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
244 \CustomizeMathJax{\newcommand{\pasecond}{^\prime\prime}}
245 \CustomizeMathJax{\newcommand{\arcsecond}{^\prime\prime}}
246 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
247 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
248 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
249 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
250 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
251 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
252 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
253 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
254 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
255 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
256 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
257 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{\mathrm{eV}}}}
258 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
259 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
260 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
261 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
262 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{\hecto\are}}}
263 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
264 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{\bar{b}}}}
265 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
266 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
267 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
268 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
269 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
270 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
271 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
272 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
273 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
274 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
275 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
276 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
277 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
278 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
279 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
280 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
281 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{%
282 \kilogram\usk\squaremetre\per\second%
283 }}
284 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{%
285 \kilogram\usk\squaremetre\usk\reciprocal\second%
286 }}
287 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
288 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
289 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}
290 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{%
291 \squaremetre\usk\rpcubic\metre%
292 }}
293 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
294 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
295 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
296 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}

```

```

297 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
298 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
299 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
300 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
301 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{%
302 \squaremetre\per\newton\usk\second%
303 }}
304 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{%
305 \squaremetre\usk\reciprocal\newton\usk\reciprocal\second%
306 }}
307 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
308 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
309 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
310 \CustomizeMathJax{\newcommand{\amperepermetresecond}{\ampere\usk\metre\usk\second}}
311 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
312 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
313 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
314 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
315 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
316 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
317 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
318 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
319 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
320 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
321 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
322 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
323 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
324 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
325 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
326 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
327 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
328 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
329 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
330 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
331 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
332 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
333 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
334 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{%
335 \squaremetre\usk\reciprocal\second%
336 }}
337 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{%
338 \squaremetre\per\second\squared%
339 }}
340 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{%
341 \squaremetre\usk\second\rpsquared%
342 }}
343 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{%
344 \kilogram\usk\metre\per\second%
345 }}
346 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{%
347 \kilogram\usk\metre\usk\reciprocal\second%
348 }}
349 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
350 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
351 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
352 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
353 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
354 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
355 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
356 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}

```

```

357 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
358 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
359 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecond}{%
360 \kilogram\per\squaremetre\usk\second%
361 }}
362 \CustomizeMathJax{\newcommand{\kilogrampersquaremetresecondnp}{%
363 \kilogram\usk\rpsquare\metre\usk\reciprocal\second%
364 }}
365 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
366 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
367 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
368 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
369 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
370 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{%
371 \joule\usk\reciprocal\mole\usk\reciprocal\kelvin%
372 }}
373 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
374 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{%
375 \kilogram\usk\kilo\reciprocal\mole%
376 }}
377 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
378 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
379 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{%
380 \kilogram\usk\metre\per\second\squared%
381 }}
382 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{%
383 \kilogram\usk\metre\usk\second\rpsquared%
384 }}
385 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
386 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
387 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
388 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{%
389 \rpsquare\metre\usk\reciprocal\second%
390 }}
391 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
392 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
393 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
394 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rpcubic\metre}}
395 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{%
396 \watt\per\squaremetre\usk\steradian%
397 }}
398 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{%
399 \watt\usk\rpsquare\metre\usk\rp\steradian%
400 }}
401 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
402 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{%
403 \joule\usk\reciprocal\kilogram\usk\reciprocal\kelvin%
404 }}
405 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
406 \CustomizeMathJax{\newcommand{\rpsquaremetreperkilogram}{%
407 \squaremetre\usk\reciprocal\kilogram%
408 }}
409 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
410 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{%
411 \cubic\metre\usk\reciprocal\kilogram%
412 }}
413 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
414 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
415 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
416 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}

```



```

417 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{%
418 \watt\usk\reciprocal\metre\usk\reciprocal\kelvin%
419 }}
420 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre}
421 \CustomizeMathJax{\newcommand{\newtonmetrenp}{\newtonmetre}}}
422 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{%
423 \squaremetre\per\cubic\second%
424 }}
425 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{%
426 \squaremetre\usk\rpcubic\second%
427 }}
428 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
429 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
430 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubicmetre}}
431 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rpcubic\metre}}
432 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{%
433 \kilogram\per\cubic\metre\usk\coulomb%
434 }}
435 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{%
436 \kilogram\usk\rpcubic\metre\usk\reciprocal\coulomb%
437 }}
438 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubicmetre\per\second}}
439 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubicmetre\usk\reciprocal\second}}
440 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{%
441 \kilogram\per\second\usk\cubicmetre%
442 }}
443 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{%
444 \kilogram\usk\reciprocal\second\usk\rpcubic\metre%
445 }}
446 \end{warpMathJax}

```

---

File 457 **lwarp-siunitx.sty**

§ 569 Package **siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

siunitx (*Pkg*) siunitx is patched for use by lwarp, and is emulated for MATHJAX.

**for HTML output:**

```

1 \providecommand\DeclareRelease[3]{}
2 \providecommand\DeclareCurrentRelease[2]{}
3
4 \DeclareRelease{2}{2010-05-23}{lwarp-siunitx-v2.sty}
5 \DeclareRelease{v2}{2010-05-23}{lwarp-siunitx-v2.sty}
6 \DeclareCurrentRelease[]{}{2021-05-17}
7
8 \RequirePackage{xcolor}% for \convertcolorspec
9
10 \LWR@ProvidesPackagePass{siunitx}[2025-04-19]
11
12 \ExplSyntaxOn

13 \VerifyCommand[lwarp][siunitx]{\siunitx_number_format:nN}
14 {76C110239433A6FC6441704392C40200}
15
16 \cs_set_protected:Npn \siunitx_number_format:nN #1#2
17 {

```

```

18 \group_begin:
19 \bool_if:NTF \l_siunitx_number_parse_bool
20 {
21 \siunitx_number_parse:nN {#1} \l__siunitx_number_parsed_tl
22 \tl_if_empty:NF \l__siunitx_number_parsed_tl
23 {
24 \siunitx_number_process:NN \l__siunitx_number_parsed_tl \l__siunitx_number_parsed_tl
25 \tl_set:Nx \l__siunitx_number_outputted_tl
26 { \siunitx_number_output:N \l__siunitx_number_parsed_tl }
27 }
28 }
29 {
30 \tl_set:Nn \l__siunitx_number_outputted_tl
31 {
32 \boolfalse{mathjax}% lwarp
33 \LWR@subsingledollar{% lwarp
34 \textbackslash(% space lwarp ALT text
35 \LWR@HTMLsanitizedetokenized{%
36 \detokenize{#1}%
37 } \textbackslash)% lwarp
38 }%
39 {siunitx unparsed}% lwarp add'l hashing
40 {\ensuremath{#1}}% lwarp
41 }
42 }
43 \exp_args:NNNV \group_end:
44 \tl_set:Nn #2 \l__siunitx_number_outputted_tl
45 }

46 \VerifyCommand[lwarp][siunitx]{__siunitx_compound_unparsed:n}
47 {C6CACB29BD6BD43225E174AD2FBD750C}
48
49 \cs_set_protected:Npn __siunitx_compound_unparsed:n #1
50 {
51 \tl_if_blank:nF {#1}
52 { \seq_put_right:Nn \l__siunitx_compound_tmp_seq
53 {
54 \boolfalse{mathjax}% lwarp
55 \LWR@subsingledollar{% lwarp
56 \textbackslash(% space lwarp ALT tag
57 \LWR@HTMLsanitizedetokenized{%
58 \detokenize{#1}%
59 } \textbackslash)% lwarp
60 }%
61 {siunitx unparsed}% lwarp add'l hashing
62 {\ensuremath{#1}}% lwarp
63 }
64 }
65 }

```

`\LWR@siunitx@mathrm`

`{<text>}`

If in text mode, use `\textrm` instead. Avoids crashing while using `\mathrm` in text mode.

```

66 \LetLtxMacro\LWR@siunitx@orig@mathrm\mathrm
67
68 \newcommand*{\LWR@siunitx@mathrm}[1]{%
69 \ifmmode{\LWR@siunitx@orig@mathrm{#1}}\else{#1}\fi%
70 }

```

If not in a `lateximage`, always use text mode. Ignore current text font if resetting text family, series, and shape.

```

71 \VerifyCommand[lwarp][siunitx]{__siunitx_print_aux:nn}
72 {4D81B79284057560BC61DF11EF723AC8}
73
74 \cs_set_protected:Npn __siunitx_print_aux:nn #1#2
75 {
76 \LetLtxMacro\mathrm\LWR@siunitx@mathrm% lwarp
77 \tl_if_empty:oF {#2}
78 {
79 \tl_if_empty:cTF { __siunitx_print_ #1 _color_tl }
80 { \use:n }
81 { \ExpandArgs { v } \textcolor { __siunitx_print_ #1 _color_tl } }
82 {
83 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
84 {
85 \use:c
86 {
87 __siunitx_print_ #1 :n
88 }
89 {#2}
90 }
91 {
92 \bool_lazy_all:nTF% lwarp
93 {
94 {__siunitx_print_text_family_bool}
95 {__siunitx_print_text_series_bool}
96 {__siunitx_print_text_shape_bool}
97 }
98 {% No font control if reset-text-family/series/shape
99 \use:c
100 {
101 siunitx_print_% lwarp
102 text% lwarp
103 :n% lwarp
104 }% lwarp
105 {#2}% lwarp
106 }
107 {
108 \LWR@textcurrentfont{% lwarp
109 \use:c
110 {
111 siunitx_print_% lwarp
112 text% lwarp
113 :n% lwarp
114 }% lwarp
115 {#2}% lwarp
116 }
117 }
118 }
119 }
120 }
121 }

```

To determine whether to make a complex root be italic or upright, `\__siunitx_complex_output_root_tl` is compared to `\LWR@siunitx@complexrm<i/j>`, and the CSS style for `ij` is set to `ijit` or `ijup`.

```

122 \newcommand*{\LWR@siunitx@complexrootstyle}{textrm}

```

```

123
124 \newcommand*\LWR@siunitx@complexrmi}{\mathrm{i}}
125 \newcommand*\LWR@siunitx@complexrmj}{\mathrm{j}}
126
127 \newcommand*\LWR@siunitx@setcomplexroot}{%
128 \renewcommand*\LWR@siunitx@complexrootstyle}{ijit}%
129 \ifdefequal{\L__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmi}%
130 {\renewcommand*\LWR@siunitx@complexrootstyle}{ijup}}%
131 {}%
132 \ifdefequal{\L__siunitx_complex_output_root_tl}{\LWR@siunitx@complexrmj}%
133 {\renewcommand*\LWR@siunitx@complexrootstyle}{ijup}}%
134 {}%
135 }

136 \VerifyCommand[lwarp][siunitx]{\L__siunitx_complex_format_cartesian_auxii:n}
137 {DC0897DBE172C13B6F7282D266BE1156}
138
139 \cs_set_protected:Npn \L__siunitx_complex_format_cartesian_auxii:n #1
140 {
141 \LWR@siunitx@setcomplexroot% lwarp
142 \L__siunitx_complex_format_cartesian_units:n {#1}
143 \tl_if_empty:NF \L__siunitx_complex_real_tl
144 { \exp_after:wN \L__siunitx_complex_drop_exponent:nnnnnn \L__siunitx_complex_real_tl }
145 \exp_after:wN \L__siunitx_complex_format_sign:nnnnnn \L__siunitx_complex_img_tl
146 \tl_set:Nx \L__siunitx_complex_tmp_tl
147 { \siunitx_number_output:NN \L__siunitx_complex_img_tl \q_nil }
148 \exp_after:wN \L__siunitx_complex_extract_exponent:w \L__siunitx_complex_tmp_tl \q_stop
149 \tl_set:Nx \L__siunitx_complex_tmp_tl
150 {
151 \bool_lazy_or:nnTF
152 {
153 \bool_lazy_and_p:nn
154 { \L__siunitx_number_bracket_ambiguous_bool }
155 { ! \tl_if_empty_p:N \L__siunitx_complex_exp_tl }
156 }
157 {
158 ! \bool_lazy_any_p:n
159 {
160 { \tl_if_blank_p:n {#1} }
161 { \tl_if_empty_p:N \L__siunitx_complex_real_tl }
162 { \tl_if_empty_p:N \L__siunitx_complex_img_tl }
163 }
164 }
165 }
166 { \L__siunitx_complex_format_bracket:n }
167 { \use:n }
168 {
169 \siunitx_number_output:N \L__siunitx_complex_real_tl
170 \exp_not:V \L__siunitx_complex_sign_tl
171 \bool_if:NF \L__siunitx_complex_root_after_bool
172 {
173 \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
174 {
175 \exp_not:V \L__siunitx_complex_output_root_tl
176 }
177 }
178 \exp_not:V \L__siunitx_complex_tmp_tl
179 \bool_if:NT \L__siunitx_complex_root_after_bool
180 {
181 \InlineClass{\LWR@siunitx@complexrootstyle}% lwarp
182 {

```

```

182 \exp_not:V \l__siunitx_complex_output_root_tl
183 }
184 }
185 }
186 \exp_not:V \l__siunitx_complex_exp_tl
187 }
188 }

```

*{<1: decimal part of angle>} {<2: ?>} {<3: integer part of angle>} {<4: decimal point char>} {<5: deg/min/sec char>}*

```

189 \VerifyCommand[lwarp][siunitx]{__siunitx_angle_arc_print_auxiv:nnnn}%
190 {0F178AED7DFC9B8C8B2FAA8B53282AD0}
191
192 \cs_set_protected:Npn __siunitx_angle_arc_print_auxiv:nnnn #1#2#3#4#5
193 {
194 \mode_if_math:TF
195 { \bool_set_true:N \l__siunitx_angle_tmp_bool }
196 { \bool_set_false:N \l__siunitx_angle_tmp_bool }
197 \siunitx_print_number:n {#3}
198 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
199 {% lwarp: lateximage
200 \tl_if_blank:nTF {#1}% decimal part of angle
201 {
202 \siunitx_print_number:n {#2}%
203 __siunitx_angle_arc_print_auxiv:n {#5}% deg/min/sec char
204 }
205 {
206 \hbox_set:Nn \l__siunitx_angle_marker_box
207 {
208 __siunitx_angle_arc_print_auxv:n
209 { \siunitx_print_number:n {#4} }% decimal point char
210 }
211 \hbox_set:Nn \l__siunitx_angle_unit_box
212 {
213 __siunitx_angle_arc_print_auxv:n
214 {
215 \siunitx_unit_format:n {#5} \l__siunitx_angle_tmp_tl% deg/min/sec char
216 \siunitx_print_unit:V \l__siunitx_angle_tmp_tl
217 \skip_horizontal:n { -\scriptspace }
218 }
219 }
220 \dim_compare:nNnTF { \box_wd:N \l__siunitx_angle_marker_box } >
221 { \box_wd:N \l__siunitx_angle_unit_box }
222 {
223 __siunitx_angle_arc_print_auxvi:NN
224 \l__siunitx_angle_marker_box
225 \l__siunitx_angle_unit_box
226 }
227 {
228 __siunitx_angle_arc_print_auxvi:NN
229 \l__siunitx_angle_unit_box
230 \l__siunitx_angle_marker_box
231 }
232 \hbox_set_to_wd:Nnn \l__siunitx_angle_marker_box
233 \l__siunitx_angle_tmp_dim
234 {
235 \hbox_overlap_right:n
236 { \box_use_drop:N \l__siunitx_angle_marker_box }
237 \hbox_overlap_right:n

```

```

238 { \box_use_drop:N \l__siunitx_angle_unit_box }
239 \tex_hfil:D
240 }
241 \box_use:N \l__siunitx_angle_marker_box
242 \tex_kern:D \scriptspace
243 \siunitx_print_number:n {#1#2}% decimal part of angle
244 }
245 }% lwarp: latex image

```

*{(1: decimal part of angle)} {(2: ?)} {(3: integer part of angle)} {(4: decimal point char)} {(5: deg/min/sec char)}*

```

246 {% lwarp: not latex iamge
247 \tl_if_blank:nTF {#1}% decimal part of angle
248 {
249 \siunitx_print_number:n {#2}%
250 __siunitx_angle_arc_print_auxix:n {#5}% deg/min/sec char
251 }
252 {
253 % \hbox_set:Nn \l__siunitx_angle_marker_box
254 % {
255 % __siunitx_angle_arc_print_auxv:n
256 % { \siunitx_print_number:n {#4} }% decimal point char
257 % }
258 % \hbox_set:Nn \l__siunitx_angle_unit_box
259 % {
260 % __siunitx_angle_arc_print_auxv:n
261 % {
262 % \siunitx_unit_format:nN {#5} \l__siunitx_angle_tmp_tl% deg/min/sec char
263 % \siunitx_print_unit:V \l__siunitx_angle_tmp_tl
264 % \skip_horizontal:n { -\scriptspace }
265 % }
266 % }
267 % \dim_compare:nNnTF { \box_wd:N \l__siunitx_angle_marker_box } >
268 % { \box_wd:N \l__siunitx_angle_unit_box }
269 % {
270 % __siunitx_angle_arc_print_auxvi:NN
271 % \l__siunitx_angle_marker_box
272 % \l__siunitx_angle_unit_box
273 % }
274 % {
275 % __siunitx_angle_arc_print_auxvi:NN
276 % \l__siunitx_angle_unit_box
277 % \l__siunitx_angle_marker_box
278 % }
279 % \hbox_set_to_wd:Nnn \l__siunitx_angle_marker_box
280 % \l__siunitx_angle_tmp_dim
281 % {
282 % \hbox_overlap_right:n
283 % { \box_use_drop:N \l__siunitx_angle_marker_box }
284 % \hbox_overlap_right:n
285 % { \box_use_drop:N \l__siunitx_angle_unit_box }
286 % \tex_hfil:D
287 % }
288 % \box_use:N \l__siunitx_angle_marker_box
289 % \tex_kern:D \scriptspace
290 % \siunitx_print_number:n {#1#2}% decimal part of angle
291 % }
292 % }% lwarp: not latex image
293 }

```

```

294 \VerifyCommand[lwarp][siunitx]{__siunitx_angle_arc_print_auxix:n}
295 {603807F80B4E40084CC07396DBC89FC1}
296
297 \cs_set_protected:Npn __siunitx_angle_arc_print_auxix:n #1
298 {
299 \group_begin:
300 \siunitx_unit_options_apply:n {#1}
301 \keys_set:nn { siunitx }{quantity-product={}}% lwarp
302 \siunitx_unit_format:nN {#1} \l__siunitx_angle_tmp_tl
303 \siunitx_quantity_print:nV { } \l__siunitx_angle_tmp_tl
304 \group_end:
305 }

```

If not in a lateximage, print a simple inline fraction, avoiding the use of svg math:

```

306 \VerifyCommand[lwarp][siunitx]{__siunitx_print_text_fraction:Nnn}
307 {F47521F256C661719258012969E7AE04}
308
309 \cs_set_protected:Npn __siunitx_print_text_fraction:Nnn #1#2#3
310 {
311 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
312 {%
313 \ensuremath
314 {
315 #1
316 { \mbox { __siunitx_print_text_replace:n {#2} } }
317 { \mbox { __siunitx_print_text_replace:n {#3} } }
318 }
319 }%
320 {% lwarp
321 { \mbox { __siunitx_print_text_replace:n {#2} } }% lwarp
322 /% lwarp
323 { \mbox { __siunitx_print_text_replace:n {#3} } }% lwarp
324 }% lwarp
325 }

```

If not in a lateximage, print a \textsubscript:

```

326 \VerifyCommand[lwarp][siunitx]{__siunitx_unit_format_qualifier_subscript:}
327 {543B01848C00E4089F0E0C53988F6A28}
328
329 \cs_set_protected:Npn __siunitx_unit_format_qualifier_subscript:
330 {
331 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
332 {%
333 __siunitx_unit_format_font:
334 \tl_set:Nx \l__siunitx_unit_part_tl
335 {
336 \c__siunitx_unit_math_subscript_tl
337 {
338 \exp_not:V \l__siunitx_unit_font_tl
339 { \exp_not:V \l__siunitx_unit_part_tl }
340 }
341 }
342 }
343 {% lwarp simplified for HTML:
344 __siunitx_unit_format_font:
345 \tl_set:Nx \l__siunitx_unit_part_tl
346 {
347 \textsubscript

```

```

348 {
349 \exp_not:V \l_siunitx_unit_font_tl
350 { \exp_not:V \l__siunitx_unit_part_tl }
351 }
352 }
353 }
354 }

355 \VerifyCommand[lwarp][siunitx]{\siunitx_quantity:nn}
356 {AEF3237DB5107FE46437AF1D3ABD03DE}
357
358 \cs_set_protected:Npn \siunitx_quantity:nn #1#2
359 {
360 \group_begin:
361 \siunitx_unit_options_apply:n {#2}
362 \tl_if_blank:nTF {#1}
363 {
364 \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
365 \siunitx_print_unit:V \l__siunitx_quantity_unit_tl
366 }
367 {
368 \bool_if:NTF \l_siunitx_number_parse_bool
369 { __siunitx_quantity_parsed:nn {#1} {#2} }
370 {
371 \tl_set:Nn \l__siunitx_quantity_number_tl {
372 \boolfalse{mathjax}% lwarp
373 \LWR@subsingleddollar{% lwarp
374 \textbackslash(% space lvaro ALT tag
375 \LWR@HTMLsanitizedetokenized{%
376 \detokenize{#1}%
377 } \textbackslash)% lwarp
378 }%
379 {siunitx unparsed}% lwarp add'l hashing
380 {\ensuremath{#1}}% lwarp
381 }
382 \siunitx_unit_format:nN {#2} \l__siunitx_quantity_unit_tl
383 \siunitx_quantity_print:VV
384 \l__siunitx_quantity_number_tl \l__siunitx_quantity_unit_tl
385 }
386 }
387 \group_end:
388 }

```

\cancel for HTML does not work yet.

```

389 \newcommand*{\LWR@siunitx@nocancel}[1]{%
390 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
391 {\cancel{#1}}% SVG
392 {#1}% HTML
393 }
394
395 \AtBeginDocument{
396 __siunitx_unit_set_symbolic:Npnn \cancel
397 { }
398 % { __siunitx_unit_parse_special:n { \cancel } }
399 { __siunitx_unit_parse_special:n { \LWR@siunitx@nocancel } }% lwarp
400 }

```



For HTML, use a simple unaligned `\num`:

```
401 \newcommand{\LWR@HTML@tablenum}[2][\num[#1]{#2}]
402 \LWR@formatted{tablenum}
```

For HTML, the `S` column is simplified to a `c` column. Keys are set locally, allowing drop-exponent, etc.

```
403 \AtBeginDocument{
404 \HTMLnewcolumnstype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}]
405 }
```

To define simplified units for HTML:

`\HTMLDeclareSIUnit` [*options*] [*name*] [*definition*]

```
406 \NewDocumentCommand{\HTMLDeclareSIUnit}{o +m m}
407 {
408 \ifcsdef{__siunitx_unit_ \token_to_str:N #2 :w }
409 {}
410 {
411 \PackageError{lwarp}
412 {%
413 First~use~\MessageBreak
414 \space\space\protect\DeclareSIUnit{
415 \token_to_str:N#2}{...}\MessageBreak
416 before~using~\MessageBreak
417 \space\space\protect\HTMLDeclareSIUnit{
418 \token_to_str:N#2}{...}%
419 }
420 {%
421 See~the~Lwarp~manual~section~about~special~cases,~
422 regarding~siunitx.%
423 }
424 }
425 \csNewCommandCopycs
426 {__orig_siunitx_unit_ \token_to_str:N #2 :w }
427 {__siunitx_unit_ \token_to_str:N #2 :w }
428 \DeclareSIUnit[#1]{#2}
429 {
430 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
431 {\csuse{__orig_siunitx_unit_ \token_to_str:N #2 :w }}
432 {#3}
433 }
434 }

435 \ExplSyntaxOff
```

HTML versions for existing units:

```
436 \AtBeginDocument{
437 \HTMLDeclareSIUnit\celsius{\LWR@siunitx@textcelsius}
438 \HTMLDeclareSIUnit\arcminute{\LWR@siunitx@textprime}
439 \HTMLDeclareSIUnit\arcsecond{\LWR@siunitx@textdblprime}
440 \HTMLDeclareSIUnit\elementarycharge{\textit{e}}
441 %
442 \HTMLDeclareSIUnit\clicht{\text{\textit{c}}\textsubscript{0}}
443 \HTMLDeclareSIUnit\bohr{\text{\textit{a}}\textsubscript{0}}
```

```

444 \HTMLDeclareSIUnit\electronmass{\text{\textit{m}}\textsubscript{e}}
445 \HTMLDeclareSIUnit\hartree{\text{\textit{E}}\textsubscript{h}}
446 \HTMLDeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
447 }% \AtBeginDocument

```

Initial options:

```

448 \AtBeginDocument{
449 \sisetup{
450 per-mode=symbol, % fraction is not seen by pdftotext
451 angle-symbol-degree = {\LWR@siunitx@textdegree},
452 angle-symbol-minute = {\LWR@siunitx@textprime} ,
453 angle-symbol-second = {\LWR@siunitx@textdblprime} ,
454 }
455 }

```

Load late patches for lltjp-siunitx:

```

456 \AtBeginDocument{
457 \ifdef{\ltj@allalchar}
458 {\LWR@origRequirePackage{lwarp-lltjp-siunitx}}
459 {}
460 }

```

For MATHJAX:

```

461 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}
462
463 \begin{warpMathJax}
464 \CustomizeMathJax{\let\unit\si}
465 \CustomizeMathJax{\let\qty\SI}
466 \CustomizeMathJax{\let\qtylist\SIlist}
467 \CustomizeMathJax{\let\qtyrange\SIrange}
468 \CustomizeMathJax{\let\numproduct\num}
469 \CustomizeMathJax{\let\qtyproduct\SI}
470 \CustomizeMathJax{\let\complexnum\num}
471 \CustomizeMathJax{\newcommand{\complexqty}[3][[]]{(\complexnum{#2})\si{#3}}}
472 \end{warpMathJax}

```

Pass range-phrase to common-mathjax-siunitx:

```

473 \ExplSyntaxOn
474 \AtBeginDocument{
475 \edef\LWR@siunitx@rangephrase{\l_siunitx_range_phrase_tl}
476 \expandafter\CustomizeMathJax\expandafter{%
477 \expandafter\def\expandafter\LWRsiunitxrangephrase%
478 \expandafter{\LWR@siunitx@rangephrase}%
479 }
480 }
481 \ExplSyntaxOff

```

---

File 458 **lwarp-siunitx-v2.sty**

§ 570 Package **siunitx-v2**

(Emulates or patches code by JOSEPH WRIGHT.)

siunitx-v2 (*Pkg*) siunitx-v2 is patched for use by lwarp, and is emulated for MATHJAX.

siunitx is well supported by lwarp.

**Limitations** Some general limitations:

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

`\cancel` is not currently supported for siunitx v3.

Negative values are not automatically colored.

 **tabular**

Tabular S and s columns are rendered as simple c columns, although key settings will be set. If using scientific notation, `table-format`, `table-align-uncertainty`, `drop-exponent`, etc.. use `\tablenum` for each cell. This is especially required for `drop-exponent`, without which the value will be shown incorrectly.

 **drop-exponent**

 **table-auto-round**

`table-auto-round` is ignored.

**Math rendering** Math may be rendered in several ways in the same document:

**For math mode with svg display:** The original siunitx code is used while generating the svg image.

**For HTML text mode:** lwarp uses siunitx code patched for HTML, and simplified units.

**For math expressions while using MATHJAX:** A limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. The result usually looks fine, and otherwise is enough to get the meaning across.

**Custom units** siunitx allows customized units:

```
\DeclareSIUnit {<name>} {<definition>}
```

`\DeclareSIUnit` declares a version of the unit for the print version. This is also used when the unit is printed in `svg math` or a `lateximage`. It is also used for HTML if an HTML-specific version is not defined with `\HTMLDeclareSIUnit`.

```
\DeclareSIUnit\myunit{\ensuremath{\text{m}_y}}
```

```
\HTMLDeclareSIUnit {<name>} {<definition>}
```

 **v3 only!**

Use this after the print unit has been defined. For siunitx v3, `\HTMLDeclareSIUnit` declares a simplified version of the unit for HTML, for example if the print-mode unit uses `TEX boxes` or `\ensuremath`:

```
\HTMLDeclareSIUnit\myunit{\text{m}\textsubscript{\textit{y}}}
```

It is also possible to provide a custom unit for MATHJAX:

```
\CustomizeMathJax{\newcommand{\myunit}{\text{m}_y}}
```

**Predefined units** Most units work as-is with HTML. For the following units, `lwarp` has already set `\HTMLDeclareSIUnit`: `\celsius`, `\arcminute`, `\arcsecond`, `\elementarycharge`, `\clight`, `\bohr`, `\electronmass`, `\hartree`, `\planckbar`.

### ⚠ MathJax

#### Document modifications required for MATHJAX

### ⚠ `\sisetup`

- Place `\sisetup` in the preamble before `\begin{document}`. Changes made later may be ignored, especially with MATHJAX. The MATHJAX emulation also ignores most macro options.

### ⚠ complex numbers

- Complex numbers are displayed as entered, ignoring `output-complex-root`.

### custom units

- Custom units may be added with `\CustomizeMathJax`. For example, from `lwarp-common-mathjax-siunitx`:

```
\CustomizeMathJax{\newcommand{\hartree}{\mathit{E}_-\{\mathrm{h}\}}}
\CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
```

### ⚠ unit spacing

- Units work better using `~` between units instead of using periods.

### ⚠ `\square`, `\cubic`

- To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centimeter}
```

Single units do not require braces.

- For `\numlist`, the argument is printed as text as-is, so use space between semicolons for improved readability.

### ⚠ Missing \$ inserted

- If using `parse-numbers = false`, also use `\num` or `\qty`. `siunitx=siunitx>Missing $ inserted`.

Also see **MATHJAX option**, section 8.7.5.

#### for HTML output:

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}[=v2]% 2021-04-17

4 \AtBeginDocument{% in case textcomp was not loaded
5 \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6 \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7 \DeclareSIUnit\elementarycharge{\textit{e}}
8 \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9 \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10 \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% AtBeginDocument
```

Support the S and s column types:

```
12 \AtBeginDocument{
13 \HTMLnewcolumnstype{S}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
14 \HTMLnewcolumnstype{s}[1][>{\begingroup\sisetup{#1}}c<{\endgroup}}
15 }
```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. SVG math is created explicitly when necessary, using `\LWR@subsingledollar`.

```

16
17 \ExplSyntaxOn
18 %

```

Modified to use the print version of `\@ensuredmath` to avoid having a lateximage each time.

```

19 \AtBeginDocument{
20 \cs_set_protected:Npn __siunitx_print_text:
21 {
22 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
23 \tl_replace_all:Nnn \l__siunitx_print_arg_tl { - }
24 { \textminus }
25 __siunitx_print_text_aux:
26 \tl_replace_all:Nnn \l__siunitx_print_arg_tl { \mp }
27 { \ensuremath { \mp } }
28 \tl_remove_all:Nn \l__siunitx_print_arg_tl { \mathord }
29 \cs_set_eq:NN \PrintSubscript __siunitx_print_text_sub:n
30 \cs_set_eq:NN \PrintSuperscript __siunitx_print_text_super:n
31 __siunitx_print_text_aux:NnN
32 _ { math_subscript } __siunitx_print_text_sub:n
33 _ { active } __siunitx_print_text_sub:n
34 ^ { math_superscript } __siunitx_print_text_super:n
35 ^ { active } __siunitx_print_text_super:n
36 \q_recursion_tail ? ?
37 \q_recursion_stop
38 \l__siunitx_print_arg_tl
39 }
40 }

```

Modified to set set HTML `\textcolor` if not black:

```

41 \cs_new_protected:Npn \LWR@HTML@__siunitx_print_aux:
42 {
43 \text
44 {
45 __siunitx_ensure_ltr:n
46 {
47 \color@begingroup
48 %
49 __siunitx_print_color:
50 __siunitx_font_shape:
51 __siunitx_font_weight:
52 \use:c
53 {
54 __siunitx_ \l__siunitx_print_type_tl _
55 text \l__siunitx_font_family_tl :
56 }
57 %
58 % \bool_if:NTF \l__siunitx_font_math_mode_bool
59 % {
60 % __siunitx_print_math:
61 % }
62 % {
63 % \LWR@findcurrenttextcolor% lwarp
64 % \ifdefstring{\LWR@tempcolor}{000000}% lwarp
65 % { __siunitx_print_text: }% lwarp
66 % { % lwarp
67 % \LWR@textcurrentcolor{% lwarp

```

```

67 __siunitx_print_text:
68 }% lwarp
69 }% lwarp
70 }
71 \color@endgroup
72 %
73 }
74 }
75 }
76 \LWR@formatted{__siunitx_print_aux:}
77
78 \cs_new_protected:Npn \LWR@HTML@__siunitx_set_math_fam:n #1 {
79 \group_begin:
80 % \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
81 % \LetLtxMacro\mbox\LWR@print@mbox% lwarp
82 % \hbox_set:Nn \l__siunitx_tmp_box
83 % {
84 % \ensuremath
85 % {
86 % \use:c { math #1 }
87 % {
88 % \int_const:cn { c__siunitx_math #1 _int } { \fam }
89 % }
90 % }
91 % }
92 \group_end:
93 }
94 \LWR@formatted{__siunitx_set_math_fam:n}
95
96 \cs_new_protected:Npn \LWR@HTML@__siunitx_combined_output:n #1 {
97 %
98 \group_begin:% lwarp
99 \bool_if:NTF \l__siunitx_number_parse_bool
100 {
101 \tl_clear:N \l__siunitx_number_out_tl
102 \bool_set_false:N \l__siunitx_number_compound_bool
103 __siunitx_number_output_parse:n {#1}
104 }
105 {

```

For parse-numbers=false:

```

106 __siunitx_unit_output_pre_print:
107 \begingroup% lwarp
108 \boolfalse{mathjax}% lwarp
109 % __siunitx_print:nn { number } { \ensuremath {#1} }
110 \LWR@subsingledollar% lwarp
111 {% alt text
112 \textbackslash(% space
113 \LWR@HTMLsanitizedetokenized{%
114 \detokenize{#1}%
115 } \textbackslash)% lwarp
116 }
117 {siunitx}% addl hashing
118 {%
119 __siunitx_print:nn { number } {%
120 \LWR@origensuredmath{#1}%
121 }%
122 }%
123 \endgroup% lwarp

```

```

124 __siunitx_unit_output_print:
125 }
126 \group_end:% lwarp
127 %
128 }
129 \LWR@formatted{__siunitx_combined_output:n}

```

For parse-numbers=false:

```

130 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_numbers_aux:n #1
131 {
132 \bool_if:NTF \l__siunitx_number_parse_bool
133 {
134 \tl_clear:N \l__siunitx_number_out_tl
135 \tl_clear:N \l__siunitx_number_out_saved_tl
136 \bool_set_false:N \l__siunitx_number_compound_bool
137 __siunitx_number_output_parse:n {#1}
138 \bool_if:NT \l__siunitx_number_compound_bool
139 { \msg_error:nxx { siunitx } { multi-part-range } {#1} }
140 }
141 {
142 __siunitx_unit_output_pre_print:
143 \begingroup% lwarp
144 \boolfalse{mathjax}% lwarp
145 % __siunitx_print:nn { number } {#1}
146 \LWR@subsingledollar% lwarp
147 {% alt text
148 \textbackslash(% space
149 \LWR@HTMLsanitizedetokenized{%
150 \detokenize{#1}%
151 } \textbackslash)% lwarp
152 }%
153 {siunitx}% addl hashing
154 {%
155 __siunitx_print:nn { number } {%
156 \LWR@origensuredmath{#1}%
157 } % lwarp
158 }% lwarp
159 \endgroup% lwarp
160 __siunitx_unit_output_print:
161 }
162 }
163 \LWR@formatted{__siunitx_range_numbers_aux:n}

```

For parse-numbers=false:

```

164 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_direct_aux:nn #1#2 {
165 \tl_if_empty:nF {#1}
166 {
167 \tl_set:Nn \l__siunitx_unit_tl {#2}
168 \begingroup% lwarp
169 \boolfalse{mathjax}% lwarp
170 % __siunitx_print:nn { number } {#1}
171 \LWR@subsingledollar{% lwarp
172 \textbackslash(% space
173 \LWR@HTMLsanitizedetokenized{%
174 \detokenize{#1}%
175 } \textbackslash)% lwarp
176 }%
177 {siunitx}%

```

```

178 {%
179 __siunitx_print:nn { number } {
180 \LWR@origensuredmath{#1}%
181 }%
182 }%
183 \endgroup%
184 __siunitx_unit_output_print:
185 }
186 }
187 \LWR@formatted{__siunitx_angle_print_direct_aux:nn}
188 %

```

For quotients, the fraction code is replaced by the symbol code:

```

189 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_quotient_fraction: {
190 \bool_set_true:N __siunitx_number_compound_bool
191 __siunitx_number_output_quotient_aux_i:
192 \tl_set_eq:NN __siunitx_number_out_tl
193 __siunitx_number_numerator_tl
194 \tl_put_right:NV __siunitx_number_out_tl __siunitx_output_quotient_tl
195 \tl_put_right:NV __siunitx_number_out_tl
196 __siunitx_number_denominator_tl
197 __siunitx_number_output_single_aux:
198 }
199 \LWR@formatted{__siunitx_number_output_quotient_fraction:}

```

For units, the fraction code is replaced by the symbol code:

```

200 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_format_fraction_fraction: {
201 __siunitx_unit_format_fraction_symbol_aux:
202 \int_compare:nNnT { __siunitx_unit_denominator_int } > { 1 }
203 {
204 \bool_if:NT __siunitx_unit_denominator_bracket_bool
205 {
206 \tl_put_left:NV __siunitx_unit_denominator_tl __siunitx_bracket_open_tl
207 \tl_put_right:NV __siunitx_unit_denominator_tl __siunitx_bracket_close_tl
208 }
209 }
210 \tl_set_eq:NN __siunitx_unit_tl __siunitx_unit_numerator_tl
211 \tl_put_right:NV __siunitx_unit_tl __siunitx_per_symbol_tl
212 \tl_put_right:NV __siunitx_unit_tl __siunitx_unit_denominator_tl
213 }
214 \LWR@formatted{__siunitx_unit_format_fraction_fraction:}

215 \cs_new_protected:Npn \LWR@HTML@__siunitx_angle_print_astronomy_aux: {
216 \prop_get:NnNT __siunitx_number_out_prop { mantissa-integer }
217 __siunitx_tmpa_tl
218 { __siunitx_print:nV { number } __siunitx_tmpa_tl }
219 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
220 {% lateximage
221 \hbox_set:Nn __siunitx_angle_marker_box
222 {
223 __siunitx_print:nn { number } { { __siunitx_output_decimal_tl } }
224 }
225 \hbox_set:Nn __siunitx_angle_unit_box
226 {
227 __siunitx_print:nV { unit } __siunitx_unit_tl
228 \skip_horizontal:n { -\scriptspace }
229 }

```



```

230 __siunitx_angle_print_astronomy_aux:n { marker }
231 __siunitx_angle_print_astronomy_aux:n { unit }
232 \hbox_set:Nn \l__siunitx_angle_marker_box
233 {
234 \box_use:N \l__siunitx_angle_marker_box
235 \box_use:N \l__siunitx_angle_unit_box
236 }
237 \dim_compare:nNnTF
238 { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
239 { __siunitx_angle_print_astronomy_marker: }
240 { __siunitx_angle_print_astronomy_unit: }
241 }% lateximage
242 {% not a lateximage
243 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
244 __siunitx_print:nV { unit } \l__siunitx_unit_tl
245 }% not a lateximage
246 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
247 \l__siunitx_tmpa_tl
248 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
249 }
250 \LWR@formatted{__siunitx_angle_print_astronomy_aux:}

251 \cs_new_protected:Npn \LWR@HTML@__siunitx_textsuperscript:n #1 {#1}
252 \LWR@formatted{__siunitx_textsuperscript:n}
253
254 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_super:n \textsuperscript
255 \LWR@formatted{__siunitx_print_text_super:n}
256
257 \cs_new_eq:NN \LWR@HTML@__siunitx_print_text_sub:n \textsubscript
258 \LWR@formatted{__siunitx_print_text_sub:n}

\LWR@origenduresmath is added here in case the user asks for \mathrm, etc. for
output-exponent-marker.

259 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_exponent: {
260 \prop_get:NnN \l__siunitx_number_out_prop { exponent }
261 \l__siunitx_tmpa_tl
262 \tl_if_empty:NTF \l__siunitx_output_exponent_tl
263 {
264 \tl_set:Nx \l__siunitx_tmpa_tl
265 { ^ { \exp_not:V \l__siunitx_tmpa_tl } }
266 \tl_put_left:NV \l__siunitx_tmpa_tl \l__siunitx_exponent_base_tl
267 }
268 {
269 \tl_set:Nx \l__siunitx_tmpa_tl
270 {
271 \LWR@origensuredmath{% lwarp
272 \exp_not:V \l__siunitx_output_exponent_tl
273 }% lwarp
274 \exp_not:N \mathord
275 \exp_not:V \l__siunitx_tmpa_tl
276 }
277 }
278 \prop_put:NnV \l__siunitx_number_out_prop { exponent-result }
279 \l__siunitx_tmpa_tl
280 }
281 \LWR@formatted{__siunitx_number_format_final_exponent:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

282 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_format_final_combined: {
283 __siunitx_number_format_brackets:n { mantissa }
284 \prop_get:NnN \l__siunitx_number_out_prop { mantissa-result }
285 \l__siunitx_tmpa_tl
286 \tl_if_empty:NT \l__siunitx_output_exponent_tl
287 {
288 \tl_put_right:Nx \l__siunitx_tmpa_tl
289 {
290 \exp_not:N \LWR@origensuredmath% lwarp
291 {
292 \bool_if:NTF \l__siunitx_tight_bool
293 { { \exp_not:V \l__siunitx_exponent_product_tl } }
294 { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
295 }
296 }
297 }
298 \prop_get:NnN \l__siunitx_number_out_prop { exponent-result }
299 \l__siunitx_tmpb_tl
300 \tl_put_right:NV \l__siunitx_tmpa_tl \l__siunitx_tmpb_tl
301 \prop_put:NnV \l__siunitx_number_out_prop { result }
302 \l__siunitx_tmpa_tl
303 \prop_put:Nnn \l__siunitx_number_out_prop
304 { result-bracket-exponent } { true }
305 }
306 \LWR@formatted{__siunitx_number_format_final_combined;}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

307 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_parts_aux: {
308 \bool_if:NTF \l__siunitx_multi_repeat_bool
309 {
310 \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
311 {
312 __siunitx_number_output_parts_aux:n { mantissa }
313 __siunitx_number_output_parts_aux:n { complex }
314 }
315 \prop_get:NnNT \l__siunitx_number_out_prop { exponent-result }
316 \l__siunitx_tmpa_tl
317 {
318 \prop_if_in:NnT \l__siunitx_number_out_prop { mantissa-result }
319 {
320 \tl_put_left:Nx \l__siunitx_tmpa_tl
321 {
322 \exp_not:N \LWR@origensuredmath
323 {
324 \bool_if:NTF \l__siunitx_tight_bool
325 { { \exp_not:V \l__siunitx_exponent_product_tl } }
326 { { } \exp_not:V \l__siunitx_exponent_product_tl { } }
327 }
328 }
329 \prop_put:NnV \l__siunitx_number_out_prop { exponent }
330 \l__siunitx_tmpa_tl
331 }
332 __siunitx_number_output_parts_print:n { exponent }
333 }
334 }

```

```

335 { __siunitx_number_output_single: }
336 }
337 \LWR@formatted{__siunitx_number_output_parts_aux:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

338 \cs_new_protected:Npn \LWR@HTML@__siunitx_unit_output_print: {
339 \int_compare:nNf { __siunitx_unit_prefix_int } = { 0 }
340 {
341 \tl_set:Nx \l__siunitx_tmpa_tl
342 {
343 \bool_if:NTF \l__siunitx_tight_bool
344 {
345 \exp_not:N \LWR@origensuredmath% lwarp
346 { { \exp_not:V __siunitx_exponent_product_tl } }
347 }
348 {
349 \exp_not:N \LWR@origensuredmath% lwarp
350 { { } \exp_not:V __siunitx_exponent_product_tl { } }
351 }
352 \int_use:N \l__siunitx_unit_prefix_base_int
353 ^ { \int_use:N \l__siunitx_unit_prefix_int }
354 }
355 __siunitx_print:nV { number } \l__siunitx_tmpa_tl
356 }
357 \tl_if_empty:NF \l__siunitx_unit_tl
358 {
359 __siunitx_unit_output_number_sep:
360 __siunitx_print:nV { unit } \l__siunitx_unit_tl
361 }
362 }
363 \LWR@formatted{__siunitx_unit_output_print:}

```

\LWR@origensuredmath is added here to avoid using an image for the exponent product.

```

364 \cs_new_protected:Npn \LWR@HTML@__siunitx_range_exponent:
365 {
366 \bool_if:NT \l__siunitx_process_fixed_bool
367 {
368 \tl_set_eq:NN \l__siunitx_tmpa_tl \l__siunitx_exponent_product_tl
369 \bool_if:NT \l__siunitx_tight_bool
370 {
371 \tl_set:Nx \l__siunitx_tmpa_tl
372 { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpa_tl }
373 }
374 \tl_set:Nx \l__siunitx_tmpa_tl
375 {
376 \exp_not:N \LWR@origensuredmath { % lwarp
377 { } \exp_not:o \l__siunitx_tmpa_tl { }
378 }
379 10 \exp_not:N \PrintSuperscript
380 { \int_use:N \l__siunitx_process_fixed_int }
381 }
382 __siunitx_print:nV { number } \l__siunitx_tmpa_tl
383 }
384 }
385 \LWR@formatted{__siunitx_range_exponent:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the exponent product.

```

386 \cs_new_protected:Npn \LWR@HTML@__siunitx_table_print_S_reserved_exponent_product:
387 {
388 \tl_set_eq:NN \l__siunitx_tmpb_tl \l__siunitx_exponent_product_tl
389 \bool_if:NT \l__siunitx_tight_bool
390 {
391 \tl_set:Nx \l__siunitx_tmpb_tl
392 { \exp_not:N \mathord \exp_not:o \l__siunitx_tmpb_tl }
393 }
394 \tl_set:Nx \l__siunitx_tmpa_tl
395 {
396 \exp_not:N \LWR@origensuredmath { { } \exp_not:o \l__siunitx_tmpb_tl { } }
397 \exp_not:o \l__siunitx_tmpa_tl
398 }
399 }
400 \LWR@formatted{__siunitx_table_print_S_reserved_exponent_product:}

```

`\LWR@origensuredmath` is added here to avoid using an image for the output product.

```

401 \cs_new_protected:Npn \LWR@HTML@__siunitx_number_output_product_aux: {
402 \bool_set_true:N \l__siunitx_number_compound_bool
403 __siunitx_number_preprocess:V \l__siunitx_number_arg_tl
404 \bool_if:NF \l__siunitx_error_bool
405 {
406 \tl_if_empty:NTF \l__siunitx_number_multi_tl
407 { __siunitx_number_output_parse_aux: }
408 { __siunitx_number_output_quotient: }
409 \tl_if_empty:NF \l__siunitx_number_next_tl
410 {
411 \bool_if:NTF \l__siunitx_tight_bool
412 {
413 __siunitx_print:nn { number }
414 { \LWR@origensuredmath { \l__siunitx_output_product_tl } }
415 }
416 {
417 __siunitx_print:nn { number }
418 { \LWR@origensuredmath { { } \l__siunitx_output_product_tl { } } }
419 }
420 __siunitx_number_output_parse:V \l__siunitx_number_next_tl
421 }
422 }
423 }
424 \LWR@formatted{__siunitx_number_output_product_aux:}

```

Used to detect the math font.

```

425 \cs_set_protected:Npn __siunitx_set_math_fam:n #1 {
426 \group_begin:
427 \hbox_set:Nn \l__siunitx_tmp_box
428 {
429 \LWR@origensuredmath% lwarp
430 {
431 \use:c { math #1 }
432 {
433 \int_const:cn { c__siunitx_math #1 _int } { \fam }
434 }
435 }

```

```

436 }
437 \group_end:
438 }

```

Force \text:

```

439 \cs_set_protected:Npn __siunitx_range_numbers:nn #1#2
440 {
441 __siunitx_range_numbers_aux:n {#1}
442 \text{__siunitx_range_phrase_tl}% lwarp
443 __siunitx_range_numbers_aux:n {#2}
444 }

```

Force \text:

```

445 \cs_set_protected:Npn __siunitx_range_unit:nnnn #1#2#3#4 {
446 __siunitx_unit_parse_options:nn {#1} {#2}
447 \bool_if:NTF __siunitx_range_repeat_bool
448 {
449 __siunitx_unit_in:nn {#1} {#2}
450 __siunitx_range_numbers_aux:n {#3}
451 \text{__siunitx_range_phrase_tl}% lwarp
452 __siunitx_range_numbers_aux:n {#4}
453 }
454 {
455 \bool_if:NT __siunitx_process_fixed_bool
456 { \bool_set_true:N __siunitx_process_drop_exponent_bool }
457 \bool_if:NT __siunitx_range_brackets_bool
458 { __siunitx_print:nV { number } __siunitx_bracket_open_tl }
459 __siunitx_range_numbers:nn {#3} {#4}
460 \bool_if:NT __siunitx_range_brackets_bool
461 { __siunitx_print:nV { number } __siunitx_bracket_close_tl }
462 __siunitx_range_exponent:
463 __siunitx_unit_output_number_sep:
464 __siunitx_unit_output:nn {#1} {#2}
465 }
466 }

```

```

467 \ExplSyntaxOff

```

```

468 \AtBeginDocument{
469 \sisetup{
470 detect-mode=true,
471 per-mode=symbol, % fraction is not seen by pdftotext
472 text-celsius = {\LWR@siunitx@textcelsius},
473 text-degree = {\LWR@siunitx@textdegree},
474 text-arcminute = {\LWR@siunitx@textprime} ,
475 text-arcsecond = {\LWR@siunitx@textdblprime} ,
476 }
477 }

```

```

478 \LWR@origRequirePackage{lwarp-common-mathjax-siunitx}

```

Passing range-phrase to `common-mathjax-siunitx` does not seem to work with v2 using translator as it does with v3 using translations. The range-phrase therefore is set to an en-dash.

```

479 \AtBeginDocument{

```

```
480 \CustomizeMathJax{\def\LWRsiunitxrangephrase{\unicode{x2013}}}
481 }
```

File 459 **lwarp-common-mathjax-siunitx.sty**

§ 571 Package **common-mathjax-siunitx**

*(Emulates or patches code by JOSEPH WRIGHT.)*

common-mathjax-siunitx (*Pkg*) common-mathjax-siunitx adds MATHJAX for siunitx and siunitx-v2.

for HTML output:  
MATHJAX

For MATHJAX.

The following runs much faster as separate `\CustomizeMathJax` calls instead of one single call.

```
1 \begin{warpMathJax}
2 \LWR@infoprocessingmathjax{siunitx}

3 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
4 \CustomizeMathJax{\newcommand{\raiseto}[2]{#2^{#1}}}
```

Used as an end marker when parsing values:

```
5 \CustomizeMathJax{\newcommand{\LWRsiunitxEND}{}}
```

`\ang`

`[<options>] {<value>}`

```
6 \CustomizeMathJax{\def\LWRsiunitxang#1;#2;#3;#4\LWRsiunitxEND{%
7 \ifblank{#1}{\num{#1}\degree}%
8 \ifblank{#2}{\num{#2}^{\unicode{x2032}}}% \prime
9 \ifblank{#3}{\num{#3}^{\unicode{x2033}}}% \dblprime
10 }}
11 \CustomizeMathJax{\newcommand{\ang}[2][\LWRsiunitxang#2; ; \LWRsiunitxEND]}
```

`\num`

`[<options>] {<value>}`

`\num` handles optional powers (e, E, d, D), multiples (x), plus and minus, and period or comma decimal output.

To split the string, `\def` is used with parameter delimiters. When each of the following macros is used, extra delimiters are padded to the end of the arguments of each macro when used, and the final argument of each collects any extra unused delimiters.

The number is split by dimensions (x), then by powers (E, e, D, d), then by plus / minus (+, -, \pm), then by plus and minus (+, -), then into pieces before and after the decimal point or decimal comma.

Determine if the number is output with a decimal period or a decimal comma. The enclosing braces tell MATHJAX to not add extra space after the punctuation.

```
12 \ExplSyntaxOn
13 \AtBeginDocument{
14 \ifdefstring{\l__siunitx_output_decimal_tl}{,}{.}
15 \CustomizeMathJax{\def\LWRsiunitxdecimal{,}}
16 \CustomizeMathJax{\def\LWRsiunitxdecimal{.}}
17 }
```

18 \ExplSyntaxOff

Any units which must be distributed across multiple dimensions:

19 \CustomizeMathJax{\def\LWRsiunitxdistribunit{}}

siunitx accepts either commas or periods as decimal points. \LWRsiunitxprintdecimal splits its input by periods then commas, parsing out before and after sections to print on either side of the decimal point.

\LWRsiunitxENDTWO is used only by \LWRsiunitxprintdecimalsubtwo, to avoid a parsing conflict with the more widely-used \LWRsiunitxEND.

The following splits by decimal commas:

20 \CustomizeMathJax{\newcommand{\LWRsiunitxENDTWO}{}}

21

22 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsubtwo#1,#2,#3\LWRsiunitxENDTWO{%

If nothing is ahead of the decimal comma, add a leading zero:

23 \ifblank{#1}{0}{\mathrm{#1}}%

If something is after the decimal comma, print the decimal and the fraction:

24 \ifblank{#2}%

25 {}%

26 {%

27 {\LWRsiunitxdecimal}%

28 \mathrm{#2}}%

29 }

30 }}

The following splits by decimal periods:

31 \CustomizeMathJax{\def\LWRsiunitxprintdecimalsub#1.#2.#3\LWRsiunitxEND{%

32 \LWRsiunitxprintdecimalsubtwo#1,,\LWRsiunitxENDTWO

33 \ifblank{#2}%

34 {}%

35 {%

36 {\LWRsiunitxdecimal}%

37 \LWRsiunitxprintdecimalsubtwo#2,,\LWRsiunitxENDTWO

38 }%

39 }}

40

41 \CustomizeMathJax{\newcommand{\LWRsiunitxprintdecimal}[1]{%

42 \LWRsiunitxprintdecimalsub#1...\LWRsiunitxEND%

43 }}

The following splits by +

44 \CustomizeMathJax{\def\LWRsiunitxnumplus#1+#2+#3\LWRsiunitxEND{%

45 \ifblank{#2}%

46 {%

47 \LWRsiunitxprintdecimal{#1}%

48 }% no plus

49 {%

50 \ifblank{#1}%

51 {\LWRsiunitxprintdecimal{#2}}% leading plus, ignore

52 {% a+b

53 \LWRsiunitxprintdecimal{#1}%

54 \unicode{x02B}% plus sign

55 \LWRsiunitxprintdecimal{#2}%

56 }%

57 }

58 \LWRsiunitxdistribunit%

59 }}

The following splits by -

```
60 \CustomizeMathJax{\def\LWRsiunitxnumminus#1-#2-#3\LWRsiunitxEND{%
61 \ifblank{#2}%
62 {\LWRsiunitxnumplus#1+++ \LWRsiunitxEND}%
63 {%
64 \ifblank{#1}{\LWRsiunitxprintdecimal{#1}}%
65 \unicode{x02212}% mathematical minus sign
66 \LWRsiunitxprintdecimal{#2}%
67 \LWRsiunitxdistribunit%
68 }%
69 }}
```

The following splits by \pm

```
70 \CustomizeMathJax{\def\LWRsiunitxnumpmmacro#1\pm#2\pm#3\LWRsiunitxEND{%
71 \ifblank{#2}%
72 {\LWRsiunitxnumminus#1---\LWRsiunitxEND}%
73 {%
74 \LWRsiunitxprintdecimal{#1}%
75 \unicode{x0B1}% \pm
76 \LWRsiunitxprintdecimal{#2}%
77 \LWRsiunitxdistribunit%
78 }%
79 }}
```

The following splits by +-

```
80 \CustomizeMathJax{\def\LWRsiunitxnumpm#1+-#2+-#3\LWRsiunitxEND{%
81 \ifblank{#2}%
82 {\LWRsiunitxnumpmmacro#1\pm\pm\pm\LWRsiunitxEND}%
83 {%
84 \LWRsiunitxprintdecimal{#1}%
85 \unicode{x0B1}% \pm
86 \LWRsiunitxprintdecimal{#2}%
87 \LWRsiunitxdistribunit%
88 }%
89 }}
```

Processes scientific notation. Special handling for a mantissa which is either empty or only a minus sign.

```
90 \CustomizeMathJax{\newcommand{\LWRsiunitxnumscientific}[2]{%
91 \ifblank{#1}%
92 {}%
93 {%
94 \ifstrequal{#1}{-}%
95 {-}%
96 {\LWRsiunitxprintdecimal{#1}\times}%
97 }%
98 10^{\LWRsiunitxprintdecimal{#2}}%
99 \LWRsiunitxdistribunit%
100 }}
```

The following splits by D

```
101 \CustomizeMathJax{\def\LWRsiunitxnumD#1D#2D#3\LWRsiunitxEND{%
102 \ifblank{#2}%
103 {\LWRsiunitxnumpm#1+++ \LWRsiunitxEND}%
104 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
105 }}
```



The following splits by d

```
106 \CustomizeMathJax{\def\LWRsiunitxnumd#1d#2d#3\LWRsiunitxEND{%
107 \ifblank{#2}%
108 {\LWRsiunitxnumd#1DDD\LWRsiunitxEND}%
109 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
110 }}
```

The following splits by E

```
111 \CustomizeMathJax{\def\LWRsiunitxnumE#1E#2E#3\LWRsiunitxEND{%
112 \ifblank{#2}%
113 {\LWRsiunitxnumd#1ddd\LWRsiunitxEND}%
114 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
115 }}
```

The following splits by e

```
116 \CustomizeMathJax{\def\LWRsiunitxnume#1e#2e#3\LWRsiunitxEND{%
117 \ifblank{#2}%
118 {\LWRsiunitxnumE#1EEE\LWRsiunitxEND}%
119 {\mathrm{\LWRsiunitxnumscientific{#1}{#2}}}%
120 }}
```

The following splits by x

```
121 \CustomizeMathJax{\def\LWRsiunitxnumx#1x#2x#3x#4\LWRsiunitxEND{%
122 \ifblank{#2}%
123 {\LWRsiunitxnume#1eee\LWRsiunitxEND}%
124 {%
125 \ifblank{#3}%
126 {%
127 \LWRsiunitxnume#1eee\LWRsiunitxEND%
128 \times%
129 \LWRsiunitxnume#2eee\LWRsiunitxEND%
130 }%
131 {%
132 \LWRsiunitxnume#1eee\LWRsiunitxEND%
133 \times%
134 \LWRsiunitxnume#2eee\LWRsiunitxEND%
135 \times%
136 \LWRsiunitxnume#3eee\LWRsiunitxEND%
137 }%
138 }%
139 }}

140 \CustomizeMathJax{\newcommand{\num}[2][]{%
141 \LWRsiunitxnumx#2xxxxx\LWRsiunitxEND%
142 }}
```

\si

[*options*] {*unit*}

~ is converted to a thin space. Not able to convert period to thin space because the period might be in \raiseto, for example.

```
143 \CustomizeMathJax{\newcommand{\si}[2][]{%
144 \mathrm{\gsubstitute{#2}{~}{\,}}%
145 }}
```

\SI

[*options*] {*value*} [*prefix*] {*unit*}

\SI has a second optional arg, which is parsed using \ifnextchar.

```
146 \CustomizeMathJax{\def\LWRsiunitxSIopt#1[#2]#3{%
```

```

147 \def\LWRsiunitxdistribunit{\, \si{#3}}%
148 {#2}\num{#1}%
149 \def\LWRsiunitxdistribunit{}%
150 }}
151
152 \CustomizeMathJax{\newcommand{\LWRsiunitxSI}[2]{%
153 \def\LWRsiunitxdistribunit{\, \si{#2}}%
154 \num{#1}%
155 \def\LWRsiunitxdistribunit{}%
156 }}

157 \CustomizeMathJax{\newcommand{\SI}[2][[]]{%
158 \ifnextchar[%
159 {\LWRsiunitxSIopt{#2}}%
160 {\LWRsiunitxSI{#2}}%
161 }}

```

`\numlist` [*options*] {*list*}

`\numlist` should only be used in text mode. If used in MATHJAX, it is merely printed as text, so add space around the semicolons.

```
162 \CustomizeMathJax{\newcommand{\numlist}[2][[]]{\text{#2}}}
```

`\numrange` [*options*] {*value1*} {*value2*}

`\numrange` should only be used in text mode. If used in MATHJAX math, an en-dash is used instead of the range-phrase.

```

163 \CustomizeMathJax{\newcommand{\numrange}[3][[]]{%
164 \num{#2}\ \LWRsiunitxrangephrase\ \num{#3}%
165 }}

```

`\SIlist` [*options*] {*list*}

`\SIlist` and `\SIrange` should only be used in text mode. If used in MATHJAX, a simple emulation is provided.

```
166 \CustomizeMathJax{\newcommand{\SIlist}[3][[]]{\text{#2}\, \si{#3}}}
```

`\SIrange` [*options*] {*value1*} {*value2*} {*unit*}

```

167 \CustomizeMathJax{\newcommand{\SIrange}[4][[]]{%
168 \num{#2}\, #4\ \LWRsiunitxrangephrase\ \num{#3}\, #4%
169 }}

```

`\tablenum` [*options*] {*value*}

```
170 \CustomizeMathJax{\newcommand{\tablenum}[2][[]]{\mathrm{#2}}}
```

```

171 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
172 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
173 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
174 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
175 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
176 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
177 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
178 %
179 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
180 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}

```

```

181 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
182 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
183 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
184 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
185 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
186 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
187 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
188 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
189 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
190 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
191 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
192 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
193 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
194 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
195 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
196 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
197 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
198 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
199 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
200 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
201 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
202 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
203 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
204 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
205 \CustomizeMathJax{\newcommand{\litre}{\mathrm{L}}}
206 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
207 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
208 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
209 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^\prime\prime}}}
210 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
211 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
212 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
213 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a}_0}}
214 \CustomizeMathJax{\newcommand{\cflight}{\mathrm{c}_0}}
215 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
216 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m}_\mathrm{e}}}
217 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
218 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
219 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}_\mathrm{h}}}
220 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\unicode{x210F}}}}
221 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
222 \CustomizeMathJax{\let\LRor\bar}
223 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
224 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
225 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
226 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
227 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
228 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
229 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
230 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
231 %
232 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
233 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
234 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
235 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
236 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
237 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
238 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
239 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
240 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}

```

```

241 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
242 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
243 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
244 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
245 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
246 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
247 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
248 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
249 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
250 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
251 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
252 %
253 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
254 %
255 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
256 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
257 %
258 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
259 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
260 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{#1}}}}
261 \CustomizeMathJax{\newcommand{\squared}{^2}}
262 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{#1}^2}}
263 \CustomizeMathJax{\newcommand{\cubed}{^3}}
264 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{#1}^3}}

265 \CustomizeMathJax{\newcommand{\per}{\, \mathrm{/}}}

266 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
267 %
268 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
269 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
270 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
271 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
272 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
273 \CustomizeMathJax{\newcommand{\g}{\gram}}
274 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
275 %
276 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
277 %
278 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
279 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
280 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
281 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
282 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
283 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
284 \CustomizeMathJax{\newcommand{\m}{\metre}}
285 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
286 %
287 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
288 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
289 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
290 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
291 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
292 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
293 \CustomizeMathJax{\newcommand{\s}{\second}}
294 %
295 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
296 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
297 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}

```

```
298 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
299 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
300 \CustomizeMathJax{\newcommand{\mol}{\mol}}
301 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
302 %
303 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
304 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
305 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
306 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
307 \CustomizeMathJax{\newcommand{\A}{\ampere}}
308 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
309 %
310 \CustomizeMathJax{\newcommand{\ul}{\micro\litre}}
311 \CustomizeMathJax{\newcommand{\ml}{\milli\litre}}
312 \CustomizeMathJax{\newcommand{\l}{\litre}}
313 \CustomizeMathJax{\newcommand{\hl}{\hecto\litre}}
314 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
315 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
316 \CustomizeMathJax{\newcommand{\L}{\liter}}
317 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
318 %
319 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
320 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
321 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
322 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
323 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
324 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
325 %
326 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
327 \CustomizeMathJax{\newcommand{\N}{\newton}}
328 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
329 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
330 %
331 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
332 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
333 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
334 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
335 %
336 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
337 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
338 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
339 %
340 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
341 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
342 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
343 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
344 \CustomizeMathJax{\newcommand{\V}{\volt}}
345 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
346 %
347 \CustomizeMathJax{\newcommand{\W}{\watt}}
348 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
349 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
350 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
351 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
352 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
353 %
354 \CustomizeMathJax{\newcommand{\J}{\joule}}
355 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
356 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
357 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
```

```

358 %
359 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
360 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
361 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
362 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
363 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
364 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
365 %
366 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
367 %
368 \CustomizeMathJax{\newcommand{\F}{\farad}}
369 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
370 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
371 %
372 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
373 %
374 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
375 %
376 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
377 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
378 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
379 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
380 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
381 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
382 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
383 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
384 \end{warpMathJax}

```

---

File 460 **lwarp-skmath.sty**

§ 572 Package **skmath**

*(Emulates or patches code by SIMON SIGURDHSSON.)*

skmath (*Pkg*) **skmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{skmath}[2019/10/15]

Only defined if package option requested:

```

2 \begin{warpMathJax}
3 \ExplSyntaxOn
4 \bool_if:NT\g__skmath_define_common_sets_bool{
5 \CustomizeMathJax{\newcommand{\N}{\mathbb{N}}}
6 \CustomizeMathJax{\newcommand{\Z}{\mathbb{Z}}}
7 \CustomizeMathJax{\newcommand{\Q}{\mathbb{Q}}}
8 \CustomizeMathJax{\newcommand{\R}{\mathbb{R}}}
9 \CustomizeMathJax{\newcommand{\C}{\mathbb{C}}}
10 }

```

**skmath** is using **l3keys**, which does not seem to have an equivalent to `\@ifpackagewith`. To detect package options, comparisons with the following are made to see if various macros have been defined as follows:

```

11 \cs_gset_nopar:Npn\LWR__skmath_imaginary_unit:n#1{{#1}}
12 \cs_gset_nopar:Npn\LWR__skmath_natural_log_e:{{e}}
13 \cs_gset_nopar:Npn\LWR__skmath_integral_d:{{d}}

```

```
14 \cs_gset_nopar:Npn\LWR__skmath_total_derivative_d:{{d}}
```

If notation=iso, use upright, else italic:

```
15 \cs_if_eq:NNTF __skmath_imaginary_unit:n \LWR__skmath_imaginary_unit:n
16 {
17 \CustomizeMathJax{\newcommand{ii}{\mathit{i}}}
18 \CustomizeMathJax{\newcommand{jj}{\mathit{j}}}
19 }
20 {
21 \CustomizeMathJax{\newcommand{ii}{\mathrm{i}}}
22 \CustomizeMathJax{\newcommand{jj}{\mathrm{j}}}
23 }
```

If notation=iso, use upright, else italic:

```
24 \cs_if_eq:NNTF __skmath_natural_log_e: \LWR__skmath_natural_log_e:
25 { \CustomizeMathJax{\newcommand{\ee}{\mathit{e}}} }
26 { \CustomizeMathJax{\newcommand{\ee}{\mathrm{e}}} }
```

**skmath** uses `\DeclarePairedDelimiter` from **mathtools** for `\abs` and `\norm`, and **lwarp** uses this to automatically define **MATHJAX** definitions for each.

If notation=english, use slanted, else upright:

```
27 \cs_if_eq:NNTF __skmath_integral_d: \LWR__skmath_integral_d:
28 { \CustomizeMathJax{\newcommand{\d}{\mathit{d}}} }
29 { \CustomizeMathJax{\newcommand{\d}{\mathrm{d}}} }
```

Used to parse comma and caret arguments for `\pd` and `\td`:

```
30 \CustomizeMathJax{\def\LWRskmathEND{}}
```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```
31 \CustomizeMathJax{\def\LWRskmathpdstarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
32 #1_{#2#3#4#5}%
33 }}
34
35 \CustomizeMathJax{\newcommand{\LWRskmathpdstar}[2]{%
36 \LWRskmathpdstarsub{#1}#2,,,\LWRskmathEND%
37 }}
```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

```
38 \CustomizeMathJax{\def\LWRskmathpdnumerator#1^#2^#3\LWRskmathEND{%
39 \ifblank{#1}{}{
40 \ifblank{#2}{\LWRskmathpdplus\LWRskmathpdone}{\LWRskmathpdplus#2}
41 }
42 }}
```

Parse the arguments with up to two carets. Argument 3 contains any leftover carets.

```

43 \CustomizeMathJax{\def\LWRskmathpddenominator#1^#2^#3\LWRskmathEND{%
44 \ifblank{#1}{}%
45 \ifblank{#2}%
46 {\partial{#1}}%
47 {\partial{#1}^{#2}}%
48 }%
49 }}

```

Factored from `\LWRskmathpdnostarsub`, following:

The phrase `^{}` appears to be required while parsing the carets. `\LWRskmathpdplus` is used to only place a plus sign starting after the first term. `\LWRskmathpdone` is used to only place a 1 digit if a second or later term does not have a power.

This may not be recursion-safe. (Is there really such a thing as nested differentials?)

```

50 \CustomizeMathJax{\newcommand{\LWRskmathdonumerator}[5]{%
51 \partial^{%
52 \def\LWRskmathpdplus{}%
53 \LWRskmathpdnumerator#2^{^{}}\LWRskmathEND%
54 \def\LWRskmathpdplus{+}%
55 \def\LWRskmathpdone{1}%
56 \LWRskmathpdnumerator#3^{^{}}\LWRskmathEND%
57 \LWRskmathpdnumerator#4^{^{}}\LWRskmathEND%
58 \LWRskmathpdnumerator#5^{^{}}\LWRskmathEND%
59 }%
60 {#1}%
61 }}
62
63 \CustomizeMathJax{\newcommand{\LWRskmathdodenominator}[4]{%
64 \LWRskmathpddenominator#1^{^{}}^{}}\LWRskmathEND%
65 \ifblank{#2}{\,}%
66 \LWRskmathpddenominator#2^{^{}}^{}}\LWRskmathEND%
67 \ifblank{#3}{\,}%
68 \LWRskmathpddenominator#3^{^{}}^{}}\LWRskmathEND%
69 \ifblank{#4}{\,}%
70 \LWRskmathpddenominator#4^{^{}}^{}}\LWRskmathEND%
71 }}

```

Parse the arguments with up to four commas. Argument 6 contains any leftover commas.

```

72 \CustomizeMathJax{\def\LWRskmathpdnostarsub#1#2,#3,#4,#5,#6\LWRskmathEND{
73 \ifblank{#3}{\def\LWRskmathpdone{}}{\def\LWRskmathpdone{1}}
74 \frac%
75 {\LWRskmathdonumerator{#1}{#2}{#3}{#4}{#5}}%
76 {\LWRskmathdodenominator{#2}{#3}{#4}{#5}}%
77 }}
78
79 \CustomizeMathJax{\newcommand{\LWRskmathpdnostar}[2]{%
80 \LWRskmathpdnostarsub{#1}#2,,,,,\LWRskmathEND%
81 }}

```

```

82 \CustomizeMathJax{\newcommand{\pd}{\ifstar\LWRskmathpdstar\LWRskmathpdnostar}}

```

If notation=english or legacy, use slanted, else upright:

```

83 \cs_if_eq:NNTF __skmath_total_derivative_d: \LWR__skmath_total_derivative_d:

```



```

84 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathit{d}}} }
85 { \CustomizeMathJax{\newcommand{\LWRskmathtd}{\mathrm{d}}} }

86 \CustomizeMathJax{\def\LWRskmathtdsub#1#2^#3\LWRskmathEND{%
87 \frac
88 {\LWRskmathtd^{#3}{#1}}
89 {\LWRskmathtd{#2}^{#3}}
90 }}
91
92 \CustomizeMathJax{\newcommand{\td}[2]{%
93 \LWRskmathtdsub{#1}#2^{}}\LWRskmathEND%
94 }}

95 \CustomizeMathJax{\newcommand{\E}[1]{%
96 \operatorname{E}\left[#1\right]%
97 }}

98 \CustomizeMathJax{\let\given\mid}
99
100 \CustomizeMathJax{\newcommand{\P}[1]{%
101 \operatorname{P}%
102 \left(#1\right)%
103 }}

104 \CustomizeMathJax{\newcommand{\var}[1]{%
105 \operatorname{Var}\left(#1\right)%
106 }}
107
108 \CustomizeMathJax{\newcommand{\cov}[2]{%
109 \operatorname{Cov}\left(#1,#2\right)%
110 }}

Common code for \sin etc:

111 \CustomizeMathJax{\newcommand{\LWRskmathtrigtwo}[2][1]{%
112 \ifblank{#1}{#1}}
113 \ifblank{#2}{\left(#2\right)}%
114 }}
115
116 \CustomizeMathJax{\newcommand{\LWRskmathtrig}[1]{%
117 \operatorname{#1}%
118 \LWRskmathtrigtwo%
119 }}

120 \CustomizeMathJax{\renewcommand{\sin}{\LWRskmathtrig{sin}}}
121 \CustomizeMathJax{\renewcommand{\arcsin}{\LWRskmathtrig{arcsin}}}
122
123 \CustomizeMathJax{\renewcommand{\cos}{\LWRskmathtrig{cos}}}
124 \CustomizeMathJax{\renewcommand{\arccos}{\LWRskmathtrig{arccos}}}
125
126 \CustomizeMathJax{\renewcommand{\tan}{\LWRskmathtrig{tan}}}
127 \CustomizeMathJax{\renewcommand{\arctan}{\LWRskmathtrig{arctan}}}
128
129 \CustomizeMathJax{\renewcommand{\cot}{\LWRskmathtrig{cot}}}
130
131 \CustomizeMathJax{\renewcommand{\sinh}{\LWRskmathtrig{sinh}}}
132 \CustomizeMathJax{\renewcommand{\cosh}{\LWRskmathtrig{cosh}}}
133 \CustomizeMathJax{\renewcommand{\tanh}{\LWRskmathtrig{tanh}}}

```

Common code for `\ln` and `\log`:

```

134 \CustomizeMathJax{\newcommand{\LWRskmathlogtwo}[2][]{%
135 \ifblank{#1}{}{_{#1}}}%
136 \ifblank{#2}{}{\left(#2\right)}%
137 }}
138
139 \CustomizeMathJax{\newcommand{\LWRskmathlog}[1]{%
140 \operatorname{#1}}%
141 \LWRskmathlogtwo%
142 }}

143 \CustomizeMathJax{\renewcommand{\ln}{\LWRskmathlog{ln}}}
144 \CustomizeMathJax{\renewcommand{\log}{\LWRskmathlog{log}}}

145 \CustomizeMathJax{\newcommand{\LWRskmathexp parens}[1]{%
146 \operatorname{exp}}%
147 \ifblank{#1}{}{\left(#1\right)}%
148 }}

```

See the `skmath` source for the original of the following:

```

149 \CustomizeMathJax{\newcommand{\LWRskmathexpnostar}[1]{%
150 \mathchoice
151 {\ee^{#1}}
152 {\LWRskmathexp parens{#1}}
153 {\LWRskmathexp parens{#1}}
154 {\LWRskmathexp parens{#1}}
155 }}
156
157 \CustomizeMathJax{\renewcommand{\exp}{\ifstar\LWRskmathexp parens\LWRskmathexpnostar}}

```

Common code for `\min` etc:

```

158 \CustomizeMathJax{\newcommand{\LWRskmathminstar}[2][]{%
159 \operatorname{\LWRskmathminname}}%
160 \ifblank{#1}{}{%
161 _{\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}
162 }%
163 \ifblank{#2}{}{#2}}%
164 }}

165 \CustomizeMathJax{\newcommand{\LWRskmathminnostar}[2][]{%
166 \ifblank{#1}{%
167 {\operatorname{\LWRskmathminname}}%
168 {%
169 \underset%
170 {\mathchoice{\mathclap{#1}}{#1}{#1}{#1}}%
171 {\operatorname{\LWRskmathminname}}%
172 }%
173 \ifblank{#2}{}{\left\{\#2\right\}}%
174 }}

```

`\LWRskmathminname` seems to be recursion-safe since it is used immediately.

```

175 \CustomizeMathJax{\newcommand{\LWRskmathmin}[1]{%
176 \def\LWRskmathminname{#1}}%
177 \ifstar\LWRskmathminstar\LWRskmathminnostar%
178 }}

```

```

179 \CustomizeMathJax{\renewcommand{\min}{\LWRskmathmin{min}}}
180 \CustomizeMathJax{\renewcommand{\argmin}{\arg\LWRskmathmin{min}}}
181
182 \CustomizeMathJax{\renewcommand{\max}{\LWRskmathmin{max}}}
183 \CustomizeMathJax{\renewcommand{\argmax}{\arg\LWRskmathmin{max}}}
184 \CustomizeMathJax{\renewcommand{\sup}{\LWRskmathmin{sup}}}
185 \CustomizeMathJax{\renewcommand{\inf}{\LWRskmathmin{inf}}}

186 \CustomizeMathJax{\let\bar\overline}
187
188 \CustomizeMathJax{\let\vec\boldsymbol}

```

Remember the original definitions:

```

189 \CustomizeMathJax{\let\LWRskmathRe\Re}
190 \CustomizeMathJax{\let\LWRskmathIm\Im}

```

Redefine depending on notation=iso:

```

191 \bool_if:NTF\g__skmath_iso_complex_parts_bool{
192 \CustomizeMathJax{\renewcommand{\Re}[1]{%
193 \LWRskmathRe%
194 \ifblank{#1}{}\left{#1\right)}%
195 }}
196 \CustomizeMathJax{\renewcommand{\Im}[1]{%
197 \LWRskmathIm%
198 \ifblank{#1}{}\left{#1\right)}%
199 }}
200 }{
201 \CustomizeMathJax{\renewcommand{\Re}[1]{%
202 \operatorname{Re}%
203 \ifblank{#1}{}{#1}%
204 }}
205 \CustomizeMathJax{\renewcommand{\Im}[1]{%
206 \operatorname{Im}%
207 \ifblank{#1}{}{#1}%
208 }}
209 }
210
211 \ExplSyntaxOff
212 \end{warpMathJax}

```

---

File 461 **lwarp-slantsc.sty**

§ 573 Package **slantsc**

*(Emulates or patches code by HARALD HARDERS.)*

`slantsc` (*Pkg*) `slantsc` is emulated for HTML, and used as-is for print output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

2 \newcommand*{\LWR@HTML@noscsshape}{}
3 \LWR@formatted{noscsshape}
4
5 \FilenameNullify%
```

---

```
6 \LetLtxMacro\noscshape\@empty%
7 }
```

---

File 462 **lwarp-slashed.sty**

§ 574 Package **slashed**

(Emulates or patches code by DAVID CARLISLE.)

slashed (*Pkg*) slashed works as-s for HTML SVG math. For MATHJAX, emulation is provided.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}
```

---

File 463 **lwarp-soul.sty**

§ 575 Package **soul**

(Emulates or patches code by MELCHIOR FRANZ.)

soul (*Pkg*) soul is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}% for \convertcolorspec
```

Storage for the colors to use:

```
3 \newcommand*\LWR@soululcolor{}
4
5 \newcommand*\LWR@soulstcolor{}
6
7 % \definecolor{LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor}{LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}
```

`\so`                    `{\text}`

Basic markup with css:

```
10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }
```

`\caps`                `{\text}`

```
13 \newcommand{\caps}[1]{%
14 \InlineClass%
15 (font-variant:small-caps;letter-spacing:.1ex)%
16 {capsspacing}{#1}%
17 }
```

\LWR@soulcolor

`{<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}`

Add colors if not empty:

```

18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcseempty{#2}%
20 {%
21 \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24 \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25 \LWR@htmlspanclass{#5;#4:\LWR@origpound\LWR@tempcolor}{#3}{#1}%
26 }%
27 }

28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{\LWR@soululcolor}{uline}{text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{
34 \LWR@soulcolor{#1}{\LWR@soulstcolor}{sout}{text-decoration-color}%
35 {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{
39 \LWR@soulcolor{#1}{\LWR@soulhlcolor}{highlight}{background-color}%
40 {background:\LWR@origpound{ }F8E800}
41 }

```

Nullified:

```

42 \newcommand*\soulaccent}[1]{}
43 \newcommand*\soulregister}[2]{}
44 \newcommand*\sloppyword}[1]{#1}
45 \newcommand*\sodef}[5]{\DeclareRobustCommand*#1[1]{\so{#1}}}
46 \newcommand*\resetso{}
47 \newcommand*\capsdef}[5]{}
48 \newcommand*\capsreset{}
49 \newcommand*\capssave}[1]{}
50 \newcommand*\capssselect}[1]{}
51 \newcommand*\setul}[2]{}
52 \newcommand*\resetul{}
53 \newcommand*\setuldepth}[1]{}
54 \newcommand*\setuloverlap}[1]{}
55 \newcommand*\s<{}

```

Set colors:

```

56 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}
58 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}

```

Long versions of the user-level macros:

```

59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps

```

---

File 464 **lwarp-soulpos.sty**

§ 576 Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

soulpos (*Pkg*) soulpos is emulated.

**for HTML output:**

```

1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand\ulpostolerance{0}%

```

---

File 465 **lwarp-soulutf8.sty**

§ 577 Package **soulutf8**

soulutf8 (*Pkg*) soulutf8 is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}

```

---

File 466 **lwarp-splitbib.sty**

§ 578 Package **splitbib**

*(Emulates or patches code by NICOLAS MARKEY.)*

splitbib (*Pkg*) splitbib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]

```

```

2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10 text-align:center ;
11 border-top: 1px solid black ;
12 border-bottom: 1px solid black ;
13]{splitbibbar}
14 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20 text-align:center ;
21]{splitbiddash}
22 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---#1#2~---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27 \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }

```

---


File 467 **lwarp-splitidx.sty**

§ 579 Package **splitidx**

*(Emulates or patches code by MARKUS KOHM.)*

`splitidx` (*Pkg*) `splitidx` is patched for use by `lwarp`.

If the `latexmk` option is selected for `lwarp`, `latexmk` will compile the document but will *not* compile the indexes. `lwarpmk printindex` and `lwarpmk htmlindex` will still be required.

 `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```

\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}

```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 703.17 in the `lwarp-patch-memoir` package for the `\@wrsindexhyp` macro as an example.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitidx}[2016/02/18]
2 \VerifyCommand[lwarp][splitidx]{\newindex}{84695DF9965D5007036BA0B4023C59B5}
3
4 \catcode`_ =12%
5 \xpatchcmd{\newindex}
6 {\jobname-#2.idx}
7 {\jobname-#2_html.idx}
8 {}
9 {\LWR@patcherror{splitidx}{@newindex}}
10 \catcode`_ =8%
```

Patched to use `lwarp`'s automatic indexing counter instead of `\thepage`:

```

11 \VerifyCommand[lwarp][splitidx]{\@wrsindex}{6E1A6193E20ABD0DFD6A1FC3F35113A6}
12
13 \renewcommand*{\@wrsindex}[2][{}%
14 \ifx\relax#1\relax
15 \if@splitidx
16 \@wrsindex[idx]{#2}%
17 \else
18 \def\@tempa{#2}%
19 \if@verbinde\@onelevel@sanitize\@tempa\fi
20 \@wrsindex{\@tempa}%
21 \fi
22 \else
23 \def\@tempa{#2}%
24 \csname index@#1@hook\endcsname
25 \expandafter\ifx\csname @wrsindex\endcsname\relax
26 \addtocounter{LWR@autoindex}{1}% lwarp
27 \@@@wrsindex{#1}{\@tempa}{\thepage}}%
28 \@@@wrsindex{#1}{\@tempa}{\arabic{LWR@autoindex}}%
29 \else
30 \def\@tempb{\@wrsindex{#1}}%
31 \expandafter\@tempb\@tempa||\%
32 \fi
```

The label is assigned after the file write to avoid conflict with `cleveref`.

```

33 \label{LWRindex-\arabic{LWR@autoindex}}% lwarp
34 \endgroup
35 \@esphack
36 \fi
37 }
```

`lwarp` defines sectioning commands with `xparse`, so the below patches are done as temporary redefinitions instead of being `\let`.

Not using `\VerifyCommand` here since the patches are not likely to be affected by changes in the original.

```

38 \xpatchcmd{\printsubindex}
39 {\let\section\subsection}
40 {\renewcommand*{\section}{\subsection}}
41 {}
42 {\LWR@patcherror{splitidx}{printsubindex-section}}
```



```

43
44 \xpatchcmd{\printsubindex}
45 {\let\chapter\section}
46 {\renewcommand*\chapter}{\section}}
47 {}
48 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
49
50 \xpatchcmd{\printsubindex}
51 {\let\@makechapterhead\section}
52 {\def\@makechapterhead{\section}}
53 {}
54 {\LWR@patcherror{splitidx}{printsubindex-chapter}}

```

---

File 468 **lwarp-srcltx.sty**

§ 580 Package **srcltx**

srcltx (*Pkg*) srcltx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```

2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*\srcIncludeHook[1]{}
4 \newcommand*\srcInputHook[1]{}
5 \newcommand*\MainFile{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*\CurrentInput{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand\Input{}
10 \let\Input\input

```

---

File 469 **lwarp-srctex.sty**

§ 581 Package **srctex**

srctex (*Pkg*) srctex is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]  
2 \LWR@origRequirePackage{lwarp-srcltx}

---

File 470 **lwarp-stabular.sty**

§ 582 Package **stabular**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

stabular (*Pkg*) stabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

```
Env stabular [\vpos] [\colspec]

2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}[1]{ }
6 }
7 \end{tabular}}
```

```
Env stabular {\width} [\vpos] [\colspec]

8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{ }
12 }
13 \end{tabular}}
```

---

File 471 **lwarp-stackengine.sty**

§ 583 Package **stackengine**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

stackengine (*Pkg*) **stackengine** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

Not using `\VerifyCommand` here because these patches appear to be fairly transparent to changes in the original

The original version is necessary for the patched `\@stack` and `\stackanchor`, where nesting `lateximages` does not work:

```
2 \LetLtxMacro\LWR@orig@stackengine\stackengine

3 \renewcommand*{\stackengine}[8]{%
4 \ifstrequal{#4}{0}%
5 {\begin{lateximage}[\ImageAltText]?}%
6 {\begin{lateximage}[\ImageAltText]?[vertical-align:top]}%
7 \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8 \end{lateximage}%
9 }
```

`\@stack` uses a `lateximage` with a vertical alignment:

```
10 \LetLtxMacro\LWR@orig@@stack\@stack
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13 {}
14 {\LWR@patcherror{stackengine}{\LWR@orig@@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17 \ifstrequal{#3}{0}%
18 {\begin{lateximage}[\ImageAltText]?}%
19 {\begin{lateximage}[\ImageAltText]?[vertical-align:top]}%
```

```

20 \LWR@orig@stack{#1}{#2}{#3}{#4}%
21 \end{lateximage}%
22 }

```

The lapping macros are disabled for HTML:

```

23 \newcommand*\LWR@HTML@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}

```

`\stackanchor` is patched for two instances of `\stackengine`. A `lateximage` with vertical alignment is used.

```

25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26 {}
27 {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30 {}
31 {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34 {\begin{lateximage}[\ImageAltText]?[vertical-align:middle]}%
35 {}
36 {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{lateximage}}
39 {}
40 {\LWR@patcherror{stackengine}{stackanchor app}}

```

`\Centerstack` is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42 {\begin{lateximage}[\ImageAltText]?[vertical-align:middle]}%
43 {}
44 {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{lateximage}}
47 {}
48 {\LWR@patcherror{stackengine}{Centerstack app}}

```

`\savestack` reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \VerifyCommand[lwarp][stackengine]{\savestack}{4B06A7F9D3F0B829FE293FB452D43430}
50
51 \renewcommand*\savestack[2]{%
52 \xdef\sv@name{\stack@macro@name{#1}}%
53 \ifundefined{\sv@name content}{%
54 \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
55 }{}%
56 \begingroup% lwarp
57 \LWR@restoreorigformatting% lwarp
58 \RenewDocumentEnvironment{lateximage}{s o s t? o o d()}{}{}% lwarp: inside group
59 \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
60 \expandafter\gdef\expandafter#1\expandafter{%
61 \expandafter\begin\expandafter{lateximage\expandafter}% lwarp
62 \expandafter\usebox\expandafter%
63 {\csname\sv@name content\endcsname}%
64 \expandafter\end\expandafter{lateximage\expandafter}% lwarp

```

```

65 }%
66 \endgroup% lwarp
67 }

```

---

File 472 **lwarp-stackrel.sty**

§ 584 Package **stackrel**

(Emulates or patches code by HEIKO OBERDIEK.)

stackrel (*Pkg*) **stackrel** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][[]]{%
4 \mathrel{\mathop{#3}\limits_{#1}^{#2}}}%
5 }}
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][[]]{%
8 \mathbin{\mathop{#3}\limits_{#1}^{#2}}}%
9 }}
10 \end{warpMathJax}

```


---


File 473 **lwarp-statex2.sty**


§ 585 Package **statex2**

(Emulates or patches code by RODNEY A SPARAPANI.)


statex2 (*Pkg*) **statex2** is patched for use by lwarp, and emulated for MATHJAX.

 As of this version, option autobold does not appear to work for PDF output.

 For MATHJAX, the tilde character ~ does not create \sim. Use \sim directly.

 Because MATHJAX has limited conditional processing:

- \wrap only creates square braces, no matter what its optional arguments.
- \P, \pCau, \pN, and \pU do not handle special cases.

 **\and** To have \and work if using \maketitle, place the following after the start of the document:

```

\newcommand*{\and}{%
 \relax\ifmode%
 \expandafter\;\mb{\mathrm{and}}\;%
 \else%
 \expandafter\STATEXand%
 \fi%
}

```

for HTML output:

```

1 \LWR@ProvidesPackagePass{statex2}[2011/09/14]

2 \newcommand*\LWR@HTML@Alpha}[1][{}]{%
3 \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4 \textbf{\textcolor{ForestGreen}{\textsf{#1}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*\LWR@HTML@List}[1][{}]{%
9 \textbf{\textcolor{Dandelion}{\textsf{L}\textsubscript{\textit{#1}}}}%
10 }
11 \LWR@formatted{List}
12
13 \newcommand*\LWR@HTML@Snd}[1][{}]{%
14 \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}%
15 \textbf{\textcolor{Dandelion}{\textsf{#1}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfsL}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{#1}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}
34 \CustomizeMathJax{\newcommand{\verf}{\mb{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{\d{}}{\d{#1}}}\wrap{\mb{#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{\d{}}{\d{#2}}}\wrap{\mb{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}}^{#1}}}
42 \CustomizeMathJax{\newcommand{\E}[2][{}]{\mb{\mathrm{E}}_{\mb{#1}}}\wrap{\mb{#2}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][{}]{%
45 \mb{\mathrm{I}}_{\mb{#1}} \LWRwrapparen{\mb{#2}}%
46 }}
47 \CustomizeMathJax{\newcommand{\IBeta}[2][{}]{%
48 \mb{\frac{\Gamma[#+#2]}{\Gamma[#+1]\Gamma[#+2]}}%
49 }}
50 \CustomizeMathJax{\newcommand{\If}{\; \mb{\mathrm{if}} \; \;}}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline{}}}
53 \CustomizeMathJax{\newcommand{\ow}{\; \mb{\mathrm{otherwise}} \; \;}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2][{}]{%
55 \mb{\frac{\partial}{\partial #1}}\wrap{\mb{#2}}%
56 }}
57 \CustomizeMathJax{\newcommand{\pderivf}[2][{}]{%
58 \mb{\frac{\partial}{\partial #2}}\wrap{\mb{#1}}%
59 }}

```

```

60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline}}
62 \CustomizeMathJax{\newcommand{\V}[2][\mb{\mathrm{V}}_{\mb{\#1}} \wrap{\mb{\#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{\; \mb{\mathrm{vs.}} \;}}
64 \CustomizeMathJax{\newcommand{\where}{\; \mb{\mathrm{where}} \;}}
65 \CustomizeMathJax{\newcommand{\wrap}[2][\left[\#2 \right]]% only []
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left(\#1 \right)}}% lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}% doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\; \stackrel{\mb{\mathrm{iid}}}{\sim} \;}}
72 \CustomizeMathJax{\newcommand{\ind}{\; \stackrel{\mb{\mathrm{ind}}}{\sim} \;}}
73 \CustomizeMathJax{\newcommand{\indpr}{%
74 \; \stackrel{\mb{\mathrm{ind}}}{\stackrel{\mb{\mathrm{prior}}}{\sim}} \;}}
75 }}
76 \CustomizeMathJax{\newcommand{\post}{\; \stackrel{\mb{\mathrm{post}}}{\sim} \;}}
77 \CustomizeMathJax{\newcommand{\prior}{\; \stackrel{\mb{\mathrm{prior}}}{\sim} \;}}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][\mb{\STATEXGamma}\LWRwrapparen{\mb{\#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\; \mb{\mathrm{and}} \;}}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][\mb{\mathrm{P}}_{\mb{\#1}} \wrap{\mb{\#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\|}{\mb{\mid}}}
89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}\LWRwrapparen{\mb{\#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}\LWRwrapparen{\mb{\#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}\LWRwrapparen{\mb{\#1}, \#2}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}\LWRwrapparen{\mb{\#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95 \mb{\mathrm{Hypergeometric}}\LWRwrapparen{\mb{\#1}, \#2, \#3}}%
96 }}
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98 \mb{\mathrm{Multinomial}}\LWRwrapparen{\mb{\#1}, \#2}}%
99 }}
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}\LWRwrapparen{\mb{\#1}, \#2}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}\LWRwrapparen{\mb{\#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105 \mb{\frac{\Gamma[\#2+1]\Gamma[\#3+\#1]\Gamma[\#2+\#4-\#1]\Gamma[\#3+\#4]}%
106 {\Gamma[\#1+1]\Gamma[\#2-\#1+1]\Gamma[\#2+\#3+\#4]\Gamma[\#3]\Gamma[\#4]}}%
107 \I[\#1]{\{0, 1, \dots, \#2\}}, \where \#3>0, \; \#4>0 \and n=1, 2, \dots}%
108 }}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110 \mb{\binom{\#2}{\#1}\#3^{\#1}} \LWRwrapparen{\mb{\{1-\#3\}^{\#2-\#1}}}%
111 \mb{\I[\#1]{\{0, 1, \dots, \#2\}}, \where p \in (0, 1) \and n=1, 2, \dots}}%
112 }}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114 \mb{\frac{1}{\#1!}\#2^{\#1}e^{-\#2}\I[\#1]{\{0, 1, \dots\}}, \where \#2>0}}%
115 }}
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}\LWRwrapparen{\mb{\#1}, \#2}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][x]{%

```

```

120 \chisq_{\mb{#1}}\LWRwrapparen{\mb{#2}}%
121 }}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mb{\mathrm{Beta}}}\LWRwrapparen{\mb{#1},\ #2}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}}\LWRwrapparen{\mb{#1}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}}\LWRwrapparen{\mb{#1},\ #2}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}}\LWRwrapparen{\mb{#1},\ #2}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi^{-2}}}}\LWRwrapparen{\mb{#1}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130 \mb{\mathrm{Gamma^{-1}}}}\LWRwrapparen{\mb{#1},\ #2}}%
131 }}
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133 \mb{\mathrm{Wishart^{-1}}}}\LWRwrapparen{\mb{#1},\ #2}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Logistic}}}\LWRwrapparen{\mb{#1},\ #2}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139 \mb{\mathrm{Log\!-\!N}}}\LWRwrapparen{\mb{#1},\ #2}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][x]{%
142 \mb{\mathrm{N}}_{\mb{#1}}}\LWRwrapparen{\mb{#2},\ #3}}%
143 }}
144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}}\LWRwrapparen{\mb{#1},\ #2}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T^2}}}\LWRwrapparen{\mb{#1},\ #2}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}}\LWRwrapparen{\mb{#1}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}}\LWRwrapparen{\mb{#1},\ #2}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}}\LWRwrapparen{\mb{#1}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153 \IBeta{#2}{#3}%
154 #1^{#2-1}\LWRwrapparen{1-#1}^{#3-1}\II[#1]{0,\ 1}, \where #2>0 \and #3>0%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 % \ifthenelse{equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwrapparen{1+#1^2}}%
158 {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwrapparen{x-#2}/#3}^2\right\}}, \where #3>0%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161 \frac{2^{-#2/2}}{\Gamma[#2]}#1^{#2/2-1}\e^{-#1/2}%
162 \II[#1]{0,\infty}, \where #2>0%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165 \frac{1}{#2}\e^{-#1/#2}\II[#1]{0,\infty},%
166 \where #2>0%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169 \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}\e^{-#3#1}%
170 \II[#1]{0,\infty}, \where #2>0 \and #3>0%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 % \ifthenelse{equal{#2, #3}{0, 1}}%
174 % {\frac{1}{\sqrt{2\cpi}}\e^{-#1^2/2}}%
175 {\frac{1}{\sqrt{2\cpi \cdot #3}}\e^{-\LWRwrapparen{#1-#2}^2/2 \cdot #3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178 \frac{#3}{#2}\LWRwrapparen{1+#1/#2}^{#3+1}\II[#1]{0,\infty},%
179 \where #2>0 \and #3>0%

```

```

180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 % \ifthenelse{\equal{#2, #3}{0, 1}}{\I[#1]{0,\ 1}}%
183 % {\frac{1}{#3-#2}\I[#1]{#2,\ #3}, \where #2<#3}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=}[1]{\bar{#1}}}
187 \CustomizeMathJax{\let\^{\widehat}}
188 \CustomizeMathJax{\let\~{\widetilde}}
189 \CustomizeMathJax{\newcommand{\'}[1]{\LWRwrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b}[1]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c}[1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\,\mb{\mathrm{d}}{#1}}}
193 \CustomizeMathJax{\newcommand{\.}{\mb{\ldots}}}
194 \end{warpMathJax}

```


---


File 474 **lwarp-statistics.sty**

§ 586 Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)

statistics (*Pkg*) statistics is patched for use by lwarp.

 **\color** The statistics documentation examples include the use of the `\color` macro. Use `\textcolor` instead.

 **math** The statistics package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use `\ensuremath` or `\( and \)` as needed.

Pre/postline is ignored, and `\hline` is used instead. Each table will have an `\hline` above and below as a frame.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]

2 \ExplSyntaxOn

To use text tabular instead of math array. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```

3 \VerifyCommand[lwarp][statistics]{__statistics_table_make:nn}
4 {DC8BA2460EA83AE75FA0C0F00E775B5E}
5
6 \StartDefiningTabulars% lwarp, no other changes below
7 \cs_set_protected_nopar:Nn __statistics_table_make:nn {
8 \int_compare:nT
9 { 0 < __statistics_table_maxcols_int
10 = __statistics_nbvals_int } {
11 __statistics_table_end:
12 \tl_use:N __statistics_table_sep_tl
13 __statistics_table_start:
14 }

```



```

15 \int_incr:N \l__statistics_nbvals_int
16 \int_incr:N \l__statistics_currange_int
17 \fp_add:Nn \l__statistics_curtotal_fp { #2 }
18 __statistics_set_if_shown:N \l_tmpa_bool
19 \tl_set:Nx \l_tmpa_tl {
20 \exp_not:n { & \tl_set:Nn \currentcolumn } {
21 \int_use:N \l__statistics_currange_int
22 }
23 }
24 \bool_if:NTF \l_tmpa_bool {
25 \tl_put_right:Nn \l_tmpa_tl
26 { __statistics_table_shown_format:n }
27 }{
28 \tl_put_right:Nn \l_tmpa_tl
29 { __statistics_table_hidden_format:n }
30 }
31 \seq_put_right:Nn \l__statistics_store_values_seq { #1 }
32 \bool_if:NT \l__statistics_table_values_bool {
33 \tl_put_right:Nx \l__statistics_table_values_tl {
34 \exp_not:V \l_tmpa_tl {
35 \exp_not:n {
36 __statistics_table_values_format:n { #1 }
37 }
38 }
39 }
40 }
41 \seq_put_right:Nx \l__statistics_store_counts_seq { \fp_eval:n {#2} }
42 \bool_if:NT \l__statistics_table_counts_bool {
43 \tl_put_right:Nx \l__statistics_table_counts_tl {
44 \exp_not:V \l_tmpa_tl {
45 \exp_not:n {
46 __statistics_table_counts_format:n {
47 { __statistics_table_allcounts_format:n { #2 } }
48 }
49 }
50 }
51 }
52 }
53 \bool_if:NT \l__statistics_table_icc_bool {
54 \tl_put_right:Nx \l__statistics_table_icc_tl {
55 \exp_not:V \l_tmpa_tl {
56 \exp_not:n { __statistics_table_icc_format:n }
57 {
58 \exp_not:n{ __statistics_table_allcounts_format:n }
59 { \fp_use:N \l__statistics_curtotal_fp }
60 }
61 }
62 }
63 }
64 \bool_if:NT \l__statistics_table_dcc_bool {
65 \tl_put_right:Nx \l__statistics_table_dcc_tl {
66 \exp_not:V \l_tmpa_tl {
67 \exp_not:n { __statistics_table_dcc_format:n }
68 {
69 \exp_not:n{ __statistics_table_allcounts_format:n }
70 {
71 \fp_eval:n {
72 \l__statistics_total_fp
73 - \l__statistics_curtotal_fp
74 + #2

```

```

75 }
76 }
77 }
78 }
79 }
80 }
81 \fp_set:Nn \l__statistics_table_curICF_fp {
82 round(\l__statistics_curtotal_fp
83 / \l__statistics_total_fp,
84 \l__statistics_table_round_int)
85 }
86 \bool_if:NT \l__statistics_table_frequencies_bool {
87 \tl_put_right:Nx \l__statistics_table_frequencies_tl {
88 \exp_not:V \l_tmpa_tl {
89 \exp_not:n { \l__statistics_table_frequencies_format:n }
90 {
91 \exp_not:n{ \l__statistics_table_allfreqs_format:n }
92 {
93 \fp_eval:n {
94 \l__statistics_table_curICF_fp
95 - \l__statistics_table_prevICF_fp
96 }
97 }
98 }
99 }
100 }
101 }
102 \bool_if:NT \l__statistics_table_icf_bool {
103 \tl_put_right:Nx \l__statistics_table_icf_tl {
104 \exp_not:V \l_tmpa_tl {
105 \exp_not:n { \l__statistics_table_icf_format:n }
106 {
107 \exp_not:n{ \l__statistics_table_allfreqs_format:n }
108 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
109 }
110 }
111 }
112 }
113 \bool_if:NT \l__statistics_table_dcf_bool {
114 \tl_put_right:Nx \l__statistics_table_dcf_tl {
115 \exp_not:V \l_tmpa_tl {
116 \exp_not:n { \l__statistics_table_dcf_format:n }
117 {
118 \exp_not:n{ \l__statistics_table_allfreqs_format:n }
119 {
120 \fp_eval:n {
121 1 - \l__statistics_table_prevICF_fp
122 }
123 }
124 }
125 }
126 }
127 }
128 \fp_set_eq:NN
129 \l__statistics_table_prevICF_fp
130 \l__statistics_table_curICF_fp
131 }
132 \StopDefiningTabulars% lwarp

```

Redefined using `tabular`. Also, `preline` and `postline` do not work correctly with `lwarp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

133 \VerifyCommand[lwarp][statistics]{__statistics_table_end:}
134 {B2F9FC5A36B44E6E06A8D9807FCBAA6D}
135
136 \cs_set_protected_nopar:Nn __statistics_table_end: {
137 \tl_set:Nx \l__statistics_table_preamble_tl {
138 \exp_not:n { \begin{array}[]
139 \exp_not:n { \begin{tabular}[]% lwarp
140 \exp_not:V \l__statistics_table_valign_tl
141 \exp_not:n {] }
142 { \exp_not:V \l__statistics_table_headcoltype_tl
143 \prg_replicate:nn { \l__statistics_nbvals_int }
144 { \exp_not:V \l__statistics_table_coltype_tl } }
145 }
146 \seq_clear:N \l__statistics_table_contents_seq
147 \clist_map_inline:nn { values, counts, icc, dcc, frequencies, icf, dcf } {
148 \bool_if:cT { l__statistics_table_##1_bool } {
149 \seq_put_right:Nv
150 \l__statistics_table_contents_seq
151 { l__statistics_table_##1_tl }
152 }
153 }
154 } $
155 \tl_use:N \l__statistics_table_preamble_tl
156 \hline% lwarp
157 \l__statistics_table_preline_tl
158 \seq_use:Nn
159 \l__statistics_table_contents_seq
160 { \l__statistics_table_newline_tl }
161 \\
162 \l__statistics_table_postline_tl
163 \hline% lwarp
164 \end{array}]$
165 \end{tabular}% lwarp
166 }

```

With `lwarp`, `\ensuremath` creates an SVG image, but its `alt` tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the `statistics` package, copy/paste is restored by using `text` instead of math output.

For the leftmost column. Redefined to use text output:

```

167 \VerifyCommand[lwarp][statistics]{__statistics_table_start:}
168 {624FAC0783057B481861D9F02764F6C5}
169
170 \cs_set_protected_nopar:Nn __statistics_table_start: {
171 \int_zero:N \l__statistics_nbvals_int
172 \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
173 \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
174 }
175 \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
176 \tl_set:cx { l__statistics_table_##1_tl } {
177 \exp_not:N \ensuremath {
178 \exp_not:N \hbox {
179 \exp_not:c { l__statistics_table_##1_name_tl }
180 }
181 }

```

```

182 }
183 }
184 }

```

For the first row. Redefined to use text output:

```

185 \VerifyCommand[lwarp][statistics]{__statistics_IN:w}
186 {DD1B22587CFB4DEDBEE4D8E9A1E0CCAF}
187
188 \RenewDocumentCommand __statistics_IN:w { m u{;} u{;} m } {
189 % \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }
190 #1 #2 ; #3 #4% lwarp
191 }
192
193 __statistics_setup:nn { table } {
194 % values/format = \ensuremath{#1},
195 values/format = {#1},% lwarp
196 }

```

Added \ExplSyntaxOn/Off to avoid errors. (In once instance, a double subscript error appeared.)

```

197 \VerifyCommand[lwarp][statistics]{\StatsGraph}
198 {998267D2E90514DBDFD5544FB69AD6C8}
199
200 \RenewDocumentCommand \StatsGraph { +O{} +m +O{} } {
201 \group_begin:
202 \int_gincr:N \g__statistics_graph_last_int
203 \tl_set:Nx \l_tmpa_tl {
204 \exp_not:n { g__statistics_graph_xstep_ }
205 \int_use:N \g__statistics_graph_last_int
206 \exp_not:n { _tl }
207 }
208 \tl_if_exist:cTF { \l_tmpa_tl } {
209 \fp_gset:Nn \g__statistics_graph_xstep_fp
210 { \tl_use:c { \l_tmpa_tl } }
211 }{
212 \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
213 }
214 __statistics_setup:nn { graph } { #1, #3 }
215 \tl_if_single:nTF { #2 } {
216 \cs_if_exist:NF #2 { #2 }
217 \tl_set_eq:NN \l__statistics_data_tl #2
218 }{
219 \tl_set:Nn \l__statistics_data_tl { #2 }
220 }
221 \fp_zero:N \l__statistics_graph_maxheight_fp
222 \fp_set:Nn \l__statistics_graph_minvalue_fp {inf}
223 \fp_set:Nn \l__statistics_graph_maxvalue_fp {-inf}
224 \fp_zero:N \l__statistics_total_fp
225 \int_zero:N \l__statistics_nbvals_int
226 \bool_set_true:N \l__statistics_graph_allranges_bool
227 \keyval_parse:NNV
228 __statistics_graph_prepare:n
229 __statistics_graph_prepare:nn
230 \l__statistics_data_tl
231 \tl_clear:N \l__statistics_graph_tikzdata_tl
232 \tl_clear:N \l__statistics_graph_tikzinfo_tl
233 \int_zero:N \l__statistics_currange_int
234 \bool_if:NTF \l__statistics_graph_allranges_bool {

```

```

235 \bool_if:NTF \l__statistics_graph_cumulative_bool {
236 \ExplSyntaxOn% lwarp
237 __statistics_graph_dopicture_cumulative:
238 \ExplSyntaxOff% lwarp
239 }{
240 \ExplSyntaxOn% lwarp
241 __statistics_graph_dopicture_hist:
242 \ExplSyntaxOff% lwarp
243 }
244 }{
245 \ExplSyntaxOn% lwarp
246 __statistics_graph_dopicture_comb:
247 \ExplSyntaxOff% lwarp
248 }
249 \iow_now:Nx \@auxout {
250 \exp_not:n {
251 \ExplSyntaxOn
252 \tl_gset:cn
253 }
254 {
255 \exp_not:n {g__statistics_graph_xstep_}
256 \int_use:N \g__statistics_graph_last_int
257 \exp_not:n {_tl}
258 }
259 {
260 \fp_to_decimal:N \g__statistics_graph_xstep_fp
261 }
262 \exp_not:n {
263 \ExplSyntaxOff
264 }
265 }
266 \group_end:
267 }
268
269 \ExplSyntaxOff

```

---

File 475 **lwarp-statmath.sty**

§ 587 Package **statmath**

*(Emulates or patches code by SEBASTIAN ANKARGREN.)*

statmath (*Pkg*) statmath is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoProcessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12

```

```

13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}
18 \CustomizeMathJax{\newcommand{\bfF}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bfit{bf}{}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bfup*{bf}{}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{\E}{E}}

```

```

73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,max}}
85 \end{warpMathJax}

```

---

File 476 **lwarp-steinmetz.sty**

§ 588 Package **steinmetz**

(Emulates or patches code by ENRICO GREGORIO.)

steinmetz (*Pkg*) steinmetz is patched for use by lwarp. Emulation is provided for MATHJAX

**for HTML output:** 1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

```

2 \renewcommand{\phase}[2][\%
3 \begin{lateximage}*[steinmetz\{\detokenize{#2}\}]?%
4 \ensuremath{\underline{/#2}}
5 \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][\underline{/#2}}
10 \end{warpMathJax}

```

---

File 477 **lwarp-stfloats.sty**

§ 589 Package **stfloats**

stfloats (*Pkg*) stfloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

stfloats may have been preloaded by a ltj\* class.

The following are provided in case they have not yet been defined:

```

2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}

```

Nullified for HTML:

---

```

6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}

```

---

File 478 **lwarp-struktex.sty**

§ 590 Package **struktex**

*(Emulates or patches code by JOBST HOFFMANN.)*

struktex (*Pkg*) **struktex** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{struktex}

2 \BeforeBeginEnvironment{struktogramm}{%
3 \begin{lateximage}[-struktex-~\PackageDiagramAltText]?%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{LWR@HTML@centernss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centernss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11 \begin{center}
12 \input{#1.nss}
13 \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centernssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centernssfile}

```

---

File 479 **lwarp-subcaption.sty**

§ 591 Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

subcaption (*Pkg*) **subcaption** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]

Tells **lwarp** to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In **HTML** they are placed side-by-side automatically.

```

2 \xpretocmd{\subcaption@iiminipage}
3 {\minipagefullwidth}
4 {}
5 {\LWR@patcherror{subcaption}{subcaption@iiminipage}}

```

Likewise for a `\subcaptionbox`:



```

6 \xpretocmd{\subcaptionbox}
7 {\minipagefullwidth}
8 {}
9 {\LWR@patcherror{subcaption}{subcaptionbox}}

```

File 480 **lwarp-subfig.sty**

§ 592 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

subfig (*Pkg*) subfig is supported and patched by lwarp.

⚠ **table numbering** To have correct sub table numbers:

```

\usepackage{caption}
\captionsetup[table]{position=top}

```

⚠ **lof/lotdepth** At present, the package options for lofdepth and lotdepth are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use \hfill and \hspace\* between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

**for HTML output:** Accept all options for lwarp-subfig:

```
1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]
```

\sf@@@subfloat

```
{\langle 1 type \rangle} [\langle 2 lof entry \rangle] [\langle 3 caption \rangle] {\langle 4 contents \rangle}
```

The outer minipage allows side-by-side subfloats with \hfill between.

```

2 \VerifyCommand[lwarp][subfig]{\sf@@@subfloat}{B29FEC2418FD15B9E58ACF593B81BA93}
3
4 \long\def\sf@@@subfloat#1[#2][#3]#4{%
5 \begin{minipage}{\linewidth}% lwarp

6 \IfValueTF{#2}{%
7 \LWR@setlatestname{#2}%
8 }{%
9 \IfValueTF{#3}{%
10 \LWR@setlatestname{#3}%
11 }{%
12 }%
13 \LWR@stoppars% lwarp
14 \@ifundefined{FBsc@max}{%
15 {FB@readaux{\let\FBsuboheight\relax}}%
16 \@tempcnta=\@ne
17 \if@minipage
18 \@tempcnta=\z@
19 \else\ifdim \lastskip=\z@ \else
20 \@tempcnta=\tw@
21 \fi\fi
22 \ifmaincaptiontop
23 \sf@top=\sf@nearskip
24 \sf@bottom=\sf@farskip

```

```

25 \else
26 \sf@top=\sf@farskip
27 \sf@bottom=\sf@nearskip
28 \fi
29 \leavevmode

30% \setbox\@tempboxa \hbox{#4}%
31% \@tempdima=\wd\@tempboxa
32% \@ifundefined{FBsc@max}{}%
33% {\global\advance\Xhsize-\wd\@tempboxa
34% \dimen@=\ht\@tempboxa
35% \advance\dimen@\dp\@tempboxa
36% \ifdim\dimen@>\FBso@max
37% \global\FBso@max\dimen@
38% \fi}%

```

Do not use boxes, which interfere with lateximages:

```

39% \vtop%
40 \bgroup
41% \vbox%
42 \bgroup
43 \ifcase\@tempcnta
44 \@minipagefalse
45 \or
46% \vskip\sf@top
47 \or
48 \ifdim \lastskip=\z@ \else
49% \@tempskipb\sf@top\relax\@xaddvskip
50 \fi
51 \fi
52 \sf@ifpositiontop{%
53 \ifx \@empty#3\relax \else
54 \sf@subcaption{#1}{#2}{#3}%
55% \vskip\sf@capskip
56% \vskip\sf@captopadj
57 \fi\egroup
58% \hrule width0pt height0pt depth0pt
59 \LWR@startpars% lwarp
60% \box\@tempboxa
61 #4
62 \LWR@stoppars% lwarp
63 }{%
64 \LWR@startpars% lwarp
65 \@ifundefined{FBsc@max}%
66 {
67% \box\@tempboxa
68 #4
69 }%
70 {\ifx\FBsuboheight\relax
71% \box\@tempboxa
72 #4
73 \else
74% \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
75 #4
76 \fi}%
77 \LWR@stoppars% lwarp
78 \egroup
79 \ifx \@empty#3\relax \else
80% \vskip\sf@capskip
81% \hrule width0pt height0pt depth0pt

```

```

82 \sf@subcaption{#1}{#2}{#3}%
83 \fi
84 }%
85 % \vskip\sfbottom
86 \egroup
87 \@ifundefined{FBsc@max}{%
88 {\addtocounter{FRobj}{-1}%
89 \ifnum\c@FRobj=0\else
90 \subfloatrowsep
91 \fi}%
92 \ifmaincaptiontop\else
93 \global\advance\@nameuse{c@\@capttype}\m@ne
94 \fi
95 \end{minipage}% lwarp
96 \LWR@startpars% lwarp
97 \endgroup\ignorespaces%
98 }%

```

\sf@subcaption

{<1 type>} {<2 lof entry>} {<3 caption>}

```

99 \VerifyCommand[lwarp][subfig]{\sf@subcaption}{63123F93BADE8F3BBC127012A832A4C4}
100
101 \long\def\sfb@subcaption#1#2#3{%
102 \LWR@stoppars% lwarp
103 \ifx \relax#2\relax \else
104 \bgroup
105 \let\label=\@gobble
106 \let\protect=\string
107 \def\@subcapLabel{%
108 \caption@lstfmt{\@nameuse{p@#1}}{\@nameuse{the#1}}}%
109 \sf@updatecaptionlist{#1}{#2}{\the\value{\@capttype}}{\the\value{#1}}%
110 \egroup
111 \fi
112 \bgroup
113 \ifx \relax#3\relax
114 \let\captionlabelsep=\relax
115 \fi
116 % \setbox0\vbox{%
117 % \hb@xt@\the\@tempdima{%
118 %
119 % % \hss
120 % % \parbox[t]{\the\@tempdima}{%
121 % % \caption@make
122 % % {\@nameuse{sub\@capttype name}}%
123 % % {\@nameuse{thesub\@capttype}}%
124 % % {#3}
125 % % }%
126 % % \hss
127 % }
128 % }%
129 \@ifundefined{FBsc@max}%
130 % {\box0}%
131 % {
132 % \parbox[t]{\the\@tempdima}{%
133 \LWR@traceinfo{sfs@subcap B1}% lwarp
134 \LWR@figcaption% lwarp
135 \caption@make
136 {\@nameuse{sub\@capttype name}}%
137 {\@nameuse{thesub\@capttype}}%
138 {\LWR@isolate{#3}}%

```

```

139 \endLWR@figcaption% lwarp
140 \LWR@traceinfo{sfsubcap B2}% lwarp
141 % }%
142 }%
143 {\dimen@\ht0%
144 \advance\dimen@\dp0%
145 \ifdim\dimen@>\FBsc@max
146 \global\FBsc@max\dimen@
147 \fi
148 \FB@readaux{\let\FBsubcheight\relax}%
149 \ifx\FBsubcheight\relax
150 \def\next{
151 % \parbox[t]{\the\@tempdima}
152 }%
153 \else
154 \def\next{
155 % \parbox[t][\FBsubcheight][t]{\the\@tempdima}
156 }%
157 \fi
158 % \vbox{%
159 % \hb@xt@\the\@tempdima{%
160
161 % \hss
162 % \next}%
163 \LWR@traceinfo{sfsubcap C1}% lwarp
164 \caption@make
165 {\@nameuse{sub\@capttype name}}%
166 {\@nameuse{thesub\@capttype}}%
167 {#3}
168 \LWR@traceinfo{sfsubcap C1}% lwarp
169 % }%
170 % \hss
171
172 % }
173 % }
174 % }%
175 \egroup
176 \LWR@startpars% lwarp
177 }

```

\subfloat@label

Patches for \sf@sub@label:

```

178 \xpretocmd{\subfloat@label}
179 {\LWR@ensuredoingapar}
180 {}
181 {\LWR@patcherror{subfig}{subfloat@label}}

```

Patches for \subref.

\sf@subref

{\label}

The unstarred version uses a \ref link whose printed text comes from the sub@<label>:

```

182 \renewcommand{\sf@subref}[1]{%
183 \LWR@subnewref{#1}{sub@#1}%
184 }

```

\sf@@subref

{\label}

The starred version uses the printed `sub@<label>` which is stored as if it were a page number:

```
185 \renewcommand{\sf@subref}[1]{\LWR@orig@pageref{sub@#1}}
```

Defining new subfloats. The `l@sub<type>` for each is redefined.

```
\@newsubfloat [⟨keys/values⟩] {⟨float name⟩}

186 \LetLtxMacro\LWR@orig@newsubfloat\@newsubfloat
187
188 \def\@newsubfloat[#1]#2{%
189 \LWR@orig@newsubfloat[#1]#2}%
190 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
191 }
```

Pre-defined for figures and tables:

```
\l@subfigure {⟨text⟩} {⟨pagenum⟩}

192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}

\l@subtable {⟨text⟩} {⟨pagenum⟩}

193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

---

File 481 **lwarp-subfigure.sty**

§ 593 Package **subfigure**

subfigure (*Pkg*) subfigure is emulated by subfig.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro\subfigure\subfloat
4 \LetLtxMacro\subtable\subfloat
5 \LetLtxMacro\Subref\subref
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{ }
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{ }
20 \newcommand*\subcaplabelfont{ }
21 \newcommand*\subcapfont{ }
```

File 482 **lwarp-subsubscripts.sty**

§ 594 Package **subsubscripts**

(Emulates or patches code by RICCARDO BRESCIANI.)

subsubscripts (*Pkg*) subsubscripts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{subsubscripts}[2009/10/27]

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourscriptsC}[7]{%
5 {}^{#2}_{#3}\hspace{#6}\#1\hspace{#7}\}^{#4}_{#5}%
6 }
7 }
8 \CustomizeMathJax{%
9 \newcommand{\lrsubscriptsC}[5]{%
10 \fourscriptsC{#1}{#2}{#3}{#4}{#5}%
11 }
12 }
13 \CustomizeMathJax{%
14 \newcommand{\lrsuperscriptsC}[5]{%
15 \fourscriptsC{#1}{#2}{#3}{#4}{#5}%
16 }
17 }
18 \CustomizeMathJax{%
19 \newcommand{\fourscripts}[5]{%
20 \fourscriptsC{#1}{#2}{#3}{#4}{#5}{0ex}{0ex}%
21 }
22 }
23 \CustomizeMathJax{%
24 \newcommand{\lrsubscripts}[3]{\fourscripts{#1}{#2}{#3}}
25 }
26 \CustomizeMathJax{%
27 \newcommand{\lrsuperscripts}[3]{\fourscripts{#1}{#2}{#3}}
28 }
29 \CustomizeMathJax{%
30 \newcommand{\twolscripts}[4][-.16ex]{\}^{#3}_{#4}\hspace{#1}#2}
31 }
32 \CustomizeMathJax{%
33 \newcommand{\tworscripts}[4][-.07ex]{#2\hspace{#1}\}^{#3}_{#4}}
34 }
35 \CustomizeMathJax{%
36 \newcommand{\lsubscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}}
37 }
38 \CustomizeMathJax{%
39 \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}}
40 }
41 \CustomizeMathJax{%
42 \newcommand{\rsubscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
43 }
44 \CustomizeMathJax{%
45 \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}

```

```
46 }
47 \end{warpMathJax}
```

---

File 483 **lwarp-supertabular.sty**

§ 595 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

supertabular (*Pkg*) supertabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]

⚠ **Misplaced alignment** For `\tablefirsthead`, etc., enclose them as follows:  
**tab character &**

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ **lateximage** supertabular and xtab are not supported inside a lateximage.

```
2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRST@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14 \long\gdef\LWRST@lasttail{#1}%
15 }

16 \newcommand{\tablecaption}[2][]{%
17 \long\gdef\LWRST@caption{%
18 \ifblank{#1}%
19 {\caption{#2}}%
20 {\caption[#1]{#2}}%
21 }%
22 }
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*\LWRST@caption{}
27
28 \newcommand*\shrinkheight[1]{}
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {%
```

```

32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%
46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}%

50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}
55 {\endsupertabular\endminipage}

```

---

File 484 **lwarp-svg.sty**

§ 596 Package **svg**

*(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)*

svg (*Pkg*) **svg** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{svg}[2020/10/23]

2 \xpretocmd{\includesvg}%
3 {\begin{lateximage}}%
4 {}%
5 {\LWR@patcherror{svg}{includesvg}}
6
7 \xapptocmd{\includesvg}%
8 {\end{lateximage}}%
9 {}%
10 {\LWR@patcherror{svg}{includesvg}}
11
12 \xpretocmd{\includeinkscape}%
13 {\begin{lateximage}}%
14 {}%
15 {\LWR@patcherror{svg}{includeinkscape}}
16
17 \xapptocmd{\includeinkscape}%
18 {\end{lateximage}}%
19 {}%
20 {\LWR@patcherror{svg}{includeinkscape}}

```



---

File 485 **lwarp-swfigure.sty**

§ 597 Package **swfigure**

*(Emulates or patches code by CLAUDIO BECCARI.)*

swfigure (*Pkg*) **swfigure** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]

2 \NewDocumentEnvironment{DFimage}%
3 {O{SW} m O{#4} m o D(){0.8} D<>{0} D|{|{0.25} D!|{}}}%
4 {%
5 \begin{figure}
6 \centering
7 \includegraphics{#2}
8 \caption[#3]{#4}
9 \IfValueT{#5}{\label{#5}}
10 \end{figure}
11 }%
12 {}%
```

---

File 486 **lwarp-sympytex.sty**

§ 598 Package **sympytex**

*(Emulates or patches code by TIM MOLTENO.)*

sympytex (*Pkg*) **sympytex** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{sympytex}[2014/05/16]

2 \AfterEndPreamble{
3
4 \AtBeginEnvironment{sympyblock}{%
5 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6 {}%
7 {%
8 \LWR@forcenewpage%
9 \LWR@atbeginverbatim{verbatim}%
10 }%
11 }
12
13 \AfterEndEnvironment{sympyblock}{%
14 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
15 {}%
16 {%
17 \LWR@afterendverbatim%
18 }%
19 }
20
21 }
```

---

File 487 **lwarp-syntonly.sty**

§ 599 Package **syntonly**

(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)

syntonly (*Pkg*) syntonly is ignored.

**for HTML output:** Discard all options for lwarp-syntonly:

```
1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntonly}{}
6
7 \@onlypreamble\syntonly

8 \def\nopages@{}
```

---

File 488 **lwarp-tabfigures.sty**

§ 600 Package **tabfigures**

tabfigures (*Pkg*) tabfigures is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]

---

File 489 **lwarp-tablefootnote.sty**

§ 601 Package **tablefootnote**

tablefootnote (*Pkg*) tablefootnote is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

```
2 \LetLtxMacro\tablefootnote\footnote
```

---

File 490 **lwarp-tabls.sty**

§ 602 Package **tabls**

(Emulates or patches code by DONALD ARSENEAU.)

`tbls` (*Pkg*) `tbls` is emulated. `\LWR@hline` is used to handle the optional argument when `tbls` is loaded.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{tbls}`

```
2 \newdimen\tablinesep
3 \newdimen\arraylinesep
4 \newdimen\extrarulesep
```

File 491 **lwarp-tabularx.sty**

§ 603 Package **tabularx**

*(Emulates or patches code by DAVID CARLISLE.)*

`tabularx` (*Pkg*) `tabularx` is emulated by `lwarp`.

**for HTML output:** Discard all options for `lwarp-tabularx`:

```
1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]
2 \RequirePackage{array}
```

`\tabularxcolumn` is ignored. All `X` columns will be `p` for now. The width is ignored.

```
3 \def\tabularxcolumn#1{p{#1}}
4 \newcolumntype{X}{p{1in}}

5 \DeclareDocumentEnvironment{tabularx}{m o m}
6 {\tabular{#3}}
7 {\endtabular}
8
9 \DeclareDocumentEnvironment{tabularx*}{m o m}
10 {\tabular{#3}}
11 {\endtabular}
```

File 492 **lwarp-tabulary.sty**

§ 604 Package **tabulary**

*(Emulates or patches code by DAVID CARLISLE.)*

`tabulary` (*Pkg*) `tabulary` is emulated by `lwarp`.

**for HTML output:** Discard all options for `lwarp-tabulary`.

Column types `L`, `C`, `R`, and `J` are emulated by `lwarp` core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}
```

```
3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
```

```

6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}

10 \newcolumnntype{L}{L}
11 \newcolumnntype{C}{c}
12 \newcolumnntype{R}{r}
13 \newcolumnntype{J}{L}

14 \newdimen\tymin
15 \newdimen\tymax
16 \def\tyformat{}

```

---

File 493 **lwarp-tagpdf.sty**

§ 605 Package **tagpdf**

tagpdf (*Pkg*) tagpdf adds alt text, for images only. (HTML only has alternate text for images.)

The overall strategy is that tagpdf is deactivated, and slightly patched to process alt tags. Also see tagpdf-base, tagpdf-mc-code-generic, and tagpdf-mc-code-lua, following tagpdf.

**for HTML output:**

```

1 \RequirePackage{tagpdf-base}% *88*
2 \LWR@ProvidesPackagePass{tagpdf}[2022-08-24]

3 \ExplSyntaxOn
4
5 \keys_define:nn { __tag / struct }
6 {
7 alt .code:n = % Alt property
8 {
9 \str_set_convert:Nnoon
10% \l__tag_tmpa_str
11% { #1 }
12% { default }
13% { utf16/hex }
14% __tag_prop_gput:cnx
15% { g__tag_struct_\int_eval:n {\c@g__tag_struct_abs_int}_prop }
16% { Alt }
17% { <\l__tag_tmpa_str> }
18 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}% lwarp
19 },
20 }
21
22 \ExplSyntaxOff

```

The package is deactivated on load, and also each time \tagpdfsetup is used.

```

23 \LWR@tagpdf@deactivate

```

File 494 **lwarp-tagpdf-base.sty**

§ 606 Package **tagpdf-base**

*(Emulates or patches code by ULRIKE FISCHER.)*

tagpdf-base (*Pkg*) tagpdf-base is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tagpdf-base}[2022-08-24]

```

2 \ExplSyntaxOn
3
4 \newcommand*\LWR@tagpdf@deactivate){
5 \keys_set:nn { __tag / setup } {
6 activate/spaces = false ,
7 activate/mc = false ,
8 activate/tree = false ,
9 activate/struct = false ,
10 activate/struct-dest = false
11 }
12 }
13
14 \RenewDocumentCommand \tagpdfsetup { m){
15 \keys_set:nn { __tag / setup } { #1 }
16 \LWR@tagpdf@deactivate
17 }
18
19 \cs_set_protected:Npn __tag_whatsits: { }% *88* new
20
21 % *88*
22 %\RenewDocumentCommand \tagmcbegin { m }
23 % {
24 %% \tag_mc_begin:n {#1}
25 %% \keys_set:nn { __tag / mc } {#1}
26 % }
27
28 % *88*
29 %\RenewDocumentCommand \tagmccend { }
30 % {
31 %% \tag_mc_end:
32 %% \ThisAltText{}% lwarp
33 % }
34 \cs_set_protected:Nn \tag_mc_end: { }% *88* probably not needed because whatsits disabled above
35 % __tag_whatsits:
36 % \ThisAltText{}% lwarp
37 }
38
39 %\RenewDocumentCommand \tagmcuse { m }
40 % {
41 %% \tag_mc_use:n {#1}
42 % }
43
44 %\RenewDocumentCommand \tagstructbegin { m }
45 % {
46 %% *88* \keys_set:nn { __tag / struct } { #1 }% lwarp
47 % \tag_struct_begin:n {#1}% *88* was disabled

```

```

48% }
49
50%\RenewDocumentCommand \tagstructend { }
51% {
52%% \tag_struct_end:
53% \ThisAltText{}% lwarp
54% }
55\cs_set_protected:Npn \tag_struct_end:{% *88* maybe not needed
56 \ThisAltText{}% lwarp
57 }
58
59%\RenewDocumentCommand \tagstructuse { m }
60% {
61% \tag_struct_use:n {#1}% *88* was disabled
62% }
63
64\ExplSyntaxOff

```

---

File 495 **lwarp-tagpdf-mc-code-generic.sty**

§ 607 Package **tagpdf-mc-code-generic**

(Emulates or patches code by ULRIKE FISCHER.)

tagpdf-mc-code-generic (*Pkg*) tagpdf-mc-code-generic is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{tagpdf-mc-code-generic}[2022-08-24]
2 \ExplSyntaxOn
3
4% From tagpdf-mc-code-generic.sty:
5\keys_define:nn { __tag / mc }
6 {
7 tag .code:n = % the name (H,P,Span) etc
8 {
9 \tl_set:Ne __tag_mc_key_tag_tl { #1 }
10 \tl_gset:Ne \g__tag_mc_key_tag_tl { #1 }
11 },
12 raw .code:n =
13 {
14% \tl_put_right:Ne __tag_mc_key_properties_tl { #1 }
15 },
16 alt .code:n = % Alt property
17 {
18% \str_set_convert:Noon
19% __tag_tmpa_str
20% { #1 }
21% { default }
22% { utf16/hex }
23% \tl_put_right:Nn __tag_mc_key_properties_tl { /Alt~< }
24% \tl_put_right:No __tag_mc_key_properties_tl { __tag_tmpa_str>~ }
25% \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}% lwarp
26 },
27 alttext .meta:n = {alt=#1},
28 actualtext .code:n = % ActualText property
29 {
30% \tl_if_empty:oF{#1}

```

```

31% {
32% \str_set_convert:Noon
33% \l__tag_tmpa_str
34% { #1 }
35% { default }
36% { utf16/hex }
37% \tl_put_right:Nn \l__tag_mc_key_properties_tl { /ActualText~< }
38% \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
39% }
40 },
41 label .tl_set:N = \l__tag_mc_key_label_tl,
42 artifact .code:n =
43 {
44% \exp_args:Nne
45% \keys_set:nn
46% { __tag / mc }
47% { __artifact-bool, __artifact-type=#1 }
48% },
49 artifact .default:n = {notype}
50 }
51
52 \ExplSyntaxOff

```

---

File 496 **lwarp-tagpdf-mc-code-lua.sty**

§ 608 Package **tagpdf-mc-code-lua**

*(Emulates or patches code by ULRIKE FISCHER.)*

tagpdf-mc-code-lua (*Pkg*) tagpdf-mc-code-lua is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tagpdf-mc-code-lua}[2022-08-24]

```

2 \ExplSyntaxOn
3
4 \keys_define:nn { __tag / mc }
5 {
6 tag .code:n = %
7 {
8% \tl_set:Ne \l__tag_mc_key_tag_tl { #1 }
9% \tl_gset:Ne \g__tag_mc_key_tag_tl { #1 }
10% \lua_now:e
11% {
12% ltx.__tag.func.store_mc_data(__tag_get_mc_abs_cnt:,"tag","#1")
13% }
14% },
15 raw .code:n =
16 {
17% \tl_put_right:Ne \l__tag_mc_key_properties_tl { #1 }
18% \lua_now:e
19% {
20% ltx.__tag.func.store_mc_data(__tag_get_mc_abs_cnt:,"raw","#1")
21% }
22% },
23 alt .code:n = % Alt property
24 {
25% \str_set_convert:Noon

```

```

26% \l__tag_tmpa_str
27% { #1 }
28% { default }
29% { utf16/hex }
30% \tl_put_right:Nn \l__tag_mc_key_properties_tl { /Alt~< }
31% \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
32% \lua_now:e
33% {
34% ltx.__tag.func.store_mc_data
35% (
36% __tag_get_mc_abs_cnt:,"alt","/Alt~<\str_use:N \l__tag_tmpa_str>"
37%)
38% }
39 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}% lwarp
40 },
41 alttext .meta:n = {alt=#1},
42 actualtext .code:n = % Alt property
43 {
44% \tl_if_empty:oF{#1}
45% {
46% \str_set_convert:Noon
47% \l__tag_tmpa_str
48% { #1 }
49% { default }
50% { utf16/hex }
51% \tl_put_right:Nn \l__tag_mc_key_properties_tl { /Alt~< }
52% \tl_put_right:No \l__tag_mc_key_properties_tl { \l__tag_tmpa_str>~ }
53% \lua_now:e
54% {
55% ltx.__tag.func.store_mc_data
56% (
57% __tag_get_mc_abs_cnt:,
58% "actualtext",
59% "/ActualText~<\str_use:N \l__tag_tmpa_str>"
60%)
61% }
62% }
63 },
64 label .code:n =
65 {
66% \tl_set:Nn\l__tag_mc_key_label_tl { #1 }
67% \lua_now:e
68% {
69% ltx.__tag.func.store_mc_data
70% (
71% __tag_get_mc_abs_cnt:,"label","#1"
72%)
73% }
74 },
75 __artifact-store .code:n =
76 {
77% \lua_now:e
78% {
79% ltx.__tag.func.store_mc_data
80% (
81% __tag_get_mc_abs_cnt:,"artifact","#1"
82%)
83% }
84 },
85 artifact .code:n =

```



```

86 {
87% \exp_args:Nne
88% \keys_set:nn
89% { __tag / mc}
90% { __artifact-bool, __artifact-type=#1, tag=Artifact }
91% \exp_args:Nne
92% \keys_set:nn
93% { __tag / mc }
94% { __artifact-store=\l__tag_mc_artifact_type_tl }
95 },
96 artifact .default:n = { notype }
97 }
98
99 \ExplSyntaxOff

```

---

File 497 **lwarp-tascmac.sty**

§ 609 Package **tascmac**

tascmac (*Pkg*) tascmac is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```

2 \newenvironment*{boxnote}
3 {
4 \BlockClass[
5 padding: .5ex ;
6 border: 1px solid black ;
7 border-top: 1px dashed black ;
8]{boxnote}
9 }
10 {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13 {
14 \BlockClass[
15 padding: .5ex ;
16 border: 1px solid gray ;
17 border-radius: 8pt
18]{boxnote}
19 }
20 {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]
23 {
24 \BlockClass[
25 padding: .5ex ;
26 border: 1px solid gray ;
27 border-radius: 8pt
28]{boxnote}
29 \InlineClass{itemboxtitle}{#2}\par
30 }
31 {\endBlockClass}
32
33 \newenvironment*{shadebox}
34 {
35 \BlockClass[

```

```

36 padding: .5ex ;
37 border: 1px solid black ;
38 box-shadow: 3px 3px 3px \#808080 ;
39]{boxnote}
40 }
41 {\endBlockClass}
42
43 \newcommand*\mask}[2]{%
44 \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*\maskbox}[5]{%
48 \InlineClass[background: lightgray]{mask}{#5}%
49 }
50
51 \newcommand*\Maskbox}[6]{%
52 \InlineClass[
53 background: lightgray ;
54 border: #5 solid black
55]{mask}{#6}%
56 }
57
58 \newcommand*\keytop}[2][]{%
59 \InlineClass[%
60 padding: .2ex ;
61 border: 1px solid black ;
62 border-radius: .7ex ;
63]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLUnicode{00A5}}
67
68 \def\return{\HTMLUnicode{23CE}}
69
70 \def\Return{\HTMLUnicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}

```

---

File 498 **lwarp-tcolorbox.sty**

§ 610 Package **tcolorbox**

*(Emulates or patches code by THOMAS F. STURM.)*

tcolorbox (*Pkg*) tcolorbox is patched for use by lwarp.

See section [8.3.8](#) for limitations.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tcolorbox}[2023/06/19]

2 \newbool{LWR@havetcblower}  
3 \boolfalse{LWR@havetcblower}

Colors are supported via HTML styles:

```

4 \newcommand{\LWR@tcolorbox@findcolors}{%
5 \convertcolorspec{named}{tcbcolback}{HTML}\LWR@tcbcolback
6 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolframe
7 \iftcb@titlefilled%
8 \convertcolorspec{named}{tcbcolbacktitle}{HTML}\LWR@tcbcolbacktitle
9 \else
10 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolbacktitle
11 \fi
12 \convertcolorspec{named}{tcbcoltitle}{HTML}\LWR@tcbcoltitle
13 \convertcolorspec{named}{tcbcolupper}{HTML}\LWR@tcbcolupper
14 \convertcolorspec{named}{tcbcollower}{HTML}\LWR@tcbcollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%
18 border-top: 1px solid \LWR@origpound\LWR@tcbcolframe ;
19 border-bottom: 1px solid \LWR@origpound\LWR@tcbcolframe ;
20 background: \LWR@origpound\LWR@tcbcolbacktitle ;
21 color: \LWR@origpound\LWR@tcbcoltitle ;
22 }

```

The title is placed inside its own <div> of class tcolorboxtitle.

```

23 \newcommand*{\LWR@showtitle@[1]}{%
24 \begin{BlockClass}[
25 \LWR@tcolorbox@titlecolorstyles
26]{tcolorboxtitle}
27 % \cmdKV@LWR@tcolorbox@title\par
28 \kvtcb@before@title#1\kvtcb@after@title
29 \end{BlockClass}
30 }

```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*{\LWR@showtitle}[1]{%
32 \iftcb@titlevisible
33 \LWR@showtitle@{#1}
34 \else
35 \LWR@showtitle@{~}
36 \fi
37 }
38
39 \newcommand*{\LWR@tcolorbox@dophantom}{%
40 % \sbox\tcb@phantombox{\kvtcb@phantom}%
41 % \iftcb@hasPhantom%
42 % \box\tcb@phantombox%
43 % \tcb@hasPhantomfalse%
44 % \fi%
45 \kvtcb@phantom
46 \let\kvtcb@phantom\@empty%
47 }

```

The tcolorbox is placed inside an external <div> of class #1, which is tcolorbox or tcolorbox inlineminipage. The upper and lower parts are placed into their own internal <div>s of class tcolorboxupper and tcolorboxlower.

```

48 \newcommand*{\LWR@tcolorboxstart}[1]{
49 \LWR@tcolorbox@findcolors

```

```

50 \begin{BlockClass}[
51 border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52 background: \LWR@origpound\LWR@tcbcolback ;
53]{#1}
54 \LWR@tcolorbox@dophantom%
55 \ifdefvoid{\kvtcb@title}
56 {}
57 {
58 \LWR@showtitle{\kvtcb@title}
59 }
60 \begin{BlockClass}[
61 color: \LWR@origpound\LWR@tcbcolupper ;
62]{tcolorboxupper}
63 }

```

Floats enclose the tcolorbox.

```

64 \newcommand*{\LWR@tcolorbox@dostartfloat}{%
65 \ifx\kvtcb@float\@empty%
66 % \tcb@set@normal@unbroken@beforeafter%
67 \else%
68 % \edef\tcb@before@unbroken{%
69 % \noexpand\tcb@float@env@begin{tcbfloat}[\kvtcb@float]%
70 % \noexpand\kvtcb@everyfloat%
71 % }%
72 % \let\tcb@after@unbroken=\tcb@float@env@end%
73 % \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74 % \noexpand\kvtcb@everyfloat
75 \fi%
76 }
77
78 \newcommand*{\LWR@tcolorbox@doendfloat}{%
79 \ifx\kvtcb@float\@empty%
80 \else%
81 \tcb@float@env@end%
82 \fi%
83 }

```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

Not using \VerifyCommand here because tcolorbox changes meaning.

```

84 \renewenvironment{tcolorbox}[1][[]
85 {
86 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
87 {
88 \PackageError{lwarp}
89 {%
90 Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91 or SVG math.\MessageBreak
92 Enter 'H' for possible solutions%
93 }
94 {%
95 Use \protect\tcbbox, \protect\tcbboxmath, or
96 \protect\tcbhighmath\space instead.\MessageBreak%
97 (Inside math, you probably want to use these anyhow.)%
98 }
99 }{\relax}

```

```

100 \LWR@printpendingfootnotes
101 \tcb@layer@inc
102 \tcb@apply@box@options{#1}
103 \LWR@tcolorbox@dostartfloat%
104 % \tcbset{title=#1}
105 \boolfalse{LWR@havetcblower}
106 \LWR@tcolorboxstart{tcolorbox}
107 \tcb@insert@before@upper%
108 }
109 {
110 \ifbool{LWR@havetcblower}{%
111 \tcb@insert@after@lower%
112 }{%
113 \tcb@insert@after@upper%
114 }%
115 \end{BlockClass}
116 \LWR@printpendingfootnotes
117 \tcb@layer@dec
118 \end{BlockClass}
119 \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started.

`\tcblower` is `\let` to `\tcb@error@nolower` globally, which gives an error in print mode, but is redefined here for HTML.

```

121 \newcommand{\LWR@HTML@tcb@error@nolower}{%
122 \tcb@insert@after@upper%
123 \end{BlockClass}
124 \begin{BlockClass}[%
125 border-top: 1px dashed \LWR@origpound\LWR@tcbcolframe ;
126 color: \LWR@origpound\LWR@tcbcollower ;
127]{tcolorboxlower}
128 \tcb@insert@before@lower%
129 }
130 \LWR@formatted{tcb@error@nolower}

```

Starred and unstarred `\tcbline` are simple `\hrules`.

```

131 \AtBeginDocument{
132 \ifdef{\tcbline}{
133 \newcommand*\LWR@sub@tcbline}{%
134 \begin{BlockClass}{hrule}
135 \end{BlockClass}
136 }
137 \newcommand{\LWR@HTML@tcbline}{\ifstar\LWR@sub@tcbline\LWR@sub@tcbline}
138 \LWR@formatted{tcbline}
139 }{ }
140 }
141
142 \newcommand{\LWR@HTML@tcbbox}[2][]{
143 \LWR@printpendingfootnotes
144 \LWR@tcolorbox@dostartfloat%
145 \begingroup
146 \tcb@layer@inc
147 \tcb@apply@box@options{#1}
148 % \tcbset{title=#1}
149 \boolfalse{LWR@havetcblower}
150 \LWR@tcolorboxstart{tcolorbox inlineminipage}

```

```

151 \tcb@insert@before@upper%
152 #2
153 \ifbool{LWR@havetcblower}{%
154 \tcb@insert@after@lower%
155 }{%
156 \tcb@insert@after@upper%
157 }%
158 \end{BlockClass}
159 \LWR@printpendingfootnotes
160 \end{BlockClass}
161 \tcb@layer@dec%
162 \endgroup%
163 \LWR@tcolorbox@dostartfloat%
164 \global\booltrue{LWR@minipagethispar}%
165 }
166 \LWR@formatted{tcbbox}
167
168 \appto\LWR@restoreMathJaxformatting{%
169 \renewcommand{\tcbbox}[2][\#2]%
170 }

```

Patches for the subtitle, which is placed inside a <div> of class `tcolorboxsubtitle`.

```

171 \xpatchcmd{\tcbsubtitle}
172 {\begingroup}
173 {\begingroup\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
174 {}
175 {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
176
177 \xpatchcmd{\tcbsubtitle}
178 {\endgroup}
179 {\end{BlockClass}\endgroup}
180 {}
181 {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

`\tcbboxfit` is the same as `\tcbbox`.

```

182 \AtBeginDocument{
183 \ifdef{\tcbboxfit}{%
184 \let\LWR@HTML@tcbboxfit\tcbbox%
185 \LWR@formatted{tcbboxfit}
186 }{}
187 }

```

`\tcbtitle` is patched to support the text font.

```

188 \VerifyCommand[lwarp][tcolorbox]{\tcbtitle}{8C821A2BDC95C579A4FA340365D9A5CB}
189
190 \LetLtxMacro\LWR@HTML@tcbtitle\tcbtitle
191 \xpatchcmd{\LWR@HTML@tcbtitle}
192 {\tcb@insert@before@title\tcbtitletext}
193 {\tcb@insert@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}
194 {}
195 {\LWR@patcherror{tcolorbox}{\LWR@HTML@tcbtitle}}
196 \LWR@formatted{tcbtitle}

```

List-of:

```

197 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{#1}{#2}}

```

Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcboxmath` and `\tcbhighmath` are ignored for HTML.

```

198 \AtBeginDocument{
199 \pgfkeysifdefined{/tcb/libload/theorems}{
200
201 \def\LWR@HTML@tcb@hack@amsmath{%
202 \PackageError{lwarp}
203 {%
204 tcolorbox ``math'', ``ams equation'', and related\MessageBreak
205 are not supported.\MessageBreak
206 \protect\tcboxmath\space and
207 \protect\tcbhighmath\space are emulated.\MessageBreak
208 Enter 'H' for possible solutions%
209 }
210 {%
211 Remove tcolorbox math-related options, and instead\MessageBreak
212 use the usual math environments inside each tcolorbox.%
213 }
214 }
215 \LWR@formatted{tcb@hack@amsmath}
216
217 % Cause an error if using math:
218 \tcbset{%
219 math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
220 math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
221 }
222
223 \appto\LWR@restoreorigformatting{%
224 \tcbset{%
225 math upper/.style={before upper*=$\displaystyle,after upper*=$},%
226 math lower/.style={before lower*=$\displaystyle,after lower*=$},%
227 }%
228 }
229
230 \newcommand{\LWR@HTML@tcboxmath}[2][\#2]
231 \LWR@formatted{tcboxmath}
232 \newcommand{\LWR@HTML@tcbhighmath}[2][\#2]
233 \LWR@formatted{tcbhighmath}
234 \appto\LWR@restoreMathJaxformatting{%
235 \renewcommand{\tcboxmath}[2][\#2]%
236 \renewcommand{\tcbhighmath}[2][\#2]%
237 }
238 }{% theorems loaded
239 }% AtBeginDocument

```

For MATHJAX:

```

240 \CustomizeMathJax{\newcommand{\tcbset}[1]{}}
241 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{}}
242 \CustomizeMathJax{\newcommand{\tcbox}[2][\boxed{\text{\#2}}}}
243 \CustomizeMathJax{\newcommand{\tcboxfit}[2][\boxed{\#2}}}}
244 \CustomizeMathJax{\newcommand{\tcblower}{}}
245 \CustomizeMathJax{\newcommand{\tcbline}{}}
246 \CustomizeMathJax{\newcommand{\tcbtitle}{}}
247 \CustomizeMathJax{\newcommand{\tcbsubtitle}[2][\mathrm{\#2}}}}
248 \CustomizeMathJax{\newcommand{\tcboxmath}[2][\boxed{\#2}}}}
249 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][\boxed{\#2}}}}


```

File 499 **lwarp-tensor.sty**

§ 611 Package **tensor**

(Emulates or patches code by PHILIP G. RATCLIFFE.)

tensor (*Pkg*) tensor is used as-is for SVG math, and is emulated for MATHJAX.

 spacing Compressed spacing and left justification are not possible with MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{tensor}[2004/12/20]

For MATHJAX. Special handling is required to parse the superscript and subscript arguments.

When a superscript or subscript is seen, it is processed and then the remainder is processed recursively.

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\LWRtensorindicesub#1#2{{_#2}}\LWRtensorindicesub}}
4 \CustomizeMathJax{\def\LWRtensorindicesup#1#2{{^#2}}\LWRtensorindicesub}}
```

If not a superscript nor a subscript, processing stops.

```
5 \CustomizeMathJax{\newcommand{\LWRtensorindicesubnotsup}{}}
```

Check ahead for a superscript or a subscript.

```
6 \CustomizeMathJax{\newcommand{\LWRtensorindicesubnotsub}{
7 \ifnextchar ^ \LWRtensorindicesubnotsup \LWRtensorindicesubnotsup
8 }}
9
10 \CustomizeMathJax{\newcommand{\LWRtensorindicesub}{
11 \ifnextchar _ \LWRtensorindicesubnotsub \LWRtensorindicesubnotsub
12 }}
```

Ignore star.

```
13 \CustomizeMathJax{\newcommand{\LWRtensorindicesubtwo}{
14 \ifstar\LWRtensorindicesubnotsub\LWRtensorindicesubnotsub
15 }}
```

Remove the outer brace of the argument.

```
16 \CustomizeMathJax{\newcommand{\indices}[1]{\LWRtensorindicesubnotsub}}
```

Attempting to use `\vphantom` here does not work:

```
17 \CustomizeMathJax{\newcommand{\LWRtensortwo}[3][[]]{\indices{#1}{#2}\indices{#3}}}
```

Ignore star.

```
18 \CustomizeMathJax{\newcommand{\tensor}{\ifstar\LWRtensortwo\LWRtensortwo}}
```



In text mode, `\nuclide` is converted to an svg image.

```

19 \CustomizeMathJax{%
20 \newcommand{\LWRnuclidetwo}[2][[]]{%
21 {%
22 \vphantom{\mathrm{#2}}%
23 }^{\LWRtensornucleonnumber}_{#1}%
24 \mathrm{#2}%
25 }%
26 }%
27 }

28 \CustomizeMathJax{%
29 \newcommand{\nuclide}[1][[]]{%
30 \def\LWRtensornucleonnumber{#1}%
31 \LWRnuclidetwo
32 }%
33 }
34 \end{warpMathJax}

```

---

File 500 **lwarp-termcal.sty**

§ 612 Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

`termcal` (*Pkg*) `termcal` is patched for use by `lwarp`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{termcal}%` questionable date in the `.sty` file

Nullify the `@` because everything is being done in a token list.

```

2 \xpatchcmd{\endcalendar}
3 {@{}}
4 {}
5 {}
6 {\LWR@patcherror{termcal}{endcalendar}}

```

Remove the `hbox`:

```

7 \xpatchcmd{\ca@doaday}
8 {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9 {%
10 \calprintdate\hfill\ifclassday\calprintclass\fi%
11 }
12 {}
13 {\LWR@patcherror{termcal}{ca@doaday}}

```

Change each of two ampersands to call the `lwarp` tabular version:

```

14 \xpatchcmd{\calday}
15 {&}
16 {\LWR@tabularampersand}
17 {}
18 {\LWR@patcherror{termcal}{calday}}
19

```

```

20 \xpatchcmd{\calday}
21 {&}
22 {\LWR@tabularampersand}
23 {}
24 {\LWR@patcherror{termcal}{calday B}}

```

---

## File 501 **lwarp-textarea.sty**

### § 613 Package **textarea**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

textarea (*Pkg*) **textarea** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```

2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restorettextarea\@empty

```

---

## File 502 **lwarp-textcomp.sty**

### § 614 Package **textcomp**


*(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)*

textcomp (*Pkg*) **textcomp** is patched for use by lwarp.

For MATHJAX, the MATHJAX packge is used.

#### § 614.1 **Limitations**

Some textcomp symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many textcomp symbols are not supported by many system / browser fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

#### § 614.2 **Package loading**

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

### § 614.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for Lua<sup>A</sup>T<sub>E</sub>X and X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X.

#### § 614.3.1 pdf<sup>L</sup>A<sub>T</sub>E<sub>X</sub> symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdfLatex or dvi latex
4 \newcommand*\LWR@HTML@textdegree{\HTMLentity{deg}}
5 \newcommand*\LWR@HTML@textcelsius{\HTMLunicode{2103}}
6 \newcommand*\LWR@HTML@textohm{\HTMLunicode{2126}}
7 \newcommand*\LWR@HTML@textmu{\HTMLunicode{00B5}}
8 \newcommand*\LWR@HTML@textlquill{\HTMLunicode{2045}}
9 \newcommand*\LWR@HTML@extrquill{\HTMLunicode{2046}}
10 \newcommand*\LWR@HTML@textcircledP{\HTMLunicode{2117}}
11 \newcommand*\LWR@HTML@texttwelveudash{\HTMLunicode{2014}}% emdash
12 \newcommand*\LWR@HTML@textthreequartersemdash{\HTMLunicode{2014}}% emdash
13 \newcommand*\LWR@HTML@textmho{\HTMLunicode{2127}}
14 \newcommand*\LWR@HTML@textnaira{\HTMLunicode{20A6}}
15 \newcommand*\LWR@HTML@textpeso{\HTMLunicode{20B1}}
16 \newcommand*\LWR@HTML@textrecipe{\HTMLunicode{211E}}
17 \newcommand*\LWR@HTML@textinterrobang{\HTMLunicode{203D}}
18 \newcommand*\LWR@HTML@textinterrobangdown{\HTMLunicode{2E18}}
19 \newcommand*\LWR@HTML@textperthousand{\HTMLunicode{2030}}
20 \newcommand*\LWR@HTML@textpertenthousand{\HTMLunicode{2031}}
21 \newcommand*\LWR@HTML@textbaht{\HTMLunicode{0E3F}}
22 \newcommand*\LWR@HTML@textdiscount{\}%
23 \newcommand*\LWR@HTML@textservicemark{\HTMLunicode{2120}}
24 \else

```

#### § 614.3.2 X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and Lua<sup>A</sup>T<sub>E</sub>X symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

25 \newcommand*\LWR@HTML@textdegree{\°}
26 \newcommand*\LWR@HTML@textcelsius{\C}
27 \newcommand*\LWR@HTML@textohm{\Ω}
28 \newcommand*\LWR@HTML@textmu{\μ}
29 \newcommand*\LWR@HTML@textlquill{\{ }
30 \newcommand*\LWR@HTML@extrquill{\} }
31 \newcommand*\LWR@HTML@textcircledP{\@ }
32 \newcommand*\LWR@HTML@texttwelveudash{\-}% emdash
33 \newcommand*\LWR@HTML@textthreequartersemdash{\-}% emdash
34 \newcommand*\LWR@HTML@textmho{\U}
35 \newcommand*\LWR@HTML@textnaira{\#}
36 \newcommand*\LWR@HTML@textpeso{\P}
37 \newcommand*\LWR@HTML@textrecipe{\R}
38 \newcommand*\LWR@HTML@textinterrobang{\?}
39 \newcommand*\LWR@HTML@textinterrobangdown{\.}
40 \newcommand*\LWR@HTML@textperthousand{\} }
41 \newcommand*\LWR@HTML@textpertenthousand{\‰}
42 \newcommand*\LWR@HTML@textbaht{\฿}
43 \newcommand*\LWR@HTML@textdiscount{\}%
44 \newcommand*\LWR@HTML@textservicemark{\SM}
45 \fi

```

```

46
47 \LWR@formatted{textdegree}
48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 614.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*\LWR@HTML@capitalcedilla}[1]{#1\HTMLUnicode{0327}}
68 \newcommand*\LWR@HTML@capitalogonek}[1]{#1\HTMLUnicode{0328}}
69 \newcommand*\LWR@HTML@capitalgrave}[1]{#1\HTMLUnicode{0300}}
70 \newcommand*\LWR@HTML@capitalacute}[1]{#1\HTMLUnicode{0301}}
71 \newcommand*\LWR@HTML@capitalcircumflex}[1]{#1\HTMLUnicode{0302}}
72 \newcommand*\LWR@HTML@capitaltilde}[1]{#1\HTMLUnicode{0303}}
73 \newcommand*\LWR@HTML@capitaldieresis}[1]{#1\HTMLUnicode{0308}}
74 \newcommand*\LWR@HTML@capitalhungarumlaut}[1]{#1\HTMLUnicode{30B}}
75 \newcommand*\LWR@HTML@capitalring}[1]{#1\HTMLUnicode{30A}}
76 \newcommand*\LWR@HTML@capitalcaron}[1]{#1\HTMLUnicode{30C}}
77 \newcommand*\LWR@HTML@capitalbreve}[1]{#1\HTMLUnicode{306}}
78 \newcommand*\LWR@HTML@capitalmacron}[1]{#1\HTMLUnicode{304}}
79 \newcommand*\LWR@HTML@capitaldotaccent}[1]{#1\HTMLUnicode{307}}

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `xunicode`.

```

80 \providecommand*\LWR@HTML@textcircled}[1]{%
81 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
82 }
83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}
94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}

```

```
97
98 \LWR@formatted{textcircled}
```

Nullify `textcomp` macros when generating filenames:

```
99 \FilenameNullify{%
100 \renewcommand*\textdegree{}%
101 \renewcommand*\textcelsius{}%
102 \renewcommand*\textohm{}%
103 \renewcommand*\textmu{}%
104 \renewcommand*\textlquill{}%
105 \renewcommand*\textrquill{}%
106 \renewcommand*\textcircledP{}%
107 \renewcommand*\texttwelveudash{}%
108 \renewcommand*\textthreequartersemdash{}%
109 \renewcommand*\textmho{}%
110 \renewcommand*\textnaira{}%
111 \renewcommand*\textpeso{}%
112 \renewcommand*\textrecipe{}%
113 \renewcommand*\textinterrobang{}%
114 \renewcommand*\textinterrobangdown{}%
115 \renewcommand*\textperthousand{}%
116 \renewcommand*\textpertenthousand{}%
117 \renewcommand*\textbaht{}%
118 \renewcommand*\textdiscount{}%
119 \renewcommand*\textservicemark{}%
120 \renewcommand*\textcircled}[1]{#1}%
121 \renewcommand*\capitalcedilla}[1]{#1}%
122 \renewcommand*\capitalogonek}[1]{#1}%
123 \renewcommand*\capitalgrave}[1]{#1}%
124 \renewcommand*\capitalacute}[1]{#1}%
125 \renewcommand*\capitalcircumflex}[1]{#1}%
126 \renewcommand*\capitaltilde}[1]{#1}%
127 \renewcommand*\capitaldieresis}[1]{#1}%
128 \renewcommand*\capitalhungarumlaut}[1]{#1}%
129 \renewcommand*\capitalring}[1]{#1}%
130 \renewcommand*\capitalcaron}[1]{#1}%
131 \renewcommand*\capitalbreve}[1]{#1}%
132 \renewcommand*\capitalmacron}[1]{#1}%
133 \renewcommand*\capitaldotaccent}[1]{#1}%
134 }% FilenameNullify
135
136 }% AtBeginDocument
```

For MATHJAX:

```
137 \CustomizeMathJax{\require{textcomp}}
```

---

File 503 **lwarp-textfit.sty**

§ 615 Package **textfit**

`textfit` (*Pkg*) `textfit` is emulated.

Text is placed into a `<span>` of class `textfit`. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*\LWR@textfitscale[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
7 1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*\scaletowidth[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settowidth{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*\scaletoheight[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }

```

---

File 504 **lwarp-textpos.sty**

§ 616 Package **textpos**

*(Emulates or patches code by NORMAN GRAY.)*

textpos (*Pkg*) **textpos** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

2 \NewDocumentEnvironment{textblock}{m o r()}{}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{}{}
4 \newcommand*\TPGrid[3]{}{}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*\textblockcolour[1]{}
9 \newcommand*\textblockrulecolour[1]{}
10 \newcommand*\textblockcolor[1]{}
11 \newcommand*\textblockrulecolor[1]{}
12 \newcommand*\tekstblokkulur[1]{}
13 \newcommand*\tekstblokrulekulur[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
17 \newcommand{\textblocklabel}[1]{}
18 \newcommand*\showtextsize{}
19 \newcommand{\textblockorigin}[2]{}
20 \newcommand*\TPoptions[1]{}
21 \newcommand*\TPreferencePosition[1]{}

```

File 505 **lwarp-theorem.sty**

§ 617 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

theorem (*Pkg*) theorem is patched for use by lwarp.

Table 21: Theorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{theorem}[2023/07/05]

### § 617.1 Remembering the theorem style

Storage for the style being used for new theorems:

```
2 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```
3 \VerifyCommand[lwarp][theorem]{\theoremstyle}{B805673118A2EA934449A9B7D25A5D33}
4
5 \gdef\theoremstyle#1{%
6 \ifundefined{th@#1}{\@warning
7 {Unknown theoremstyle `#1'. Using `plain'}%
8 \theoremstyle{plain}%
9 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
10 }%
11 {%
12 \theoremstyle{#1}%
13 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
14 }%
15 \begingroup
16 \csname th@the\theoremstyle \endcsname
17 \endgroup}
```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```
18 \VerifyCommand[lwarp][theorem]{\xnthm}{D6164703589C684059381DB798F89158}
19
20 \gdef\xnthm#1#2[#3]{%
21 \expandafter\ifdefinable\csname #1\endcsname
22 {%
23 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
24 \@definecounter{#1}\@newctr{#1}[#3]%
25 \expandafter\xdef\csname the#1\endcsname
```

```

26 {\expandafter \noexpand \csname the#3\endcsname
27 \@thmcountersep \@thmcounter{#1}}%
28 \def\@tempa{\global\@namedef{#1}}%
29 \expandafter \@tempa \expandafter{%
30 \csname th@the \theorem@style
31 \expandafter \endcsname \the \theorem@bodyfont
32 \@thm{#1}{#2}}%
33 \global \expandafter \let \csname end#1\endcsname \@endtheorem
34 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
35 }}
36
37 \VerifyCommand[lwarp][theorem]{\@ynthm}{C5A12EBEFD5C5628C65B16A01DFB4}
38
39 \gdef\@ynthm#1#2{%
40 \expandafter\@ifdefinable\csname #1\endcsname
41 {
42 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
43 \@definecounter{#1}%
44 \expandafter\xdef\csname the#1\endcsname{\@thmcounter{#1}}%
45 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
46 \expandafter{\csname th@the \theorem@style \expandafter
47 \endcsname \the \theorem@bodyfont \@thm{#1}{#2}}%
48 \global \expandafter \let \csname end#1\endcsname \@endtheorem
49 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
50 }}
51
52 \VerifyCommand[lwarp][theorem]{\@othm}{93B7CCDCEFD36BEEF31477D6D390AC3}
53
54 \gdef\@othm#1[#2]#3{%
55 \expandafter\ifx\csname c@#2\endcsname\relax
56 \@nocounterr{#2}%
57 \else
58 \expandafter\@ifdefinable\csname #1\endcsname
59 {
60 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
61 \expandafter \xdef \csname the#1\endcsname
62 {\expandafter \noexpand \csname the#2\endcsname}%
63 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
64 \expandafter{\csname th@the \theorem@style \expandafter
65 \endcsname \the \theorem@bodyfont \@thm{#2}{#3}}%
66 \global \expandafter \let \csname end#1\endcsname \@endtheorem
67 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
68 }%
69 \fi}

```

## §617.2 css patches

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```

70 \gdef\th@plain{%
71 \def\@begintheorem##1##2{%
72 \item[
73 \InlineClass{theoremheader}{##1 \ ##2}

```



```
74]
75 }%
76 \def\@opargbegintheorem##1##2##3{%
77 \item[
78 \InlineClass{theoremheader}{##1\ ##2\ (##3)}
79]
80 }
81 }
82
83 \gdef\th@break{%
84 \def\@begintheorem##1##2{%
85 \item[
86 \InlineClass{theoremheader}{##1\ ##2}\newline%
87]
88 }%
89 \def\@opargbegintheorem##1##2##3{%
90 \item[
91 \InlineClass{theoremheader}{##1\ ##2\ (##3)}\newline
92]
93 }
94 }
95
96 \gdef\th@marginbreak{%
97 \def\@begintheorem##1##2{%
98 \item[
99 \InlineClass{theoremheader}{##2 \quad ##1}\newline
100]
101 }%
102 \def\@opargbegintheorem##1##2##3{%
103 \item[
104 \InlineClass{theoremheader}{##2 \quad ##1\ %
105 (##3)}\newline
106]
107 }
108 }
109
110 \gdef\th@changebreak{%
111 \def\@begintheorem##1##2{%
112 \item[
113 \InlineClass{theoremheader}{##2\ ##1}\newline
114]
115 }%
116 \def\@opargbegintheorem##1##2##3{%
117 \item[
118 \InlineClass{theoremheader}{ ##2\ ##1\ %
119 (##3)}\newline
120]
121 }
122 }
123
124 \gdef\th@change{%
125 \def\@begintheorem##1##2{%
126 \item[
127 \InlineClass{theoremheader}{##2\ ##1}
128]
129 }%
130 \def\@opargbegintheorem##1##2##3{%
131 \item[
132 \InlineClass{theoremheader}{##2\ ##1\ (##3)}
133]
```

```

134 }
135 }
136
137 \gdef\th@margin{%
138 \def\@begintheorem##1##2{
139 \item[
140 \InlineClass{theoremheader}{##2 \quad ##1}
141]
142 }%
143 \def\@opargbegintheorem##1##2##3{%
144 \item[
145 \InlineClass{theoremheader}{##2 \quad ##1\ (##3)}
146]
147 }
148 }

```

Patched for css:

```

149 \VerifyCommand[lwarp][theorem]{\@thm}{4632915C52ABB4DB5D462AA58A80BAF2}
150
151 \gdef\@thm#1#2{\refstepcounter{#1}%
152 \LWR@forcenewpage% lwarp

153 \LWR@printpendingfootnotes% lwarp

154 \BlockClass{theorembody\LWR@thisthmstyle}% lwarp
155 \trivlist
156 \@topsep \theorempreskipamount % used by first \item
157 \@topsepadd \theorempostskipamount % used by \@endparenv
158 \@ifnextchar [%
159 {\@ythm{#1}{#2}}%
160 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
161
162 \VerifyCommand[lwarp][theorem]{\@endtheorem}
163 {9798301819F2CA2E46673F8937BABE99}
164 \gdef\@endtheorem{%
165 \endtrivlist

166 \LWR@printpendingfootnotes% lwarp

167 \endBlockClass
168 }

```

---

File 506 **lwarp-thinsp.sty**

§ 618 Package **thinsp**

thinsp (*Pkg*) thinsp is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

```

2 \AtBeginDocument{
3 \let\thinthispace\relax% defined by some packages
4 \newcommand*{\thinthispace}{\thispace}
5 }

```

```

6
7 \newcommand*{\stretchthinspace}{\thinspace}
8 \newcommand*{\stretchthinthinspace}{\thinthinspace}
9 \newcommand*{\stretchnegthinspace}{\negthinspace}

```

---

File 507 **lwarp-thm-listof.sty**

§ 619 Package **thm-listof**

(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)

thm-listof (*Pkg*) thm-listof is part of thmtools, and is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

For font control, see the generated HTML and use CSS per amsthm or ntheorem.

Other thm-\* package may be loaded by thm-listof.

```

2 \IfPackageAtLeastTF{thm-listof}{2020/08/01}{% v0.72
3 \VerifyCommand[lwarp][thm-listof]{\thmtlo@newentry}
4 {AF7BF291DC508ED71058DAF745F9C018}
5 \def\thmtlo@newentry{%
6 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
7 }
8 }{% earlier than v0.72
9 \xpatchcmd{\listoftheorems}
10 {%
11 \@xa\protected@edef\csname l@thmt@envname\endcsname{%
12 \@nx@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
13 }%
14 }
15 {%
16 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
17 }
18 {}
19 {\LWR@patcherror{thm-listof}{listoftheorems}}
20
21 \xpatchcmd{\thmt@mklisctcmd}
22 {%
23 \@xa\protected@edef\csname l@thmt@envname\endcsname{%
24 \@nx@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
25 }%
26 }
27 {%
28 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
29 }
30 {}
31 {\LWR@patcherror{thm-listof}{thmt@mklisctcmd}}
32 }

```

---

File 508 **lwarp-thm-restate.sty**

§ 620 Package **thm-restate**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

thm-restate (*Pkg*) thm-restate is part of thmtools, and is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

2 \VerifyCommand[lwarp][thm-restate]{\thmt@restatable}
3 {C912622BBA051C5F22994335F66976AB}
4
5 \xpatchcmd{\thmt@restatable}
6 {\@ifstar}
7 {\edef\LWR@thisthmstyle{#2}\@ifstar}
8 {}
9 {\LWR@patcherror{thm-restate}{\thmt@restatable}}
```

---

File 509 **lwarp-thmbox.sty**

§ 621 Package **thmbox**

*(Emulates or patches code by EMMANUEL BEFFARA.)*

thmbox (*Pkg*) thmbox is emulated for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

2 \renewenvironment{thmbox}[2][]%
3 {%
4 \begin{BlockClass}{thmbox}
5 \begin{BlockClass}{thmboxtitle}
6 #2
7 \end{BlockClass}
8 }
9 {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][%
12 {%
13 \begin{BlockClass}{thmboxproof}%
14 \InlineClass{thmboxproofname}{\proofname\ #1\unskip\, :}
15 }
16 {%
17 \quad\HTMLUnicode{220E}
18 \end{BlockClass}
19 }
20
21 \renewenvironment{example}[1][\examplename]%
22 {%
23 \begin{BlockClass}{thmboxexample}%
24 \InlineClass{thmboxexamplename}{#1\, :}
25 }
```

```

26 {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][]{%
29 {\begin{BlockClass}{thmboxleftbar}}
30 {\end{BlockClass}}

```

---

File 510 **lwarp-thmtools.sty**

§ 622 Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

thmtools (*Pkg*) thmtools is patched for use by lwarp.

Also see thm-listof and thm-restate.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either thm-amsthm or thm-ntheorem.

```

2 \def\thmt@headstyle@margin{%
3 \InlineClass{amsthmnumbertheorem}{\NUMBER}
4 \
5 \InlineClass{amsthmnametheorem}{\NAME}
6 \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

File 511 **lwarp-threadcol.sty**

§ 623 Package **threadcol**

threadcol (*Pkg*) threadcol is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

```

2 \newcommand{\setthreadname}[1]{}

```

---

File 512 **lwarp-threeparttable.sty**

§ 624 Package **threeparttable**

*(Emulates or patches code by DONALD ARSENEAU.)*

threeparttable (*Pkg*) threeparttable is emulated.

Table note are contained inside a CSS <div> of class tnotes. If enumitem is used, the note item labels are also individually highlighted with an additional CSS <span> of class tnoteitemheader, otherwise they are plain text.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

```

Env threeparttable [alignment]

2 \newenvironment*{threeparttable}[1][b]
3 {\def\@capttype{table}}
4 {}

Env tablenotes [options]

5 \newenvironment*{tablenotes}[1][]
6 {%
7 \LWR@forcenewpage
8 \BlockClass{tnotes}%

9 \description%
10 }
11 {%
12 \enddescription%
13 \endBlockClass%
14 }

\tnote {text}

15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

Env measuredfigure [alignment]

16 \newenvironment*{measuredfigure}[1][t]
17 {\def\@capttype{figure}}
18 {}

```

---

File 513 **lwarp-threeparttablex.sty**

§ 625 Package **threeparttablex**

threeparttablex (*Pkg*) threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

[table width](#) The table notes are created using a `\multicolumn`. By default the width is not

specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output:** 1 \LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]

The width is guessed depending on the number of columns, then limited to a min/max.

```

2 \renewcommand\insertTableNotes{%
3 \setlength{\LWR@templengthone}{.375in*\value{LWR@tabletotalLaTeXcols}}%
4 \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5 \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6 \multicolumn{\value{LWR@tabletotalLaTeXcols}}{c}{%
7 \parbox{\LWR@templengthone}{%
8 \begin{tablenotes}[\TPTL@optarg]%
9 \TPTL@font%
10 \TPTL@body%
11 \end{tablenotes}%
12 }%
13 }%
14 }

15 \providecommand{\TPTL@tnotex}{}
16 \renewcommand{\TPTL@tnotex}[2]{\tnote{\nameref{#2}}}
```

---

File 514 **lwarp-thumb.sty**

§ 626 Package **thumb**

`thumb (Pkg)` `thumb` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]

```

2 \newcommand*\Overviewpage{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

---

File 515 **lwarp-thumbs.sty**

§ 627 Package **thumbs**

`thumbs (Pkg)` `thumbs` is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

```

2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}

```

```

5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}


```

File 516 **lwarp-tikz.sty**

§ 628 Package **tikz**

(Emulates or patches code by TILL TANTAU.)

tikz (*Pkg*) tikz is supported.

 **displaymath and matrices** If using display math with tikzpicture or \tikz, along with matrices with the & character, the document must be modified as follows:

```

\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}

```

and each instance of & in the tikz expression must be replaced with \&.

Accept all options for lwarp-tikz:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

**catcodes** lwarp changes the catcode of \$ for its own use. The TikZ babel library temporarily changes catcodes back to normal for TikZ's use. tikz v3.0.0 introduced the babel library which handles catcode changes. For older versions, lwarp must change \$'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```

2 \newbool{LWR@tikzbabel}
3
4 \IfPackageAtLeastTF{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}

```

Env pgfpicture

The \pgfpicture environment is enclosed inside a \lateximage. Enclose the low-level \pgfpicture in a lateximage. This is also used by the higher-level \tikz and tikzpicture.

```

7 \preto\pgfpicture{%
8 \begin{lateximage}[-tikz-~\PackageDiagramAltText]?%
9 \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10 {}%
11 {\catcode`\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{lateximage}}

```



TikZ is placed inside an SVG image, so use the original meanings of the following:

```

15 \let\ltxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright

20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@large{\LWR@print@large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
27 \def\pgfutil@font@huge{\LWR@print@huge}
28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}

```

---

File 517 **lwarp-tikz-imagelabels.sty**

§ 629 Package **tikz-imagelabels**

*(Emulates or patches code by TOBIAS PLÜSS.)*

tikz-imagelabels (*Pkg*) tikz-imagelabels is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{tikz-imagelabels}[2019/06/27]

2 \BeforeBeginEnvironment{annotationimage}{%
3 \begin{lateximage}[-tikz-imagelabels-~\PackageDiagramAltText]?%
4 }
5
6 \AfterEndEnvironment{annotationimage}{\end{lateximage}}

```

---

File 518 **lwarp-titlesp.sty**

§ 630 Package **titlesp**

*(Emulates or patches code by JAVIER BEZOS.)*

titlesp (*Pkg*) titlesp is loaded and used by lwarp during HTML output. All user options and macros are ignored and disabled.

Discard all options for lwarp-titlesp:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titlesp}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the lwarp code.

```

---

|                              |                                                                                                                                                             |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\newpagestyle</code>   | <code>{&lt;name&gt;} [&lt;style&gt;] {&lt;commands&gt;}</code><br>2 <code>\NewDocumentCommand{\newpagestyle}{m o m}{}{}</code>                              |
| <code>\renewpagestyle</code> | <code>{&lt;name&gt;} [&lt;style&gt;] {&lt;commands&gt;}</code><br>3 <code>\NewDocumentCommand{\renewpagestyle}{m o m}{}{}</code>                            |
| <code>\sethead</code>        | <code>[&lt;el&gt;] [&lt;ec&gt;] [&lt;er&gt;] {&lt;ol&gt;} {&lt;oc&gt;} {&lt;or&gt;}</code><br>4 <code>\NewDocumentCommand{\sethead}{o o o m m m}{}{}</code> |
| <code>\setfoot</code>        | <code>[&lt;el&gt;] [&lt;ec&gt;] [&lt;er&gt;] {&lt;ol&gt;} {&lt;oc&gt;} {&lt;or&gt;}</code><br>5 <code>\NewDocumentCommand{\setfoot}{o o o m m m}{}{}</code> |
| <code>\settitlemarks</code>  | <code>* {&lt;names&gt;}</code><br>6 <code>\NewDocumentCommand{\settitlemarks}{s m}{}{}</code>                                                               |
| <code>\headrule</code>       | 7 <code>\newcommand*{\headrule}{}{}</code>                                                                                                                  |
| <code>\footrule</code>       | 8 <code>\newcommand*{\footrule}{}{}</code>                                                                                                                  |
| <code>\setheadrule</code>    | <code>{&lt;length&gt;}</code><br>9 <code>\newcommand*{\setheadrule}[1]{}{}</code>                                                                           |
| <code>\setfootrule</code>    | <code>{&lt;length&gt;}</code><br>10 <code>\newcommand*{\setfootrule}[1]{}{}</code>                                                                          |
| <code>\makeheadrule</code>   | 11 <code>\newcommand*{\makeheadrule}{}{}</code>                                                                                                             |
| <code>\makefootrule</code>   | 12 <code>\newcommand*{\makefootrule}{}{}</code>                                                                                                             |
| <code>\setmarkboth</code>    | <code>{&lt;code&gt;}</code><br>13 <code>\newcommand{\setmarkboth}[1]{}{}</code>                                                                             |
| <code>\widenhead</code>      | 14 <code>\NewDocumentCommand{\widenhead}{s o o m m}{}{}</code>                                                                                              |
| <code>\bottitlemarks</code>  | 15 <code>\newcommand*{\bottitlemarks}{}{}</code>                                                                                                            |

|                               |                                                                                                                                      |                                                                          |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <code>\toptitlemarks</code>   |                                                                                                                                      | 16 <code>\newcommand*\toptitlemarks{}</code>                             |
| <code>\firsttitlemarks</code> |                                                                                                                                      | 17 <code>\newcommand*\firsttitlemarks{}</code>                           |
| <code>\nexttitlemarks</code>  |                                                                                                                                      | 18 <code>\newcommand*\nexttoptitlemarks{}</code>                         |
| <code>\outertitlemarks</code> |                                                                                                                                      | 19 <code>\newcommand*\outertitlemarks{}</code>                           |
| <code>\innertitlemarks</code> |                                                                                                                                      | 20 <code>\newcommand*\innertitlemarks{}</code>                           |
| <code>\newtitlemark</code>    | <code>* {&lt;name&gt;}</code>                                                                                                        | 21 <code>\NewDocumentCommand{\newtitlemark}{s m}{}</code>                |
| <code>\pretitlemark</code>    | <code>* {&lt;section&gt;} {&lt;text&gt;}</code>                                                                                      | 22 <code>\NewDocumentCommand{\pretitlemark}{s m m}{}</code>              |
| <code>\ifsamemark</code>      | <code>{&lt;group&gt;} {&lt;command&gt;} {&lt;&gt;true&gt;} {&lt;&gt;false&gt;}</code>                                                | 23 <code>\newcommand{\ifsamemark}[4]{}</code>                            |
| <code>\setfloathead</code>    | <code>* [(&lt;.&gt;)] [(&lt;.&gt;)] [(&lt;.&gt;)] {(&lt;.&gt;)} {(&lt;.&gt;)} {(&lt;.&gt;)} {&lt;extra&gt;} [(&lt;which&gt;)]</code> | 24 <code>\NewDocumentCommand{\setfloathead}{s o o o m m m m m}{}</code>  |
| <code>\setfloatfoot</code>    | <code>* [(&lt;.&gt;)] [(&lt;.&gt;)] [(&lt;.&gt;)] {(&lt;.&gt;)} {(&lt;.&gt;)} {(&lt;.&gt;)} {&lt;extra&gt;} [(&lt;which&gt;)]</code> | 25 <code>\NewDocumentCommand{\setfloatfoot}{s o o o m m m m m}{}</code>  |
| <code>\nextfloathead</code>   | <code>* [(&lt;.&gt;)] [(&lt;.&gt;)] [(&lt;.&gt;)] {(&lt;.&gt;)} {(&lt;.&gt;)} {(&lt;.&gt;)} {&lt;extra&gt;} [(&lt;which&gt;)]</code> | 26 <code>\NewDocumentCommand{\nextfloathead}{s o o o m m m m m}{}</code> |
| <code>\nextfloatfoot</code>   | <code>* [(&lt;.&gt;)] [(&lt;.&gt;)] [(&lt;.&gt;)] {(&lt;.&gt;)} {(&lt;.&gt;)} {(&lt;.&gt;)} {&lt;extra&gt;} [(&lt;which&gt;)]</code> | 27 <code>\NewDocumentCommand{\nextfloatfoot}{s o o o m m m m m}{}</code> |
| <code>\newmarkset</code>      | <code>{&lt;markset&gt;}</code>                                                                                                       | 28 <code>\newcommand{\newmarkset}[1]{}</code>                            |
| <code>\newextramark</code>    | <code>* {&lt;markset&gt;} {&lt;macro-name&gt;}</code>                                                                                | 29 <code>\NewDocumentCommand{\newextramarkset}{s m m}{}</code>           |

|                               |                                                      |
|-------------------------------|------------------------------------------------------|
| <code>\botextramarks</code>   | <code>{\markset}</code>                              |
|                               | 30 <code>\newcommand{\botextramarks}[1]{}</code>     |
| <code>\topextramarks</code>   | <code>{\markset}</code>                              |
|                               | 31 <code>\newcommand{\topextramarks}[1]{}</code>     |
| <code>\firstextramarks</code> | <code>{\markset}</code>                              |
|                               | 32 <code>\newcommand{\firstextramarks}[1]{}</code>   |
| <code>\nextextramarks</code>  | <code>{\markset}</code>                              |
|                               | 33 <code>\newcommand{\nexttopextramarks}[1]{}</code> |
| <code>\outerextramarks</code> | <code>{\markset}</code>                              |
|                               | 34 <code>\newcommand{\outerextramarks}[1]{}</code>   |
| <code>\innerextramarks</code> | <code>{\markset}</code>                              |
|                               | 35 <code>\newcommand{\innerextramarks}[1]{}</code>   |

File 519 **lwarp-titleref.sty**§ 631 Package **titleref**

`titleref (Pkg)` `titleref` is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*\currenttitle{%
8 \addtocounter{LWR@currenttitle}{1}%
9 \label{currenttitle\arabic{LWR@currenttitle}}%
10 \nameref{currenttitle\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*\theTitleReference}[2]{}
```

File 520 **lwarp-titlesec.sty**§ 632 Package **titlesec**

*(Emulates or patches code by JAVIER BEZOS.)*

`titlesec (Pkg)` `titlesec` is emulated. All user options and macros are ignored and disabled.

Discard all options for `lwarp-titlesec`:

```

for HTML output: 1 \LWR@ProvidesPackageDrop{titlesec}[2016/03/21]
2
3 \newbool{LWR@loadtitleps}
4 \boolfalse{LWR@loadtitleps}
5
6 \DeclareOption{pagestyles}{
7 \booltrue{LWR@loadtitleps}
8 }
9
10 \DeclareOption*{}
11
12 \ProcessOptions\relax
13
14 \ifbool{LWR@loadtitleps}{
15 \RequirePackage{lwarp-titleps}
16 }{}

\titlelabel {<label-format>}
17 \newcommand*{\titlelabel}[1]{}

\titleformat* {<command>} {<format>}

\titleformat {<command>} [<shape>] {<format>} {<label>} {<sep>} {<before>} [<after>]
18 \newcommand\titleformat{%
19 \@ifstar{\ttl@format@s}%
20 {\ttl@format@i}}
21 \newcommand{\ttl@format@s}[1]{}
22 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{}

\chaptertitlename

23 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{}
24 \newcommand\chaptertitlename{\@chapapp}

\titlespacing * {<command>} {<left>} {<before>} {<after>} [<right>]
25 \NewDocumentCommand{\titlespacing}{s m m m m o}{}

\filright

26 \newcommand*{\filright}{}

\filcenter

27 \newcommand*{\filcenter}{}

\filleft

28 \newcommand*{\filleft}{}

\fillast

29 \newcommand*{\fillast}{}

```

---

```

\filinner

30 \newcommand*\filinner{}

\filouter

31 \newcommand*\filouter{}

\wordsep

32 \newcommand\wordsep{\fontdimen\tw@font \@plus
33 \fontdimen\thr@font \@minus \fontdimen4\font}

\titleline

* [align] {material}

34 \NewDocumentCommand{\titleline}{s o m}{}

\titlerule

[height]

35 \providecommand*\titlerule{\ifstar\ttl@row{\ttl@rule}}
36 \newcommand*\ttl@rule[1]{}
37 \newcommand*\ttl@row[2]{}

\iftitlemeasuring

{true} {false}

38 \newcommand{\iftitlemeasuring}[2]{#2}

\assignpagestyle

{command} {pagestyle}

39 \newcommand{\assignpagestyle}[2]{#2}

\titleclass

{name} [startlevel] {class} [cmd]

40 \NewDocumentCommand{\titleclass}{m o m o}{}

```

---

File 521 **lwarp-titletoc.sty**

§ 633 Package **titletoc**

(Emulates or patches code by JAVIER BEZOS.)

titletoc (*Pkg*) titletoc is emulated. All user options and macros are ignored and disabled.

Discard all options for lwarp-titletoc:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titletoc}[2011/12/15]

```

\dottedcontents

{section} [left] {above} {label} {leader}

2 \NewDocumentCommand{\dottedcontents}{m o m m}{}

\titlecontents

* {section} [left] {above} {numbered} {numberless} {filler} [below
or begin] [separator] [end]

3 \newcommand{\titlecontents}{\ifstar\ttl@tcstar{\ttl@tcnostar}}

```

4 \NewDocumentCommand{\ttl@tcstar}{m o m m m o o o}{}  
 5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m o}{}

\contentsmargin            [*<correction>*] {<right>}  
 6 \newcommand{\contentsmargin}[2][]{}

\thecontentslabel  
 7 \newcommand\*{\thecontentslabel}{thecontentslabel}

\thecontentspage  
 8 \newcommand\*{\thecontentspage}{thecontentspage}

\contentslabel            [*<format>*] {<space>}  
 9 \newcommand{\contentslabel}[2][]{\thecontentslabel}

\contentspage            [*<format>*]  
 10 \newcommand{\contentspage}[1][]{\thecontentspage}

\contentspush            {<text>}  
 11 \newcommand{\contentspush}[1]{}

\contentsuse            {<name>} {<text>}  
 12 \newcommand{\contentsuse}[2]{}

\startcontents            [*<name>*]  
 13 \newcommand\*{\startcontents}[1]{}

\stopcontents            [*<name>*]  
 14 \newcommand\*{\stopcontents}[1]{}

\resumecontents            [*<name>*]  
 15 \newcommand\*{\resumecontents}[1]{}

\printcontents            [*<name>*] {<prefix>} {<start>} {<code>}  
 16 \newcommand{\printcontents}[4]{}

\startlist            [*<name>*] {<list>}  
 17 \newcommand{\startlist}[2]{}

\stoplist            [*<name>*] {<list>}  
 18 \newcommand{\stoplist}[2]{}

\resumelist            [*<name>*] {<list>}

```
19 \newcommand{\resumelist}[2][{}]
```

\printlist

```
[<name>] {<list>} {<prefix>} {<code>}
```

```
20 \newcommand{\printlist}[4][{}]
```

File 522 **lwarp-titling.sty**

§ 634 Package **titling**

*(Emulates or patches code by PETER WILSON.)*

titling (*Pkg*)

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages  
**△ load order** authblk and titling. If both are used, authblk should be loaded before titling.

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 71.8.

The various titling footnote restyling commands have no effect.

Pass all options to lwarp-titling:

**for HTML output:** 1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

**\@bsmtitleempty** Patch \@bsmtitleempty:

```
2 \let\LWR@orig@bsmtitleempty\@bsmtitleempty
3 \renewcommand*\@bsmtitleempty}{%
4 \LWR@orig@bsmtitleempty%
5 }
```

**\keepthetitle** Patch \keepthetitle:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*\keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }
```

**\killtitle** Patch \killtitle:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*\killtitle}{%
12 \LWR@orig@killtitle%
13 }
```

titlingpage (*env.*)

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```



Prepare for a custom version of `\maketitle` inside the `titlingpage`:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the HTML titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the pre/post title/author/date to add HTML tags, then initialize:

```
24 \AtBeginDocument{
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}
33 }
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
34 \renewcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
35 \def\@makefnmark{\@thefnmark}%

 \thefootnote ⇒ \nameuse{arabic}{footnote}, or
 \thefootnote ⇒ \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
36 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
37 \makethanksmark~%

 \makethanksmark ⇒ \thanksfootmark ⇒ \tmark ⇒
 \@thefnmark ⇒ \itshape a (or similar)
```

Print the text:

```
38 {##1}%
39 }% \@makefntext
40 }
```

`\thanksfootmark`

```

41 \renewcommand{\thanksfootmark}{%
42 % \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43 \thanksscript{%
44 \thanksfootpre \tamark \thanksfootpost%
45 }%
46 % }%
47 }
```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
48 \renewcommand*\maketitle{%
```

An HTML titlepage `<div>` is used for all classes.

```
49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
50 \@bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
53 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
56 }
```

`\@maketitle` Typesets the title, etc. Patched for HTML.

```

57 \providecommand*\@maketitle{}
58 \renewrobustcmd*\@maketitle{%
59 \maketitlehooka
60 {
61 \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
62 \@bspretitle \@title \@bsposttitle%
63 \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
64 }
```

```

65 \maketitlehookb
66 {
67 \begin{BlockClass}{author}
68 \renewcommand{\and}{%
69 \end{BlockClass}%
70 \begin{BlockClass}{oneauthor}%
71 }
72 \begin{BlockClass}{oneauthor}%
73 \@bspreauthor \@author \@bspostauthor%
74 \end{BlockClass}%
75 \end{BlockClass}%
76 }
77 \maketitlehookc
78 {
79 \begin{BlockClass}{titledate}%
80 \@bspredate \@date \@bspostdate%
81 \end{BlockClass}%
82 }
83 \maketitlehookd
84 }

```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
85 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
86 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
87 \@bsmarkseries
```

Set up special patches:

```
88 \LWR@maketitlesetup
```

Typeset the title, etc:

```
89 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
90 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
91 \@bscontmark
```

```
92 }
```

`\thanksmarkseries` `{\series}`

Sets the type of footnote marks used by `\thanks`, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```
93 \renewcommand{\thanksmarkseries}[1]{%
```

```
94 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
```

```
95 }
```

Set default titlepage thanks footnote marks. See section [71.7](#).

```

96 \IfClassLoadedTF{memoir}{
97 \thanksmarkseries{arabic}
98 }{% not memoir
99 \if@titlepage
100 \thanksmarkseries{arabic}
101 \else
102 \thanksmarkseries{fnsymbol}
103 \fi
104 }{% not memoir

```

---

File 523 **lwarp-tocbasic.sty**

§ 635 Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

tocbasic (*Pkg*) tocbasic is nullified for lwarp.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{ }
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{ }
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{ }
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{ }
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{ }
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{ }
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{ }
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{ }
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{ }
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{ }
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{ }
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{ }
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{ }

```

---

File 524 **lwarp-tocbibind.sty**

§ 636 Package **tocbibind**

*(Emulates or patches code by PETER WILSON.)*

tocbibind (*Pkg*) tocbibind is patched for use by lwarp.

[placement and roc options](#) An index may be placed inline with other HTML text, or on its own HTML page:

makeidx (*Pkg*) **Inline, with a manual roc entry:**

A commonly-used method to introduce an index in a L<sup>A</sup>T<sub>E</sub>X document:

```

\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex

```

`makeidx (Pkg)` **On its own HTML page, with a manual TOC entry:**

```

\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex

```

`tocbibind (Pkg)` **Inline, with an automatic TOC entry:**

The `tocbibind` package may be used to automatically place an entry in the TOC.

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

`tocbibind (Pkg)` **On its own HTML page, with an automatic TOC entry:**

```

\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

`numindex (Opt)` [] **numbered index section** Use the `tocbibind` `numindex` option to generate a numbered index. Without this option, the index heading has no number.

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.

**for HTML output:**

```

1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6 \if@bibchapter
7 \if@donumindex
8 \chapter{\indexname}
9 \else
10 \if@dotocind
11 \chapter*{\indexname}
12 \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13 \else
14 \chapter*{\indexname}
15 \fi
16 \fi
17 \else
18 \if@donumindex
19 \section{\indexname}

```

```

20 \else
21 \if@dotocind
22 \section*{\indexname}
23 \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}
24 \else
25 \section*{\indexname}
26 \fi
27 \fi
28 \fi
29 \LetLtxMacro\item\LWR@indexitem%
30 \LetLtxMacro\subitem\LWR@indexsubitem%
31 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
32 }{}

```

The following code is shared by anonchap.

```

33 \DeclareDocumentCommand{\simplechapter}{0{\@empty}}{%
34 \def\@chapcntformat##1{%
35 #1~\csname the##1\endcsname\simplechapterdelim\quad%
36 }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{}{%
40 \let\@chapcntformat\@seccntformat%
41 }

```

---

File 525 **lwarp-tocdata.sty**

§ 637 Package **tocdata**

*(Emulates or patches code by BRIAN DUNN.)*

tocdata (*Pkg*) tocdata is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

```

2 \renewcommand*{\LWR@maybetocdata}{%
3 \ifdefempty{\TD@thistocdata}}{}%
4 \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5 \def\TD@thistocdata{}
6 }
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10 \InlineClass{authorartist}{%
11 \quad --- %
12 \TDoptionalnameprint{#1}\TDoptionalnameprint{#2}#3#4%
13 }%
14 }
15
16 \@ifundefined{chapter}{}{
17 \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint

```

```

20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*{\LWR@TD@settextalign}[1]{%
23 \def\LWR@TD@textalign{justify}%
24 \ifcsstring{TD@#1align}{\centering}%
25 {\def\LWR@TD@textalign{center}}%
26 {}%
27 \ifcsstring{TD@#1align}{\raggedleft}%
28 {\def\LWR@TD@textalign{right}}%
29 {}%
30 \ifcsstring{TD@#1align}{\raggedright}%
31 {\def\LWR@TD@textalign{left}}%
32 {}%
33 }
34
35 \renewcommand{\TDartistauthorprint}[5]{%
36 \LWR@TD@settextalign{#1}%
37 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38 \InlineClass{authorartist}{\TDoptionalnameprint{#2}\TDoptionalnameprint{#3}#4#5}%
39 \end{BlockClass}%
40 }
41
42 \newcommand*{\LWR@TD@setnamealign}[1]{%
43 \def\LWR@TD@textalign{justify}%
44 \ifcsstring{TD@#1textalign}{\centering}%
45 {\def\LWR@TD@textalign{center}}%
46 {}%
47 \ifcsstring{TD@#1textalign}{\raggedleft}%
48 {\def\LWR@TD@textalign{right}}%
49 {}%
50 \ifcsstring{TD@#1textalign}{\raggedright}%
51 {\def\LWR@TD@textalign{left}}%
52 {}%
53 }
54
55 \renewcommand{\TDartistauthortextprint}[2]{%
56 \LWR@TD@setnamealign{#1}%
57 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58 #2%
59 \end{BlockClass}%
60 }

```

---

File 526 **lwarp-tocenter.sty**

§ 638 Package **tocenter**

tocenter (*Pkg*) tocenter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

2 \NewDocumentCommand{\ToCenter}{s o m m}{ }
3 \NewDocumentCommand{\FromMargins}{s o m m m m}{ }

```





`\cftmarklot`13 `\newcommand*\cftmarklot{}``\cftlottitlefont`14 `\newcommand*\cftlottitlefont{}``\cftafterlottitle`15 `\newcommand*\cftafterlottitle{}`16 `\newlength{\cftbeforelottitleskip}`17 `\newlength{\cftafterlottitleskip}``\cftdot`18 `\providecommand*\cftdot{.}``\cftdotsep`19 `\providecommand*\cftdotsep{1}``\cftnodots`20 `\providecommand*\cftnodots{5000}``\cftdotfill``{\sep}`21 `\providecommand{\cftdotfill}[1]{}``\cftsetpnumwidth``{\length}`22 `\DeclareDocumentCommand{\cftsetpnumwidth}{m}{}``\cftsetrmarg``{\length}`23 `\DeclareDocumentCommand{\cftsetrmarg}{m}{}``\cftpnumalign``{\alignment}`24 `\DeclareDocumentCommand{\cftpnumalign}{m}{}`25 `\LWR@providelength{\cftparskip}`

The part-related items are also provided by memoir:

26 `\LWR@providelength{\cftbeforepartskip}`27 `\LWR@providelength{\cftpartindent}`28 `\LWR@providelength{\cftpartnumwidth}`29 `\providecommand*\cftpartfont{}`30 `\providecommand*\cftpartpresnum{}`31 `\providecommand*\cftpartaftersnum{}`32 `\providecommand*\cftpartaftersnumb{}`33 `\providecommand*\cftpartleader{}`

```

34 \providecommand*\cftpardotsep}{1}
35 \providecommand*\cftpardpagefont}{}
36 \providecommand*\cftpardafterpnum}{}

```

memoir uses the full name “chapter” instead of “chap”:

```

37 \LWR@providelength{\cftbeforechapskip}
38 \LWR@providelength{\cftchapindent}
39 \LWR@providelength{\cftchapnumwidth}
40 \newcommand*\cftchapfont}{}
41 \newcommand*\cftchappresnum}{}
42 \newcommand*\cftchapaftersnum}{}
43 \newcommand*\cftchapaftersnumb}{}
44 \newcommand*\cftchapleader}{}
45 \newcommand*\cftchapdotsep}{1}
46 \newcommand*\cftchappagefont}{}
47 \newcommand*\cftchapafterpnum}{}

```

The following do not appear in memoir:

```

48 \LWR@providelength{\cftbeforesecskip}
49 \LWR@providelength{\cftsecindent}
50 \LWR@providelength{\cftsecnumwidth}
51 \newcommand*\cftsecfont}{}
52 \newcommand*\cftsecpresnum}{}
53 \newcommand*\cftsecaftersnum}{}
54 \newcommand*\cftsecaftersnumb}{}
55 \newcommand*\cftsecleader}{}
56 \newcommand*\cftsecdotsep}{1}
57 \newcommand*\cftsecpagefont}{}
58 \newcommand*\cftsecafterpnum}{}

59 \LWR@providelength{\cftbeforesubsecskip}
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*\cftsubsecfont}{}
63 \newcommand*\cftsubsecpresnum}{}
64 \newcommand*\cftsubsecaftersnum}{}
65 \newcommand*\cftsubsecaftersnumb}{}
66 \newcommand*\cftsubsecleader}{}
67 \newcommand*\cftsubsecdotsep}{1}
68 \newcommand*\cftsubsecpagefont}{}
69 \newcommand*\cftsubsecafterpnum}{}

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*\cftsubsubsecfont}{}
74 \newcommand*\cftsubsubsecpresnum}{}
75 \newcommand*\cftsubsubsecaftersnum}{}
76 \newcommand*\cftsubsubsecaftersnumb}{}
77 \newcommand*\cftsubsubsecleader}{}
78 \newcommand*\cftsubsubsecdotsep}{1}
79 \newcommand*\cftsubsubsecpagefont}{}
80 \newcommand*\cftsubsubsecafterpnum}{}

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparaindent}
83 \LWR@providelength{\cftparanumwidth}

```

```
84 \newcommand*\cftparafont{}
85 \newcommand*\cftparapresnum{}
86 \newcommand*\cftparaaftersnum{}
87 \newcommand*\cftparaaftersnumb{}
88 \newcommand*\cftparaaleader{}
89 \newcommand*\cftparadotsep}{1}
90 \newcommand*\cftparapagefont{}
91 \newcommand*\cftparaafterpnum{}

92 \LWR@providelength{\cftbeforesubparaskip}
93 \LWR@providelength{\cftsubparaindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*\cftsubparafont{}
96 \newcommand*\cftsubparapresnum{}
97 \newcommand*\cftsubparaaftersnum{}
98 \newcommand*\cftsubparaaftersnumb{}
99 \newcommand*\cftsubparaleader{}
100 \newcommand*\cftsubparadotsep}{1}
101 \newcommand*\cftsubparapagefont{}
102 \newcommand*\cftsubparaafterpnum{}

103 \LWR@providelength{\cftbeforefigskip}
104 \LWR@providelength{\cftfigindent}
105 \LWR@providelength{\cftfignumwidth}
106 \newcommand*\cftfigfont{}
107 \newcommand*\cftfigpresnum{}
108 \newcommand*\cftfigaftersnum{}
109 \newcommand*\cftfigaftersnumb{}
110 \newcommand*\cftfigleader{}
111 \newcommand*\cftfigdotsep}{1}
112 \newcommand*\cftfigpagefont{}
113 \newcommand*\cftfigafterpnum{}

114 \LWR@providelength{\cftbeforesubfigskip}
115 \LWR@providelength{\cftsubfigindent}
116 \LWR@providelength{\cftsubfignumwidth}
117 \newcommand*\cftsubfigfont{}
118 \newcommand*\cftsubfigpresnum{}
119 \newcommand*\cftsubfigaftersnum{}
120 \newcommand*\cftsubfigaftersnumb{}
121 \newcommand*\cftsubfigleader{}
122 \newcommand*\cftsubfigdotsep}{1}
123 \newcommand*\cftsubfigpagefont{}
124 \newcommand*\cftsubfigafterpnum{}

125 \LWR@providelength{\cftbeforetabskip}
126 \LWR@providelength{\cfttabindent}
127 \LWR@providelength{\cfttabnumwidth}
128 \newcommand*\cfttabfont{}
129 \newcommand*\cfttabpresnum{}
130 \newcommand*\cfttabaftersnum{}
131 \newcommand*\cfttabaftersnumb{}
132 \newcommand*\cfttableader{}
133 \newcommand*\cfttabdotsep}{1}
134 \newcommand*\cfttabpagefont{}
135 \newcommand*\cfttabafterpnum{}

136 \LWR@providelength{\cftbeforesubtabskip}
137 \LWR@providelength{\cftsubtabindent}
```

```

138 \LWR@providelength{\cftsubtabnumwidth}
139 \newcommand*{\cftsubtabfont}{}
140 \newcommand*{\cftsubtabpresnum}{}
141 \newcommand*{\cftsubtabaftersnum}{}
142 \newcommand*{\cftsubtabaftersnumb}{}
143 \newcommand*{\cftsubtableader}{}
144 \newcommand*{\cftsubtabdotsep}{1}
145 \newcommand*{\cftsubtabpagefont}{}
146 \newcommand*{\cftsubtabafterpnum}{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m}{}

148 \providecommand{\cftpagenumbersoff}[1]{}
149 \providecommand{\cftpagenumberson}[1]{}

```

\newlistentry

```

 [within] {counter} {ext} {level-1}

150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155 \@ifundefined{c@#2}{%
156 \newcounter{#2}[#1]%
157 \expandafter\edef\csname the#2\endcsname{%
158 \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159 }%
160 }{}%
161 }%
162 {%
163 \@ifundefined{c@#2}{%
164 \newcounter{#2}%
165 }{}%
166 }%
167 \@namedef{l@#2}##1##2{%
168 \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169 \def\cftwhatismyname{#2}% from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%
181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}##1{}%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

\newlistof

```

 [within] {type} {ext} {listofname}

Emulated through the \newfloat mechanism.

186 \DeclareDocumentCommand{\newlistof}{o m m m}

```

```

187 {%
188 \IfValueTF{#1}%
189 {\newlistentry[#1]{#2}{#3}{0}}%
190 {\newlistentry{#2}{#3}{0}}%
191 \@namedef{ext@#2}{#3}%
192 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
193 \setcounter{#3depth}{1}%
194 \@namedef{cftmark#3}{}%
195 \@namedef{listof#2}{\LWR@listof{#2}{#4}}%
196 \@namedef{@cftmake#3title}{}%
197 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
199 \@namedef{cft#3titlefont}{}%
200 \@namedef{cftafter#3title}{}%
201 \@namedef{cft#3prehook}{}%
202 \@namedef{cft#3posthook}{}%
203 }

```

\cftchapterprecis

{*text*}

```

204 \newcommand{\cftchapterprecis}[1]{%
205 \cftchapterprecishere{#1}
206 \cftchapterprecistoc{#1}}
207 \newcommand{\cftchapterprecishere}[1]{%
208 \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{
210 \addtocontents{toc}{%
211 {
212 \protect\begin{quote}#1\protect\end{quote}}
213 }
214 }

```

---

File 528 **lwarp-tocstyle.sty**

§ 640 Package **tocstyle**

tocstyle (*Pkg*) tocstyle is ignored.

⚠ **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*\usetocstyle[2]{}
3 \newcommand*\deactivatetocstyle[1]{}
4 \newcommand*\reactivatetocstyle[1]{}
5 \NewDocumentCommand{\settocfeature}{o o m m}{}
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}
8 \newcommand*\alialstoc[2]{}
9 \newcommand*\showtoc[2]{}
10 \newcommand{\iftochasdepth}[4]{}

```

---

File 529 **lwarp-todo.sty**

§ 641 Package **todo**

(Emulates or patches code by FEDERICO GARCIA.)

todo (*Pkg*) todo is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{todo}[2010/03/31]
2 \renewcommand\todoitem[2]{%
3 \refstepcounter{todo}%
4 \item[%
5 \HTMLunicode{2610} \quad%
6 \ref{todopage:\thetodo}
7] : {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
8 \label{todo\lbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
12 \stepcounter{todo}%
13 \item[%
14 \HTMLunicode{2611} \quad%
15 \ref{todopage:\thetodo}
16] \@nameuse{@done\the\c@todo}:
17 {\todoformat\ifx#1\todotmark\else\textbf{#1} \fi}#2%
18 }
```

The following are not errors because the code will still compile and be usable if the patch is not possible.

```

19 \xpatchcmd{\@displaytodo}
20 {\todoformat #1}{\todoformat \textbf{#1}}{}
21 {\PackageWarning{lwarp-todo}{Unable to patch @displaytodo.}}
22
23 \xpatchcmd{\@displayfulltodo}
24 {\todoformat #1}{\todoformat \textbf{#1}}{}
25 {\PackageWarning{lwarp-todo}{Unable to patch @displayfulltodo.}}
26
27 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}
28 {\PackageWarning{lwarp-todo}{Unable to patch todoenv.}}
29
30 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{}
31 {\PackageWarning{lwarp-todo}{Unable to patch astodos.}}
```

If `cleveref` is in use, name the new todo notes:

```

32 \AtBeginDocument{
33 \ifdef{\crefname}{
34 \crefname{todo}{todo}{todos}
35 \Crefname{todo}{Todo}{Todos}
36 }{}
37 }
```

File 530 **lwarp-todonotes.sty**

§ 642 Package **todonotes**

*(Emulates or patches code by HENRIK SKOV MIDTIBY.)*

todonotes (*Pkg*) todonotes is emulated.

The documentation for todonotes and luatodonotes have an example with a todo inside a caption. If this example does not work it will be necessary to move the todo outside of the caption.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{ldo}{#1}{#2}}

8 \let\LWRTODONOTES@orig@todototoc\todototoc
9
10 \renewcommand*\todototoc{%
11 \LWR@phantomsection%
12 \LWRTODONOTES@orig@todototoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{
16 \fcolorbox
17 {\@todonotes@currentbordercolor}
18 {\@todonotes@currentbackgroundcolor}
19 {\arabic{\@todonotes@numberoftodonotes}}
20 \marginpar{\@todonotes@drawMarginNote}
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25 {\@todonotes@currentbordercolor}%
26 {\@todonotes@currentbackgroundcolor}%
27 {%
28 \if@todonotes@authorgiven%
29 {\@todonotes@author:\,}%
30 \fi%
31 \@todonotes@text%
32 }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36 \if@todonotes@authorgiven%
37 \@todonotes@author\par%
38 \fi%
39 \arabic{\@todonotes@numberoftodonotes}: %
40 \fcolorbox%
41 {\@todonotes@currentbordercolor}%

```

```

42 {\@todonotes@currentbackgroundcolor}%
43 {%
44 \@todonotes@sizecommand%
45 \@todonotes@text %
46 }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{}
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{}
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57 {\@todonotes@currentbordercolor}%
58 {\@todonotes@currentfigcolor}%
59 {%
60 \setlength{\fboxrule}{4pt}%
61 \fcolorbox{red}{white}{Missing figure} \quad #2%
62 }
63 }
64
65 \LetLtxMacro\LWRTODONOTES@orig@todo\@todo
66
67 \RenewDocumentCommand{\@todo}{o m}{%
68 \begingroup%
69 \renewcommand*\phantomsection{}%
70 \IfValueTF{#1}{%
71 \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73 \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endgroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

---

File 531 **lwarp-topcapt.sty**

§ 643 Package **topcapt**

topcapt (*Pkg*) topcapt is emulated.


**for HTML output:** 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]  
 2 \LetLtxMacro\topcaption\caption

---

File 532 **lwarp-tram.sty**

§ 644 Package **tram**

tram (*Pkg*) tram is emulated.

 **block only** The HTML emulation uses a <div>, which must not appear inside an HTML <span>



or an HTML paragraph. For this reason, the `tram` environment should only be used to contain paragraphs inside a `\parbox` or `minipage`. `tram` should not be used to mark up inline text.

To disable `tram`, allowing source compatibility with inline uses:

```
\begin{warpHTML}
\renewenvironment{tram}[1][\]{\}
\end{warpHTML}
```

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

2 \newenvironment{tram}[1][\]%
3 {\BlockClass[background:lightgray]{tram}}
4 {\endBlockClass}
```

---

File 533 **lwarp-transparent.sty**

§ 645 Package **transparent**

*(Emulates or patches code by HEIKO OBERDIEK.)*

`transparent (Pkg)` `transparent` is emulated. `\texttransparent` works for inline objects. `\transparent` only works for `\includegraphics`.

 **Not X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X!** Note that `transparent` does not work with X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]

2 \newcommand*{\LWR@HTML@transparent}[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*{\LWR@HTML@texttransparent}[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}
```

---

File 534 **lwarp-trimclip.sty**

§ 646 Package **trimclip**

`trimclip (Pkg)` `trimclip` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]
```

The third argument, the text, is not touched. This allows `\bgroup / \egroup`, and verbatim content.

```

2 \csdef{trimbox}{\@ifstar\@gobble\@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}
9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}

```

File 535 **lwarp-trivfloat.sty**

§ 647 Package **trivfloat**

*(Emulates or patches code by JOSEPH WRIGHT.)*

`trivfloat (Pkg)` `trivfloat` is forced to use the built-in `lwarp` emulation for floats.

To create a new float type and change its name:

---

```

\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}

```

---

Discard all options for `lwarp-trivfloat`. This tells `trivfloat` not to use `floatrow` or `memoir`.

```

1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}

```

`\tfl@chapter@fix` Nullified at the beginning of the document. Is used by `trivfloat` to correct float chapter numbers, but is not needed for `lwarp`.

```

3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}

```

### § 647.1 **Combining `\newfloat`, `\trivfloat`, and `algorithmicx`**

**For both print and HTML output:**



When using `float`, `trivfloat`, or `algorithmicx` at the same time, be aware of conflicting file usage. `algorithmicx` uses `.loa`. `trivfloat` by default starts with `.loa` and goes up for additional floats, skipping `.lof` and `.lot`.



When using `\newfloat`, be sure to manually assign higher letters to the `\newfloat` files to avoid `.loa` used by `algorithmicx`, and any files used by `trivfloat`. Also avoid using `.lof` and `.lot`.



When using `\trivfloat`, you may force it to avoid conflicting with `algorithmicx` by starting `trivfloat`'s file extensions with `.lob`:

---

```

\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter

```

---



---

File 536 **lwarp-truncate.sty**

§ 648 Package **truncate**

truncate (*Pkg*) truncate is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]

```

2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}

```

---

File 537 **lwarp-turnthepage.sty**

§ 649 Package **turnthepage**

turnthepage (*Pkg*) turnthepage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

```

2 \newcommand{\turnthepage}{}

```

---

File 538 **lwarp-twoup.sty**

§ 650 Package **twoup**

twoup (*Pkg*) twoup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]

```

2 \newcommand{\clearlastpage}{}

```

---

File 539 **lwarp-txfonts.sty**

§ 651 Package **txfonts**

*(Emulates or patches code by YOUNG RYU.)*

txfonts (*Pkg*) txfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{txfonts}
6
7 \LWR@mathjax@addgreek@l@up[]{}{}
8 \end{warpMathJax}
```

---

File 540 **lwarp-txgreeks.sty**

§ 652 Package **txgreeks**

(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)

txgreeks (*Pkg*) txgreeks is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors all package options.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{txgreeks}[2011/03/16]
2
3 \LWR@infoprocessingmathjax{txgreeks}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7 \iftgs@uplower% upright lowercase Greek
8 \LWR@mathjax@addgreek@l@up[]{}{}
9 \LWR@mathjax@addgreek@l@it{other}{}
10 \else% italic lowercase Greek
11 \LWR@mathjax@addgreek@l@it[]{}{}
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \fi
14
15 \iftgs@itupper % italic uppercase Greek
16 \LWR@mathjax@addgreek@u@it*{}{}
17 \LWR@mathjax@addgreek@u@up*{other}{}
18 \LWR@mathjax@addgreek@u@up*{var}{}
19 \else% upright uppercase Greek
20 \LWR@mathjax@addgreek@u@up*{}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 \LWR@mathjax@addgreek@u@it*{var}{}
23 \fi
24 \end{warpMathJax}
```

---

File 541 **lwarp-typearea.sty**

§ 653 Package **typearea**

(Emulates or patches code by MARKUS KOHM.)

typearea (*Pkg*) typearea is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\recalctypearea}{}{}
4 \@ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

```

---

File 542 **lwarp-typicons.sty**

§ 654 Package **typicons**

*(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAU.)*

`typicons` (*Pkg*) `typicons` is patched for use by `lwarp`.

If `\ticon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7 \begin{lateximage}*[typicon][typicon#1]%
8 \begingroup%
9 \LWR@orig@typicon@TI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16 \LetLtxMacro\symbol\LWR@typicon@symbol%
17 }
18
19 \renewcommand*{\ticon}[1]
20 {%
21 \begin{lateximage}*[#1 icon]?[typicon#1]%
22 \TI\csname ticon@#1\endcsname%
23 \end{lateximage}%
24 }

```

File 543 **lwarp-ulem.sty**

§ 655 Package **ulem**

*(Emulates or patches code by DONALD ARSENEAU.)*

ulem (*Pkg*) Patched for use by lwarp.

**for HTML output:** Use the original package:

```
1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

Basic markup commands, using css:

```
2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3 \InlineClass%
4 (text-decoration:underline; text-decoration-skip: auto)%
5 {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10 \InlineClass%
11 (%
12 text-decoration:underline; text-decoration-skip: auto;%
13 text-decoration-style:double%
14)%
15 {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20 \InlineClass%
21 (%
22 text-decoration:underline; text-decoration-skip: auto;%
23 text-decoration-style:wavy%
24)%
25 {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30 \InlineClass%
31 (text-decoration:line-through)%
32 {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
37 \InlineClass%
38 (text-decoration:line-through)%
39 {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
```

```

44 \InlineClass%
45 (%)
46 text-decoration:underline;%
47 text-decoration-skip: auto;%
48 text-decoration-style:dashed%
49)%
50 {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
55 \InlineClass%
56 (%)
57 text-decoration:underline;%
58 text-decoration-skip: auto;%
59 text-decoration-style: dotted%
60)%
61 {dotuline}{\LWR@isolate{#1}}%
62 }
63 \LWR@formatted{dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{ }
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
68 \LWR@formatted{ULon}

```

---

File 544 **lwarp-umoline.sty**

§ 656 Package **umoline**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

umoline (*Pkg*) **umoline** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]
2 \newcommand*{\LWR@HTML@Underline}[1]{%
3 \InlineClass{uline}{#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*{\LWR@HTML@Midline}[1]{%
8 \InlineClass{sout}{#1}%
9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*{\LWR@HTML@Overline}[1]{%
13 \InlineClass{oline}{#1}%
14 }
15 \LWR@formatted{Overline}
16
17 \newcommand*{\LWR@HTML@UMOLine}[2]{%
18 \InlineClass{uline}{#2}%
19 }

```

```

20 \LWR@formatted{UMoline}
21
22 \NewDocumentCommand{\LWR@HTML@UMospace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMospace}
24
25 \NewDocumentCommand{\LWR@HTML@UMonewline}{s}{\newline}
26 \LWR@formatted{UMonewline}

```

---

File 545 **lwarp-underscore.sty**

§ 657 Package **underscore**

underscore (*Pkg*) underscore is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]


---

File 546 **lwarp-unicode-math.sty**


§ 658 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

unicode-math (*Pkg*) unicode-math is supported as-is for HTML with SVGmath.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for *pdftotext*, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MATHJAX, especially with the dedicated Greek macros. Symbol macros such as `\symbfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors `upright` and `italic`, but `italic` will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\symbit` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:



```

\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
...
\end{warpMathJax}

```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see **texdoc unimath-symbols**.

for HTML output:

```

1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\sybbb\mathbb}
11 \CustomizeMathJax{\let\sybbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrac\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\sybfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\sybfsf}[1]{%
25 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\sybfup\mathbf}
29 \CustomizeMathJax{\newcommand{\sybfup}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\sybfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\sybfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\sybfscr}[1]{%
34 % \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\sybffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\sybffrak}[1]{%
39 % \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
41
42 \CustomizeMathJax{\let\sybfsfup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\sybfsfup}[1]{%
44 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\sybfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\sybfsfit}[1]{%
49 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
50 % }

```

```

51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\sympbf\mathbf}% \sympbfup defined above
55 \CustomizeMathJax{\let\symit\mathit}
56 % \CustomizeMathJax{\let\sympfit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60 {\CustomizeMathJax{\let\symsf\symsfup}}
61 {
62 \bool_if:NTF \g__um_upsans_bool
63 {\CustomizeMathJax{\let\symsf\symsfup}}
64 {\CustomizeMathJax{\let\symsf\symsffit}}
65 }
66 }
67 \ExplSyntaxOff

68 % \CustomizeMathJax{\let\sympbfsfup\mathbf}% not sans
69 % \CustomizeMathJax{\let\symsffit\mathit}% not sans
70 % \CustomizeMathJax{\let\sympbfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72 % \CustomizeMathJax{\let\sympbb\mathbb}
73 % \CustomizeMathJax{\let\sympbbi\mathbb}% not italic
74 % \CustomizeMathJax{\let\symscr\mathscr}
75 % \CustomizeMathJax{\let\sympfscr\mathscr}% not bold
76 % \CustomizeMathJax{\let\sympfrak\mathfrak}
77 \CustomizeMathJax{\let\sympffrac\mathbffrac}

```

Some symbol categories defined by unicode-math, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}

```

`math-style` is one of: `ISO`, `TeX`, `french`, `upright`, or `literal`, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```

84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88 {\LWR@mathjax@addgreek@u@up*{}{}}
89 {\LWR@mathjax@addgreek@u@it*{}{}}
90
91 \bool_if:NTF \g__um_upgreek_bool
92 {\LWR@mathjax@addgreek@l@up{}{}}
93 {\LWR@mathjax@addgreek@l@it{}{}}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{ }
97 \LWR@mathjax@addgreek@u@it*{it}{ }
98 \LWR@mathjax@addgreek@l@up{up}{ }

```

```

99 \LWR@mathjax@addgreek@l@it{it}{ }
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen()}
104 \CustomizeMathJax{\let\lparen)}
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\,\,^3\!\!\sqrt{#1}}\,}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\,\,^4\!\!\sqrt{#1}}\,}

```

Many `\mathopen`/`\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left`/`\right` support is added.

```

107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner{#1}\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner{#1}\lrcorner}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverlay}[1]{\mathord{#1\unicode{x020D2}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
133 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}

```

```

155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rppolint}{\mathop{\unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabichad}{\mathop{\unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

---

File 547 **lwarp-units.sty**

§ 659 Package **units**

*(Emulates or patches code by AXEL REICHERT.)*

`units` (*Pkg*) `units` is patched for use by `lwarp`.

Values are not styled by CSS, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body CSS to match the print version.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][]{%
3 \ifblank{#1}%
4 {\LWR@textcurrentfont{#2}}%
5 {%
6 #1%
7 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
8 \LWR@textcurrentfont{#2}}%
9 }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][]{%
13 \ifblank{#1}%
14 {%
15 \nicefrac{#2}{#3}%
16 }%

```

```

17 {%
18 #1%
19 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
20 \nicefrac{#2}{#3}%
21 }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For MATHJAX:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{#1 \mathinner{#2}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{#1 \mathinner{{}^{\#2}\!/_{\#3}}}}
28 \end{warpMathJax}

```

---

File 548 **lwarp-unitsdef.sty**

§ 660 Package **unitsdef**

*(Emulates or patches code by PATRICK HAPPEL.)*

unitsdef (*Pkg*) unitsdef is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]
2 \newcommand{\LWR@HTML@unitvaluesep}{\,%
3 \LWR@formatted{unitvaluesep}
4
5 \newcommand{\LWR@HTML@unittimes}{\@@setunitsepfalse\HTMLUnicode{22c5}}% \cdot
6 \LWR@formatted{unittimes}
7
8 \newunit{\LWR@HTML@arcmin}{%
9 \HTMLUnicode{2032}% prime
10 }
11 \LWR@formatted{arcmin}
12
13 \newunit{\LWR@HTML@arcsec}{%
14 \HTMLUnicode{2033}% dbl prime
15 }
16 \LWR@formatted{arcsec}
17
18 \newrobustcmd{\LWR@HTML@SI}[2]{%
19 \begingroup%
20 \let\unit@xspace\relax%
21 \unitSIdef\selectfont%
22 \LWR@textcurrentfont{#1#2}% lwarp
23 \endgroup%
24 }
25 \LWR@formatted{SI}

```

---

File 549 **lwarp-upgreek.sty**

§ 661 Package **upgreek**

*(Emulates or patches code by WALTER SCHMIDT.)*

upgreek (*Pkg*) upgreek is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{upgreek}}
4 \end{warpMathJax}
```

---

File 550 **lwarp-upref.sty**

§ 662 Package **upref**

upref (*Pkg*) upref is ignored.

**for HTML output:** Discard all options for lwarp-upref:

```
1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]
```

---

File 551 **lwarp-url.sty**

§ 663 Package **url**

*(Emulates or patches code by DONALD ARSENEAU.)*

url (*Pkg*) url is patched for use by lwarp.

**for HTML output:**

```
1 \LetLtxMacro\LWR@url@orig@url\LWR@url
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*\LWR@HTML@Url@FormatString}{%
5 \expandafter\LWR@url@orig@url\expandafter{\Url@String}%
6 }
7 \LWR@formatted{Url@FormatString}
```

---

File 552 **lwarp-ushort.sty**

§ 664 Package **ushort**

*(Emulates or patches code by MARTIN VÄTH.)*

ushort (*Pkg*) ushort is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%
4 \kern{.1em}\underline{\underline{#1}}\kern{.1em}%
5 }}
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{#1}}}
10 \end{warpMathJax}

```

---

File 553 **lwarp-ospace.sty**

§ 665 Package **ospace**

ospace (*Pkg*) ospace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ospace}[2016/11/06]

---

File 554 **lwarp-varioref.sty**

§ 666 Package **varioref**

*(Emulates or patches code by FRANK MITTELBACH.)*

varioref (*Pkg*) varioref is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```

2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter {\unskip}%
5 \def\reftextbefore {\unskip}%
6 \def\reftextcurrent {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%

```

---

File 555 **lwarp-verse.sty**

§ 667 Package **verse**

*(Emulates or patches code by PETER WILSON.)*

verse (*Pkg*) verse is supported and patched by lwarp.

**for HTML output:** Pass all options for lwarp-verse:

1 \LWR@ProvidesPackagePass{verse}[2009/09/04]

When using `verse` or `memoir`, always place a `\\` after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

`\leftskip` (*Len*) These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

⚠ **spacing** Horizontal spacing relies on *pdftotext*’s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which

⚠ **verse margin** case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

`verse` (*env.*) The `verse` environment will be placed inside a HTML `<pre>`.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the `verse` environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original `list` environment inside a `<pre>` to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

`verse` (*Pkg*) The `verse` or `memoir` packages can place stanza numbers to the left with their `\flagverse` command. The following does not allow them to go into the left margin, which would cause *pdfcrop* to crop the entire page further to the left.

```
\leftskip (Len) 7 \ifdef{\leftskip}{%
8 \setlength{\leftskip}{\HTMLleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```



After the end of the verse environment, which places the <pre> tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place poemtitle inside an HTML <span> of class poemtitle:

```
18 \ifdef{\poemtitle}{
19 \DeclareDocumentCommand{\@vstypeptitle}{m}{%
20 \vspace{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \vspace{\afterpoemtitleskip}%
23 }
24 }{}
25
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble
```

---

File 556 **lwarp-versednotes.sty**

§ 668 Package **versednotes**

*(Emulates or patches code by NORMAN GRAY.)*

versednotes (*Pkg*) **versednotes** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{versednotes}[2019/07/06]

```
2 \newcommand{\versednote}[1]{\marginpar{#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*\versolayout{}
```

In case the user changed the page number before loading versednotes:

```
6 \setcounter{page}{1}
```

---

File 557 **lwarp-vertbars.sty**

§ 669 Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

vertbars (*Pkg*) **vertbars** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```
2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
```

```

5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8 \LWR@forcenewpage
9 \LWR@forceminwidth{\barwidth}
10 \begin{BlockClass}[%
11 border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12 padding-left: \LWR@printlength{\barspace}%
13]{vertbar}
14 }{
15 \end{BlockClass}
16 }

```

---

File 558 **lwarp-vmargin.sty**

§ 670 Package **vmargin**

`vmargin (Pkg)` vmargin is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

```

2 \newcommand*\LWRVM@customsize[2]{}
3 \newcommand*\setpapersize[2][\ifstrequal{#2}{custom}{\LWRVM@customsize}{}
4 \newcommand*\setmargins[8]{}
5 \newcommand*\setmarginsrb[8]{}
6 \newcommand*\setmargnohf[4]{}
7 \newcommand*\setmargnohfrb[4]{}
8 \newcommand*\setmarg[4]{}
9 \newcommand*\setmargrb[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape

```

---

File 559 **lwarp-vowel.sty**

§ 671 Package **vowel**

*(Emulates or patches code by FUKUI REI.)*

`vowel (Pkg)` vowel is patched for use by lwarp.

This package has been tested with *pdf<sub>l</sub>atex* and the Type 1 TIPA fonts using the following package load sequence:

```

\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}

```

**for HTML output:** 1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

```

2 \renewenvironment{vowel}[1][
3 {%
4 \begin{lateximage}[-vowel--\PackageDiagramAltText]?%
5 \@vowel[#1]%
6 }
7 {%
8 \@vowel%
9 \end{lateximage}%
10 }

```

---

File 560 **lwarp-vpe.sty**

§ 672 Package **vpe**

*vpe* (*Pkg*) **vpe** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

---

File 561 **lwarp-vwcol.sty**

§ 673 Package **vwcol**

*(Emulates or patches code by WILL ROBERTSON.)*

*vwcol* (*Pkg*) **vwcol** is patched for use with **lwarp**.

The **width** option is ignored. All **vwcol** environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for **lines** and **maxrecursion**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from **\vwcol**. Each is given a style tag to append to the final style.

```

\LWR@vwcol@addrule {<style tag>}

2 \newcommand*{\LWR@vwcol@addrule}[1]{%
3 \appto{\LWR@vwcolstyle}{%
4 #1: %
5 \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
6 }%
7 }

```

```

\LWR@vwcol@addrule {<style tag>}

8 \newcommand*{\LWR@vwcol@addgap}[1]{%
9 \appto{\LWR@vwcolstyle}{%
10 #1: %
11 \LWR@printlength{\vwcol@sep} ; %
12 }%
13 }

```

Env vwcol

*{<key/values>}*

Redefine the environment to add a HTML style. The style is built depending on the required options.

```
14 \renewenvironment*{vwcol}[1][]{%
```

New paragraph, and process the options:

```
15 \LWR@stoppars%
16 \vwcolsetup{#1}%
```

Begin with no style:

```
17 \newcommand*{\LWR@vwcolstyle}{}
```

presep and postsep are created with HTML margins:

```
18 \if@vwcol@presep
19 \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22 \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi
```

sep becomes column-gap:

```
24 \ifdimgreater{\vwcol@sep}{1sp}{
25 \LWR@vwcol@addgap{column-gap}
26 \LWR@vwcol@addgap{-moz-column-gap}
27 \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}
```

rule become column-rule, while prerule and postrule become HTML borders:

```
29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31 \ifdimless{\vwcol@rule}{1pt}{
32 \setlength{\vwcol@rule}{1pt}
33 }{ }
34 \LWR@vwcol@addrule{column-rule}
35 \LWR@vwcol@addrule{-moz-column-rule}
36 \LWR@vwcol@addrule{-webkit-column-rule}
37 \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38 \if@vwcol@postrule\LWR@vwcol@addrule{border-right}\fi
39 }{ }
```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```
40 \ifdefequal{\vwcol@justify}{\RaggedRight}{
41 \appto{\LWR@vwcolstyle}{text-align: left ; }
42 \ifdimgreater{\vwcol@parindent}{0pt}{
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent} ; %
45 }
46 }{ }
47 }{ }

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}{
49 \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{ }

51 \ifdefequal{\vwcol@justify}{\Centering}{
52 \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{ }
```

```

54 \ifdequal{\vwcol@justify}{\justifying}{
55 \appto{\LWR@vwcolstyle}{text-align: justify ; }
56 \ifdimgreater{\vwcol@parindent}{\opt}{
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent} ; %
59 }
60 }{}
61 }{}

```

Create the <div> with the assembled style:

```

62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }

```

When the environment ends:

```

64 {
65 \endBlockClass
66 \LWR@startpars
67 }

```

---

File 562 **lwarp-wallpaper.sty**

§ 674 Package **wallpaper**

(Emulates or patches code by MICHAEL H.F. WILKINSON.)

wallpaper (*Pkg*) wallpaper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```

2 \newcommand*\CenterWallPaper}[2]{}
3 \newcommand*\ThisCenterWallPaper}[2]{}
4 \newcommand*\TileWallPaper}[3]{}
5 \newcommand*\ThisTileWallPaper}[3]{}
6 \newcommand*\TileSquareWallPaper}[2]{}
7 \newcommand*\ThisTileSquareWallPaper}[2]{}
8 \newcommand*\ULCornerWallPaper}[2]{}
9 \newcommand*\ThisULCornerWallPaper}[2]{}
10 \newcommand*\LLCornerWallPaper}[2]{}
11 \newcommand*\ThisLLCornerWallPaper}[2]{}
12 \newcommand*\URCornerWallPaper}[2]{}
13 \newcommand*\ThisURCornerWallPaper}[2]{}
14 \newcommand*\LRCornerWallPaper}[2]{}
15 \newcommand*\ThisLRCornerWallPaper}[2]{}
16 \newcommand*\ClearWallPaper[2]{}
17 \newlength{\wpXoffset}
18 \newlength{\wpYoffset}

```

---

File 563 **lwarp-watermark.sty**

§ 675 Package **watermark**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

watermark (*Pkg*) watermark is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

2 \newcommand{\watermark}[1]{}
3 \newcommand{\leftwatermark}[1]{}
4 \newcommand{\rightwatermark}[1]{}
5 \newcommand{\thiswatermark}[1]{}
6 \newcommand{\thispageheading}[1]{}

```

---

File 564 **lwarp-widetable.sty**

§ 676 Package **widetable**

*(Emulates or patches code by CLAUDIO BECCARI.)*

widetable (*Pkg*) widetable is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}

```

---

File 565 **lwarp-widows-and-orphans.sty**

§ 677 Package **widows-and-orphans**

widows-and-orphans (*Pkg*) widows-and-orphans is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]

2 \NewDocumentCommand\WaOsetup{m}{}
3 \NewDocumentCommand\WaOparameters{}{}
4 \NewDocumentCommand\WaOignorenext{}{}

```

---

File 566 **lwarp-witharrows.sty**

§ 678 Package **witharrows**

*(Emulates or patches code by F. PANTIGNY.)*

witharrows (*Pkg*) witharrows is patched for use by lwarp. Emulation is provided for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{witharrows}[2024/10/19]

```

For MATHJAX, define a few things to be used in the hidden print version during HTML output.

```
2 \ifbool{mathjax}{
3 \newcommand{\Arrow}[2][{}]{
4 \newcommand{\unicode}[1]{}
5 \NewDocumentEnvironment { LWR@HTML@DispWithArrows } { ! d < > ! 0 { } +b }
6 {

```

```

7 \IfValueTF{#1}{
8 \begin{displaymath}
9 #1 \left\lbracket
10 \begin{align}
11 #3
12 \end{align}
13 \right .
14 \end{displaymath}
15 }{
16 \begin{displaymath}
17 \begin{align}
18 #3
19 \end{align}
20 \end{displaymath}
21 }
22 }
23 {}
24 \LWR@formattedenv{DispWithArrows}
25 \NewDocumentEnvironment { LWR@HTML@DispWithArrows* } { ! d < > ! 0 { } +b}
26 {
27 \IfValueTF{#1}{
28 \begin{displaymath}
29 #1 \left\lbracket
30 \begin{align*}
31 #3
32 \end{align*}
33 \right .
34 \end{displaymath}
35 }{
36 \begin{displaymath}
37 \begin{align*}
38 #3
39 \end{align*}
40 \end{displaymath}
41 }
42 }
43 {}
44 \LWR@formattedenv{DispWithArrows*}
45 }% MathJax

```

For SVG output, use SVG images.

```

46 }% SVG
47 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
48 \BeforeBeginEnvironment{DispWithArrows}{%
49 \begin{BlockClass}{displaymathnumbered}%
50 \begin{lateximage}%
51 }
52 \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}
53 \BeforeBeginEnvironment{DispWithArrows*}{%
54 \begin{BlockClass}{displaymath}%
55 \begin{lateximage}%
56 }
57 \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}
58 }% SVG

```

For MATHJAX, emulate the commands which are defined only inside the envs.

```

59 \begin{warpMathJax}
60 \CustomizeMathJax{newenvironment{WithArrows}[1][]{\begin{aligned}}{\end{aligned}}}}

```

```

61% Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][&{\Large\unicode{x2938}}~\textit{#2}}}{
63 \end{warpMathJax}

```

File 567 **lwarp-wrapfig.sty**

§ 679 Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

wrapfig (*Pkg*) wrapfig is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]

2 \newcommand*{\LWR@wrapposition}{}
3
4 \newcommand{\LWR@wrapfig@printHTMLwidth}{\LWR@printlength{\LWR@templengthone}}
5
6 \AtBeginDocument{
7 \IfPackageLoadedTF{keyfloat}{
8 \renewcommand{\LWR@wrapfig@printHTMLwidth}{%
9 \ifboolexpr{
10 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or
11 bool {KFLT@inkeysubfloats}
12 }%
13 {\LWR@printpercentlength{\LWR@templengthone}{\linewidth}}\%; }%
14 {\LWR@printlength{\LWR@templengthone}}%
15 }%
16 }{}
17 }
18
19 \newcommand*{\LWR@subwrapfigure}[2]{%
20 \renewcommand*{\LWR@wrapposition}{}%
21 \ifthenelse{%
22 \equal{#1}{r}\OR\equal{#1}{R}\OR%
23 \equal{#1}{o}\OR\equal{#1}{O}%
24 }%
25 {\renewcommand*{\LWR@wrapposition}{float:right}}%
26 {\renewcommand*{\LWR@wrapposition}{float:left}}%
27 \setlength{\LWR@templengthone}{#2}%
28 \LWR@BlockClassWP{%
29 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
30 margin:10pt%
31 }%
32 {%
33 width:\LWR@wrapfig@printHTMLwidth; %
34 \LWR@wrapposition; %
35 }%
36 (note)%
37 {marginblock}%

38 \setlength{\linewidth}{\LWR@templengthone}%
39 }
40
41
42 \NewDocumentEnvironment{wrapfigure}{o m o m}
43 {%

```



```

44 \begin{LWR@setvirtualpage}*%
45 \LWR@subwrapfigure{#2}{#4}%
46 \renewcommand*{\@capttype}{figure}%
47 }
48 {%
49 \endLWR@BlockClassWP%
50 \end{LWR@setvirtualpage}%
51 }
52
53
54 \NewDocumentEnvironment{wraptable}{o m o m}
55 {%
56 \begin{LWR@setvirtualpage}*%
57 \LWR@subwrapfigure{#2}{#4}%
58 \renewcommand*{\@capttype}{table}%
59 }
60 {%
61 \endLWR@BlockClassWP%
62 \end{LWR@setvirtualpage}%
63 }
64
65
66 \NewDocumentEnvironment{wrapfloat}{m o m o m}
67 {%
68 \begin{LWR@setvirtualpage}*%
69 \LWR@subwrapfigure{#3}{#5}%
70 \renewcommand*{\@capttype}{#1}%
71 }
72 {%
73 \endLWR@BlockClassWP%
74 \end{LWR@setvirtualpage}%
75 }
76
77 \newlength{\wrapoverhang}

```

---

File 568 **lwarp-wrapfig2.sty**

§ 680 Package **wrapfig2**

*(Emulates or patches code by DONALD ARSENEAU, CLAUDIO BECCARI.)*

wrapfig2 (*Pkg*) wrapfig2 is emulated via a modified version of the wrapfig emulation.

**for HTML output:**

```

1 \@ifpackageloaded{color}{}{%
2 \ifpackageloaded{xcolor}{}{\LWR@origRequirePackage{xcolor}}%
3 }
4
5 \RequirePackage{float}
6
7 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
8 {}% v4.0
9 {}% v5+
10 \floatstyle{plain}
11 \ifcsname chapter\endcsname
12 \newfloat{text}{tbp}{lotx}[chapter]
13 \else
14 \newfloat{text}{tbp}{lotx}
15 \fi

```

```

16 \floatname{text}{Text}
17% \let\WF@text@caption\float@caption
18 }
19
20
21 \LWR@ProvidesPackageDrop{wrapfig2}[2022-02-16]
22
23 \LWR@origRequirePackage{lwarp-wrapfig}

24 \RenewDocumentEnvironment{wrapfigure}{o m o G{0pt} s}% original
25 {\wrapfloat{figure}[#1][#2][#3][#4]}%
26 {\endwrapfloat}
27
28 \RenewDocumentEnvironment{wraptable}{o m o G{0pt} s}% original
29 {\wrapfloat{table}[#1][#2][#3][#4]}%
30 {\endwrapfloat}
31
32 \RenewDocumentEnvironment{wrapfloat}{m o m o G{0pt}}% lwarp
33 {%
34 \begin{LWR@setvirtualpage}*%
35 \LWR@subwrapfigure{#3}{#5}%
36 \renewcommand*{\@capttype}{#1}%
37 }
38 {%
39 \endLWR@BlockClassWP%
40 \end{LWR@setvirtualpage}%
41 }

42 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFold}
43 {% v4.0:
44 \NewDocumentEnvironment{wraptext}%
45 {O{l} D||{0.5\columnwidth} D<>{0} D(){figure}}%
46 {%
47 \wrapfloat{#4}[][#1][#2]%
48 \tcolorbox%
49 }
50 {%
51 \endtcolorbox%
52 \endwrapfloat%
53 \ignorespaces%
54 }
55 }{}
56
57 \IfPackageLoadedWithOptionsTF{wrapfig2}{WFfive}
58 {% v5
59 \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
60 \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
61 \colorlet{WFtext}{black}
62 \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
63 \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
64 \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
65 \def\WFSplitdims#1,#2!{\fboxrule=#1\relax\fboxsep=#2\relax}
66
67 \NewDocumentEnvironment{wraptext}{O{0} m O{0pt} G{0.5\columnwidth}}
68 {%
69 \wrapfloat{text}[][#2][#4]%
70 }
71 {%
72 \endwrapfloat%

```

```

73 \ignorespaces%
74 }
75
76 \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{1pt,1ex} o}%
77 {%
78 \WFSplitdimens #3!
79 \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
80 \LWR@HTML@fcolorboxBlock%
81 [named]{WFframe}[named]{WFbackground}{#2}%
82 (%
83 color:\LWR@origpound\LWR@tempcolor ; %
84 border-radius:\ 1ex%
85)%
86 }
87 }{% v6+
88 \RequirePackage{xkeyval}
89
90 \definecolor{WFbackground}{rgb}{0.95,0.95,0.95}
91 \definecolor{WFframe}{rgb}{0.1,0.1,0.1}
92 \colorlet{WFtext}{black}
93 \def\SetWFbgd#1{\colorlet{WFbackground}{#1}}
94 \def\SetWFfrm#1{\colorlet{WFframe}{#1}}
95 \def\SetWFtxt#1{\colorlet{WFtext}{#1}}
96 \def\WFSplitdimens#1,#2!\fboxrule=#1\relax\fboxsep=#2\relax}
97
98 \newlength{\LWR@wrapfigtwo@radius}
99 \setlength{\LWR@wrapfigtwo@radius}{1ex}
100
101 \DeclareOptionX<wraptext>{scalefactor}[0.8]{%
102 % \def\WFscalefactor{#1}%
103 }
104 \DeclareOptionX<wraptext>{fboxrule}[1pt]{\fboxrule=#1}
105 \DeclareOptionX<wraptext>{fboxsep}[1ex]{\fboxsep=#1}
106 \DeclareOptionX<wraptext>{framecolor}[WFframe]{\SetWFfrm{#1}}
107 \DeclareOptionX<wraptext>{backgroundcolor}[WFbackground]{\SetWFbgd{#1}}
108 \DeclareOptionX<wraptext>{textcolor}[WFtext]{\SetWFtxt{#1}}
109 \DeclareOptionX<wraptext>{fontstyle}[\normalfont]{#1}
110 \DeclareOptionX<wraptext>{radius}[\fboxsep]{%
111 \setlength{\LWR@wrapfigtwo@radius}{#1}%
112 }
113 \DeclareOptionX<wraptext>{insertionwidth}[0.5\columnwidth]{%
114 % \insertwidth=#1%
115 }
116
117 \DeclareOptionX*{\PackageWarning{wrapfig2}{`CurrentOption' ignored}}
118
119 \ExecuteOptionsX<wraptext>{scalefactor, fboxrule, fboxsep, framecolor,
120 backgroundcolor, textcolor, fontstyle, radius, insertionwidth}
121
122 \ProcessOptionsX*
123
124 \NewDocumentEnvironment{wraptext}{O{0} m O{0pt} G{0.5\columnwidth}}
125 {%
126 \wrapfloat{text}[][#2][][#4]%
127 }
128 {%
129 \endwrapfloat%
130 \ignorespaces%
131 }
132

```

```

133 \NewDocumentCommand\includeframedtext{O{\insertwidth} m O{} o}
134 {%
135 \ExecuteOptionsX<wraptext>{#3}% executes possible key=value options
136 \convertcolorspec{named}{WFtext}{HTML}\LWR@tempcolor%
137 \LWR@HTML@fcolorboxBlock%
138 [named]{WFframe}[named]{WFbackground}%
139 {\LWR@textcurrentfont{#2}}%
140 (%
141 color:\ \LWR@origpound\LWR@tempcolor ; %
142 border-radius:\ \LWR@printlength{\LWR@wrapfigtwo@radius}%
143)%
144 }
145 }

```

---

File 569 **lwarp-xbmks.sty**

§ 681 Package **xbmks**

xbmks (*Pkg*) xbmks is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

```

2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

---

File 570 **lwarp-xcolor.sty**

§ 682 Package **xcolor**

*(Emulates or patches code by DR. UWE KERN.)*

xcolor (*Pkg*) xcolor is supported by lwarp.

§ 682.1 **Limitations**

**\colorboxBlock and \fcolorboxBlock** \colorboxBlock and \fcolorboxBlock are provided for increased HTML compatibility, and they are identical to \colorbox and \fcolorbox in print mode. In HTML mode they place their contents into a <div> instead of a <span>. These <div>s are set to display: inline-block so adjacent \colorboxBlocks appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for \colorboxBlock and \fcolorboxBlock are created by lwarp's core if xcolor is loaded.

**background: none** \fcolorbox and \colorboxBlock allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

**color support** Color definitions, models, and mixing are fully supported without any changes required.

**colored text and boxes** \textcolor, \colorbox, and \fcolorbox are supported.

`\color` and `\pagecolor` `\color` and `\pagecolor` are ignored. Use `css` or `\textcolor` where possible.

### § 682.2 **xcolor definitions: location and timing**

The `lwarp` core and its `lwarp-xcolor` package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML `lateximage`. This requires a number of definitions and redefinitions depending on whether each of `xcolor` and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when `xcolor` is loaded, and others are temporary as `lateximage` is used.

**When `xcolor` is loaded in print mode:** No special actions are taken at the time that `xcolor` is loaded in print mode, but see `\AtBeginDocument` below.

**When `lwarp-xcolor` is loaded in HTML mode:** `xcolor`'s original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

**`\AtBeginDocument` in print or HTML mode:** See Section 91. If `xcolor` has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none, and additional definitions are created for `lwarp`'s new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by `lwarp-xcolor` if it has been loaded.

For use inside an HTML `lateximage`, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a `lateximage` in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of `xcolor`'s functions. See `\LWR@restoreorigformatting` on page 545.

#### `\color`:

**Print:** Used as-is.

**HTML:** Ignored by `pdftotext`, and will not appear.

**HTML `lateximage`:** Colors will appear in a `lateximage`.

#### `\textcolor`:

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page 1264.

**HTML `lateximage`:** Remembers and reuses the print version.

#### `\pagecolor`:

**Print:** Used as-is.

**HTML:** Ignored.

**HTML `lateximage`:** Colors will be picked up in a `lateximage`.

#### `\nopagecolor`:

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a lateximage.

**\colorbox:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1265.

**HTML lateximage:** Remembers and reuses the print version.

**\colorboxBlock:**

**Print:** Becomes \colorbox.

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1265.

**HTML lateximage:** Remembers and reuses the print version \colorbox.

**\fcolorbox:**

**Print:** Modified to allow a background of none.

\LWR@print@fcolorbox at section 91

**HTML:** Redefined by lwarp-xcolor, page 1266.

**HTML lateximage:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes \fcolorbox. Section 91

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 1266.

**HTML lateximage:** Remembers and reuses the print version \fcolorbox.

**fcloorminipage:**

**Print:** Newly defined in the lwarp core.

LWR@print@fcloorminipage at section 91

**HTML:** Newly defined by lwarp-xcolor, page 1267.

**HTML lateximage:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1268.

**HTML lateximage:** Remembers and reuses the print version.

### § 682.3 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{xcolor}[2023-11-15]

\color@endgroup's \endgraf was conflicting with lwarp's paragraph handling.

2 \let\color@endgroup\endgroup

#### § 682.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `lateximage` environment:

```
3 \LetLtxMacro\LWR@print@pagecolor\pagecolor
4 \LetLtxMacro\LWR@print@nopagecolor\nopagecolor
```

`\LWR@restoreorigformatting` Inside a `lateximage` the following gets restored to their print-mode actions:

```
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\pagecolor\LWR@print@pagecolor%
7 \LetLtxMacro\nopagecolor\LWR@print@nopagecolor%
8 }
```

#### § 682.5 `\normalcolor`

`\normalcolor`

```
9 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
10
11 \LWR@formatted{normalcolor}
```

#### § 682.6 HTML color style

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
12 \renewcommand*{\LWR@findcurrenttextcolor}{%
13 \LWR@traceinfo{\LWR@findcurrenttextcolor}%
14 \protect\colorlet{\LWR@current@color}{.}%
15 \LWR@traceinfo{\LWR@findcurrenttextcolor B}%
16 \protect\convertcolorspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor\relax%
17 \LWR@traceinfo{\LWR@findcurrenttextcolor: done}%
18 }
```

`\LWR@textcurrentcolor` `{\text}` Like `\textcolor` but uses the current `\color` instead.

```
19 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
20 \begingroup%
21 \LWR@hook@processingtags%
22 \LWR@findcurrenttextcolor%
23 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
24 \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
25 #1%
26 }%
27 \endgroup%
28 }
```

`\LWR@colorstyle` `{\langle 1: model \rangle}{\langle 2: color \rangle}`

For a color style, prints the color converted to HTML colors.

```
29 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
30 \begingroup%
31 \LWR@hook@processingtags%
```

Use the `xcolor` package to convert to an HTML color space:

```
32 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
33 \LWR@origpound\LWR@tempcolor%
34 \endgroup%
35 }
```

`\LWR@backgroundcolor` [*model*] {*color*} {*text*}

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```
36 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
37 \begingroup%
38 \LWR@hook@processingtags%
39 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
40 #3%
41 }%
42 \endgroup%
43 }
```


### § 682.7 HTML border

`\LWR@borderpadding` {*colorstyle*} {*color*} Prints the HTML attributes for a color border and padding.  
`\LWR@forceminwidth` must be used first in order to set the border width.

```
44 \newcommand*{\LWR@borderpadding}[2]{%
45 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
46 padding:\LWR@printlength{\fbboxsep}%
47 }
```

### § 682.8 High-level macros

`\color` [*model*] {*color*}

 The current `\color` is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use `\textcolor` if possible.

```
48 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
49 \IfValueTF{#1}{%
50 \LWR@print@color[#1]{#2}%
51 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
52 }{%
53 \LWR@print@color{#2}%
54 \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
55 }%
56 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
57 }
58
59 \LWR@formatted{color}
```

`\textcolor` [*model*] {*color*} {*text*}

Converted into an HTML hex color span.

```
60 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
```



```

61 \begingroup%
62 \LWR@hook@processingtags%
63 \IfValueTF{#1}{%
64 \color[#1]{#2}%
65 }{%
66 \color{#2}%
67 }%
68 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
69 \endgroup%
70 }%
71
72 \LWR@formatted{textcolor}

```

`\pagecolor` [*model*] {*color*}

Ignored. Use css instead.

```
73 \renewcommand*{\pagecolor}[2][named]{}

```

`\nopagecolor` Ignored.

```
74 \renewcommand*{\nopagecolor}{}

```

`\colorbox` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<span>`.

```

75 \NewDocumentCommand{\LWR@HTML@colorbox}{0{named} m +m}{%
76 \begingroup%
77 \LWR@hook@processingtags%
78 \InlineClass[%
79 background:\LWR@colorstyle{#1}{#2} ; %
80 padding:\LWR@printlength{\fboxsep}%
81]{colorbox}{#3}%
82 \endgroup%
83 }

```

`\colorboxBlock` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<div>`.

```

84 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{0{named} m +m}{%
85 \begingroup%
86 \LWR@hook@processingtags%
87 \LWR@stoppars%
88 \begin{BlockClass}[%
89 background:\LWR@colorstyle{#1}{#2} ; %
90 padding:\LWR@printlength{\fboxsep}%
91]{colorboxBlock}
92 #3
93 \end{BlockClass}%
94 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
95 \global\booltrue{LWR@minipagethispar}%
96 }
```

`\fcolorbox` [*<framemodel>*] {*<framecolor>*} [*<boxmodel>*] {*<boxcolor>*} {*<text>*}

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
97 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
98 \LWR@traceinfo{HTML fcolorbox #2 #4}%
99 \begingroup%
100 \LWR@hook@processingtags%
101 \LWR@forceminwidth{\fboxrule}%
102 \ifthenelse{\equal{#4}{none}}{%
103 {% no background color
104 \InlineClass[%
105 \LWR@borderpadding{#1}{#2}%
106]{fcolorbox}{#5}%
107 }%
108 {% yes background color
109 \InlineClass[%
110 \LWR@borderpadding{#1}{#2} ; %
111 background:\LWR@colorstyle{#3}{#4}%
112]{fcolorbox}{#5}%
113 }%
114 \endgroup%
115 }
```

`\fcolorboxBlock` [*<framemodel>*] {*<framecolor>*} [*<boxmodel>*] {*<boxcolor>*} {*<text>*} (*<add'l html style>*)

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```
116 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m d()}{%
117 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
118 \begingroup%
119 \LWR@hook@processingtags%
120 \LWR@forceminwidth{\fboxrule}%
121 \LWR@stoppars%
122 \ifthenelse{\equal{#4}{none}}{%
123 {% no background color
124 \begin{BlockClass}[%
125 \LWR@borderpadding{#1}{#2}%
126 \IfValueT{#6}{ ; #6}%
127]{fcolorboxBlock}
128 #5
129 \end{BlockClass}%
130 }%
131 }
```

```

131 {% yes background color
132 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
133 \begin{BlockClass}[%
134 background:\LWR@origpound\LWR@tempcolortwo\ ; %
135 \LWR@borderpadding{#1}{#2}%
136 \IfValueT{#6}{ ; #6}%
137]{fcolorboxBlock}
138 #5
139 \end{BlockClass}%
140 }%
141 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

142 \global\booltrue{LWR@minipagethispar}%
143 \LWR@traceinfo{HTML fcolorboxBlock done}%
144 }
```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the lwarp core: section 91

```

\LWR@subfcolorminipage {<framemodel>} {<framecolor>} {<background tag>} {<height>}
145 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%
146 \LWR@stoppars%
147 \begin{BlockClass}[%
148 #3%
149 \LWR@borderpadding{#1}{#2} ; %
150 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
151 width:\LWR@printlength{\LWR@tempwidth}%
152]{fcolorminipage}%
153 }
```

fcolorminipage (*env.*) [*<1:framemodel>*] {<2:framecolor>} [*<3:boxmodel>*] {<4:boxcolor>} [*<5:align>*] [*<6:height>*] [*<7:inner-align>*] {<8:width>}

```

154 \NewDocumentEnvironment{LWR@HTML@fcolorminipage}{O{named} m O{#1} m O{c} o o m}
155 {%
156 \LWR@hook@processingtags%
157 \setlength{\LWR@tempwidth}{#8}%
158 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
159 \LWR@forceminwidth{\fboxrule}%
160 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
161 \ifthenelse{\equal{#4}{none}}%
162 {\LWR@subfcolorminipage{#1}{#2}{#6}}%
163 {%
164 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
165 \LWR@subfcolorminipage{#1}{#2}%
166 {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
167 {#6}%
168 }%
169 }%
170 {%
171 \end{BlockClass}%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
172 \global\booltrue{LWR@minipagethispar}%
173 }
```

`\boxframe {<width>}{<height>}{<depth>}`

The depth is added to the height, but the box is not decended below by the depth. `\textcolor` is honored.

```
174 \newcommand*{\LWR@HTML@boxframe}[3]{%
175 {%
176 \setlength{\LWR@tempwidth}{#1}%
177 \setlength{\LWR@tempheight}{#2}%
178 \addtolength{\LWR@tempheight}{#3}%
179 \LWR@forceminwidth{\fboxrule}%
180 \LWR@findcurrenttextcolor%
181 \InlineClass[%
182 display:inline-block ; %
183 border:%
184 \LWR@printlength{\LWR@atleastonept} % space
185 solid % space
186 \LWR@currenttextcolor{} ; % space
187 width:\LWR@printlength{\LWR@tempwidth} ; %
188 height:\LWR@printlength{\LWR@tempheight}%
189]{boxframe}{}%
190 }%
191 }
192
193 \LWR@formatted{boxframe}
```

---

File 571 **lwarp-xexchangebar.sty**

§ 683 Package **xexchangebar**

xexchangebar (*Pkg*) xexchangebar is ignored

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
2 \LWR@origRequirePackage{lwarp-changebar}

---

File 572 **lwarp-xellipsis.sty**

§ 684 Package **xellipsis**

(Emulates or patches code by DONALD P. GOODMAN III.)

xellipsis (*Pkg*) xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

```

2 \newcommand*\LWR@xellipsespace}[1]{%
3 \ifdim#1=0pt\else%
4 \ifdim#1<\fontdimen2\font%
5 \,%
6 \else%
7 ~%
8 \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14 \LWR@xellipsespace{\xelipprebef}%
15 \xelipprechar%
16 \LWR@xellipsespace{\xelippreaft}%
17 \LWR@xellipsespace{\xelipbef}%
18 \xelipchar%
19 \xel@loopi = 1%
20 \loop\ifnum\xelipnum>\xel@loopi%
21 \advance\xel@loopi by1%
22 \LWR@xellipsespace{\xelipgap}%
23 \xelipchar%
24 \repeat%
25 \LWR@xellipsespace{\xelipaft}%
26 \LWR@xellipsespace{\xelippostbef}%
27 \xelippostchar%
28 \LWR@xellipsespace{\xelippostaft}%
29 }%
30 }%

```

---

File 573 **lwarp-xetexko.sty**

§ 685 Package **xetexko**

*(Emulates or patches code by DOHYUN KIM.)*

xetexko (*Pkg*) **xetexko** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@loadbefore{xetexko}
2
3 \LWR@ProvidesPackagePass{xetexko}[2021/09/06]
4
5 \protected\def\typesetvertical{}
6 \protected\def\typesethorizontal{}
7 \def\verticaltypesetting{\BlockClass{verticalrl}}
8 \def\beginverticaltypesetting{\BlockClass{verticalrl}}
9 \def\endverticaltypesetting{\endBlockClass}
10
11 \protected\def\vertical#1{\BlockClass{verticalrl}}
12 \protected\def\endvertical{\endBlockClass}
13 \protected\def\horizontal#1{\BlockClass{horizontalrb}}
14 \protected\def\endhorizontal{\endBlockClass}
15 \DeclareDocumentCommand{\vertlatin}{m}{#1}

```

File 574 **lwarp-xevlna.sty**

§ 686 Package **xevlna**

*(Emulates or patches code by ZDENĚK WAGNER.)*

xevlna (*Pkg*) xevlna is patched for use by lwarp.

Non-breakable spaces are inserted into HTML.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xevlna}[2016/09/05]

2 \def\ProcessCSpreposition{\ifx\next\xevlnaXeTeXspace\HTMLentity{nbsp}\fi}
3
4 \appto{\LWR@hook@processingtags}{\xevlnaDisable}%


```

File 575 **lwarp-xfakebold.sty**

§ 687 Package **xfakebold**

*(Emulates or patches code by HERBERT VOSS.)*

xfakebold (*Pkg*) xfakebold is patched for use by lwarp, and additional underlying support is found in the lwarp core.

 **text mode** xfakebold is only used in svg math and lateximages. Text mode is not set bold, but \setBold in text will be applied to any following svg math.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]

2 \newcommand*\LWR@HTML@setBold{\booltrue{LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*\LWR@HTML@unsetBold{\boolfalse{LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*\LWR@applyxfakebold{%
9 \ifbool{LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }

```

For MATHJAX, xfakebold is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[]{}{}}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}{}}
14 \end{warpMathJax}

```


File 576 **lwarp-xfrac.sty**

§ 688 Package **xfrac**

(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

xfrac (*Pkg*) Supported by adding xfrac instances, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]

 **font size** In the user's document preamble, lwarp should be loaded after font-related setup. During HTML conversion, this font is used by lwarp to generate its initial PDF output containing HTML tags, later to be converted by *pdftotext* to a plain text file. While the text may be in any font which *pdftotext* can read, the math is directly converted into SVG images using this same user-selected font. xfrac below is set for the Latin Modern (lmr) font. If another font is used, it may be desirable to redefine \xfracHTMLfontsize with a different em size.

\sfrac [*instance*] [*num*] [*sep*] [*denom*]

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in HTML tags. \scalebox is made null inside the numerator and denominator, since the HTML tags should not be scaled, and we do not want to introduce additional HTML tags for scaling.

In math mode, which will appear inside a `lateximage`, no adjustments are necessary.

\xfracHTMLfontsize User-redefinable macro which controls the font size of the fraction.

```
2 \newcommand*\xfracHTMLfontsize{.6em}
```

**instances** Instances of xfrac for various font choices:

Produce CSS for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```
3 \DeclareInstance{xfrac}{default}{text}{
4 numerator-format = {%
5 \begingroup%
6 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7 \InlineClass{numerator}{#1}\,%
8 \endgroup%
9 },
10 denominator-format = {%
11 \begingroup%
12 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13 \InlineClass{denominator}{#1}%
14 \endgroup%
15 },
```

For *pdftotext*, do not scale the text:

```

16 scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20 numerator-format = {%
21 \begingroup%
22 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23 \InlineClass{numerator}{#1}\,%
24 \endgroup%
25 },
26 denominator-format = {%
27 \begingroup%
28 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29 \InlineClass{denominator}{#1}%
30 \endgroup%
31 },

```

For *pdftotext*, do not scale the text:

```

32 scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36 numerator-format = {%
37 \begingroup%
38 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39 \InlineClass{numerator}{#1}\,%
40 \endgroup%
41 },
42 denominator-format = {%
43 \begingroup%
44 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45 \InlineClass{denominator}{#1}%
46 \endgroup%
47 },

```

For *pdftotext*, do not scale the text:

```

48 scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52 numerator-format = {%
53 \begingroup%
54 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55 \InlineClass{numerator}{#1}\,%
56 \endgroup%
57 },
58 denominator-format = {%
59 \begingroup%
60 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61 \InlineClass{denominator}{#1}%
62 \endgroup%
63 },

```

For *pdftotext*, do not scale the text:

```

64 scaling = false
65 }

```



For MATHJAX:

```
66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][/{\}]{^{\LWRsfracnumerator\!#1}_{\!#2}}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][\]{\def\LWRsfracnumerator{#2}\LWRsfrac}}
69 \end{warpMathJax}
```

---


File 577 **lwarp-xltabular.sty**

§ 689 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

xltabular (*Pkg*) xltabular is emulated by lwarp.

**for HTML output:** Relies on tabularx.

 **table numbering** At present, an xltabular without a caption or with only a \caption\* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```
1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}
```

---

File 578 **lwarp-xltxtra.sty**

§ 690 Package **xltxtra**

(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)

xltxtra (*Pkg*) xltxtra is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{xltxtra}[2016/01/21]
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*\vfrac[2]{%
7 #1\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex "#1"\relax
12 \ifnum\@tempcnta>0
13 \XeTeXglyph\@tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
```

```

16 \fi}
17
18 \newcommand\xxt@namedgLyph@falLback[1]{[#1]}
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}

```

---

File 579 **lwarp-xmpincl.sty**

§ 691 Package **xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

xmpincl (*Pkg*) xmpincl is ignored.

**for HTML output:** Discard all options for lwarp-xmpincl:

```

1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*\includemp}[1]{}

```

---

File 580 **lwarp-xpiano.sty**

§ 692 Package **xpiano**

*(Emulates or patches code by ENRICO GREGORIO.)*

xpiano (*Pkg*) xpiano is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xpiano}

2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11 [%
12 -xpiano~\PackageDiagramAltText{}: \detokenize\expandafter{#2}%
13]?%
14 [\detokenize\expandafter{#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}

```

File 581 **lwarp-xpinyin.sty**

§ 693 Package **xpinyin**

(Emulates or patches code by SOBEN LEE.)

xpinyin (*Pkg*) xpinyin is supported.

Pinyin is disabled for file names, the sideroc, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

**for HTML output:** 1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]

The original's boxes are not used, instead the contents are used with <ruby>, <rt>, and <rp> tags per modern HTML. Color is detected. ratio is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5 \color_group_begin: \color_ensure_current:
6 \l__xpinyin_pinyin_box_hook_tl
7 \renewcommand*{\l__xpinyin_ratio_tl}{1}% for pdftotext
8 __xpinyin_select_font:
9 \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10 { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11 { \l__xpinyin_format_tl }
12 \ifdefempty{\l__xpinyin_format_tl}
13 {#3}
14 {\LWR@textcurrentcolor{#3}}
15 \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}

18 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
19 {
20 __xpinyin_leavevmode:
21 \LWR@htmltagc{ruby}
22 __xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
23 \LWR@htmltagc{rp}{\LWR@htmltagc{/rp}\space}
24 \LWR@htmltagc{rt}
25 __xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
26 \LWR@htmltagc{/rt}\space}
27 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}\space}
28 \LWR@htmltagc{/ruby}\space}\null
29 }
30 \LWR@formatted{__xpinyin_CJKsymbol:nn}

31 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
32 {
33 __xpinyin_leavevmode:
34 \LWR@htmltagc{ruby}
35 __xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space

```

```

36 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp\space}
37 \LWR@htmltagc{rt}
38 __xpinyin_make_pinyin_box:xnn
39 { __xpinyin_to_unicode:n {#1} } {#1} { __xpinyin_pinyin:n {#2} }
40 \LWR@htmltagc{/rt\space}
41 \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
42 \LWR@htmltagc{/ruby\space}\null
43 }
44 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
45
46 \ExplSyntaxOff

```

The lwarp core uses the following to disable CJK xpinyin for filenames, sideroc, and footnotes.

```

47 \renewcommand*{\LWR@disablepinyin}{\disablepinyin}
48
49 \FilenameNullify{\LWR@disablepinyin}

```

---

File 582 **lwarp-xr.sty**

§ 694 Package **xr**

(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)

xr (*Pkg*) xr is patched for use by lwarp. The \*\_html.aux file is used.

See section 5.18.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xr}[2024-04-10]%
2 \VerifyCommand{\XR@}{56D2754CF8EDBB8863B603F708D65CE9}
3 %\def\XR@[#1][#2]#3{\@testopt{\XR@@{#1}{#2}{#3}}{#3.\XR@ext}}
4 \def\XR@[#1][#2]#3{\@testopt{\XR@@{#1}{#2}{#3_html}}{#3_html.\XR@ext}}

```

---

File 583 **lwarp-xr-hyper.sty**

§ 695 Package **xr-hyper**

(Emulates or patches code by DAVID CARLISLE.)

xr-hyper (*Pkg*) xr-hyper is replaced by xr, which is modified to accept the optional arguments for \externaldocument. So far, no hyperlinks are provided for citations.

See section 5.18.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{lwarp-xr}

```

File 584 **lwarp-xtab.sty**

§ 696 Package **xtab**

*(Emulates or patches code by PETER WILSON.)*

xtab (*Pkg*) xtab is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

⚠ **Misplaced alignment tab character &** For \tablefirsthead, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ **lateximage** supertabular and xtab are not supported inside a lateximage.

```
2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19 \long\gdef\LWRXT@lasttail{#1}%
20 }

21 \newcommand{\tablecaption}[2][]{%
22 \long\gdef\LWRXT@caption{%
23 \ifblank{#1}%
24 {\caption{#2}}%
25 {\caption[#1]{#2}}%
26 }%
27 }
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption

31 \newcommand*\LWRXT@caption{}
32
33 \newcommand*\shrinkheight}[1]{}

```

```

34
35 \newcommand*\xentrystretch}[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 {}%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{}%

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}

```

---

File 585 **lwarp-xunicode.sty**

§ 697 Package **xunicode**

xunicode (*Pkg*) Error if xunicode is loaded after lwarp.

Patch lwarp-xunicode, but also verify that it was loaded before lwarp:

**for HTML output:**

```

1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `textcomp`.

```

4 \providecommand*\LWR@HTML@textcircled}[1]{%
5 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%

```

```

10 \renewcommand*\textdegree{}%
11 \renewcommand*\textcelsius{}%
12 \renewcommand*\textohm{}%
13 \renewcommand*\textmu{}%
14 \renewcommand*\textlquill{}%
15 \renewcommand*\textrquill{}%
16 \renewcommand*\textcircledP{}%
17 \renewcommand*\texttwelveudash{}%
18 \renewcommand*\textthreequartersemdash{}%
19 \renewcommand*\textmho{}%
20 \renewcommand*\textnaira{}%
21 \renewcommand*\textpeso{}%
22 \renewcommand*\textrecipe{}%
23 \renewcommand*\textinterrobang{}%
24 \renewcommand*\textinterrobangdown{}%
25 \renewcommand*\textperthousand{}%
26 \renewcommand*\textpertenthousand{}%
27 \renewcommand*\textbaht{}%
28 \renewcommand*\textdiscount{}%
29 \renewcommand*\textservicemark{}%
30 \renewcommand*\textcircled}[1]{#1}%
31 \renewcommand*\capitalcedilla}[1]{#1}%
32 \renewcommand*\capitalogonek}[1]{#1}%
33 \renewcommand*\capitalgrave}[1]{#1}%
34 \renewcommand*\capitalacute}[1]{#1}%
35 \renewcommand*\capitalcircumflex}[1]{#1}%
36 \renewcommand*\capitaltilde}[1]{#1}%
37 \renewcommand*\capitaldieresis}[1]{#1}%
38 \renewcommand*\capitalhungarumlaut}[1]{#1}%
39 \renewcommand*\capitalring}[1]{#1}%
40 \renewcommand*\capitalcaron}[1]{#1}%
41 \renewcommand*\capitalbreve}[1]{#1}%
42 \renewcommand*\capitalmacron}[1]{#1}%
43 \renewcommand*\capitaldotaccent}[1]{#1}%
44 }% FilenameNullify

```

---

File 586 **lwarp-xurl.sty**

§ 698 Package **xurl**

xurl (*Pkg*) xurl is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

---

File 587 **lwarp-xy.sty**

§ 699 Package **XY**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

xy (*Pkg*) xy is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

```

After xy modules have been loaded:

```
2 \AtBeginDocument{
```

The original definitions without a lateximage:

```
3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy
```

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```
5 \renewcommand*\xy{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {\addtocounter{LWR@lateximagedepth}{1}}%
8 {\begin{lateximage}[-xy~\PackageDiagramAltText]?}%
9 \LWR@orig@xy%
10 }
11
12 \renewcommand*\endxy{%
13 \LWR@orig@endxy%
14 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
15 {\addtocounter{LWR@lateximagedepth}{-1}}%
16 {\end{lateximage}}%
17 }
```

The \xybox must use the original definitions of \xy, \endxy:

```
18 \def\xybox#1{%
19 \LWR@orig@xy#1\LWR@orig@endxy%
20 \Edge@c={\rectangleEdge}\computeLeftUpness@%
21 }
```

If \xygraph is used, it is placed inside a lateximage:

```
22 \@ifundefined{xygraph}{%
23
24 \LetLtxMacro\LWR@origxygraph\xygraph
25
26 \renewcommand{\xygraph}[1]{%
27 \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]?%
28 \LWR@origxygraph{#1}
29 \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument
```

---

File 588 **lwarp-zhlineskip.sty**

§ 700 Package **zhlineskip**

zhlineskip (*Pkg*) zhlineskip is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]



```

2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}

```

---

File 589 **lwarp-zwpageLayout.sty**

§ 701 Package **zwpageLayout**

*(Emulates or patches code by ZDENĚK WAGNER.)*

zwpageLayout (*Pkg*) **zwpageLayout** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{zwpageLayout}[2013/01/13]

2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6 \definecolor{cmykblack}{cmyk}{0,0,0,1}
7 \definecolor{grblack}{gray}{0}
8% \ifzwpl@redefineblack
9% \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10% \fi
11 \definecolor{cmykred}{cmyk}{0,1,1,0}
12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbbblue}{rgb}{0,0,1}
17% \ifzwpl@redefinetcmyk
18% \definecolor{red}{cmyk}{0,1,1,0}
19% \definecolor{green}{cmyk}{1,0,1,0}
20% \definecolor{blue}{cmyk}{1,1,0,0}
21% \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{\SetOverprint#1}
29 \DeclareRobustCommand\textknockout[1]{\SetKnockout#1}
30
31 \def\SetPDFminorversion#1{}
32 \@onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr{}
35
36 \DeclareRobustCommand\vb[1][1]{}
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#\gdef\ZW@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}

```

```

44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\, \arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

---

File 590 **lwarp-patch-komascript.sty**

§ 702 Package **patch-komascript**

lwarp-patch-komascript (*Pkg*) Patches for komascript classes.

lwarp loads this package when scrbook, scartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

\captionformat, \figureformat, and \tableformat are not yet emulated.

 **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:** 1 \ProvidesPackage{lwarp-patch-komascript}

typearea is emulated.

2 \RequirePackage{lwarp-typearea}

tocbasic is emulated.

3 \RequirePackage{lwarp-tocbasic}

scrextend patches most of the new macros.

4 \RequirePackage{lwarp-scrextend}

Indexing macros, simplified for lwarp:

```

5 \AtBeginDocument{
6
7 \renewcommand*\idx@heading}{%

```

```

8 \idx@@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12 \idx@heading%
13 \index@preamble\par\nobreak
14 \LetLtxMacro\item\LWR@indexitem%
15 \LetLtxMacro\subitem\LWR@indexsubitem%
16 \LetLtxMacro\subsubitem\LWR@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{}
21
22 }% AtBeginDocument

```

The `\minisec` is placed inside a `<div>` of class `minisec`.

```

23 \renewcommand*\minisec}[1]{
24 \begin{BlockClass}{minisec}
25 #1
26 \end{BlockClass}
27 }

```

The part and chapter preambles are placed as plain text just after each heading.

```

28 \@ifundefined{setpartpreamble}{}{
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30 \renewcommand{\part@preamble}{#3}%
31 }
32 }
33
34 \@ifundefined{setchapterpreamble}{}{
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36 \renewcommand{\chapter@preamble}{#3}%
37 }
38 }

```

Do not use `\chaptername`:

```

39 \renewcommand*\LWR@printchaptername{}

```

Simple captions are used in all cases.

```

40 \AtBeginDocument{
41 \AtBeginDocument{
42 \LetLtxMacro\captionbelow\caption
43 \LetLtxMacro\captionabove\caption
44
45 \LetLtxMacro\captionofbelow\captionof
46 \LetLtxMacro\captionofabove\captionof
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53 \IfValueTF{#1}%
54 {\caption[#1]{#2}}%

```

```

55 {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o s}
59 {}
60 {%
61 \IfValueTF{#2}%
62 {\captionof{#1}[#2]{#3}}%
63 {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*\setcaphanging{}
68 \renewcommand*\setcapwidth}[2][{}
69 \renewcommand*\setcapdynwidth}[2][{}
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

---

File 591 **lwarp-patch-memoir.sty**


§ 703 Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

lwarp-patch-memoir (*Pkg*) Patches for memoir class.

 **Not fully tested!** [Please send bug reports!](#)

lwarp loads this package when the memoir class is detected.

 **captions** lwarp uses caption, which causes a warning from memoir. This is normal. Adjust captions via caption, instead of memoir.

While emulating memoir, lwarp pre-loads a number of packages (section 703.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading lwarp:

 **options clash**

```


\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}

```

 **version numbers**

memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since lwarp is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label(bookmark){tag}` \label accepts an optional (bookmark) argument, but this is ignored in HTML.

 **comment** The comment environment is from the comment package, and thus requires that the \begin and \end each be on its own line:

```

\begin{comment}
This is a comment.
\end{comment}

```

`\newcomment` Comments defined with `\newcomment` use memoir's definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ `verbatim footnotes` `\verbfootnote` is not supported.

⚠ `\newfootnoteseries` `\newfootnoteseries`, etc. are not supported.

⚠ `page notes` `lwarp` loads `pagenote` to perform memoir's `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

`page notes with cleveref` To add support for pagenotes with `cleveref`, add:

```

\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}

```

`page note \nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

⚠ `poems` Poem numbering is not supported.

⚠ `verbatim` The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

⚠ `glossaries` The memoir glossary system is not yet supported by `lwarpmk`. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.

for HTML output: `1 \ProvidesPackage{lwarp-patch-memoir}`

### § 703.1 Packages

These are pre-loaded to provide emulation for many of memoir's functions. memoir pretends that `abstract`, etc. are already loaded, via its "emulated" package mechanism, but `lwarp` is directly loading the "lwarp-" version of each, which happens to avoid memoir's emulation system.

```

2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snuagshade\relax \let\endsnuagshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd

```

```

20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

## § 703.2 Label handling

Insert the `lwarp` label mechanism into the memoir package mechanism:

- `\LWR@orig@label` is the kernel version, or `nameref` version if loaded before `lwarp`.
- `lwarp`'s `\LWR@new@label` uses `\LWR@orig@label`.
- `cleveref` then encapsulates all the above with `\cref@old@label`.
- For a subcaption, `cleveref` modifies memoir's `\sf@memsub@label`, but that change is undone by `lwarp`.
- `memoir` uses the final `\label` for subcaptions.

Patches for subfloats to support additional `lwarp` labels. This is the non-`hyperref` version from `memoir`.

```

36 \AtBeginDocument{
37 \renewcommand*{\sf@memsub@label}[1]{%
38 \@bsphack
39 % \@mem@kernel@label{#1}%
40 \cref@label{#1}% lwarp
41 \LWR@label@createtag{sub#1}% lwarp
42 \protected@write\@auxout{}{%
43 \string\newlabel{sub#1}%
44 {%
45 {\@nameuse{@@thesub\@capttype}}%
46 {\thepage}%
47 {\detokenize\expandafter{\@currentlabelname}}% name
48 {#1}% Href
49 {}}% reserved
50 }%
51 }%
52 \LWR@write@lwarplabel{sub#1}% lwarp
53 \@esphack
54 }
55 }

```

### § 703.3 Page layout

memoir already set the page size to a default, so it must be forced large for lwarp's use, to avoid tag overflows off the page.

```

56 \setstocksize{190in}{20in}
57 \setlrmarginsandblock{2in}{2in}{*}
58 \setulmarginsandblock{1in}{1in}{*}

59 \renewcommand*\stockavi{}
60 \renewcommand*\stockav{}
61 \renewcommand*\stockaiv{}
62 \renewcommand*\stockaiai{}
63 \renewcommand*\stockavii{}
64 \renewcommand*\stockbvi{}
65 \renewcommand*\stockbv{}
66 \renewcommand*\stockbiv{}
67 \renewcommand*\stockbiai{}
68 \renewcommand*\stockbvii{}
69 % \renewcommand*\stockmetriccrownvo{}% in docs but not in the package
70 \renewcommand*\stockmlargecrownvo{}
71 \renewcommand*\stockmdemyvo{}
72 \renewcommand*\stocksmallroyalvo{}
73 \renewcommand*\pageavi{}
74 \renewcommand*\pageavii{}
75 \renewcommand*\pageav{}
76 \renewcommand*\pageaiv{}
77 \renewcommand*\pageaii{}
78 \renewcommand*\pagebvi{}
79 \renewcommand*\pagebvii{}
80 \renewcommand*\pagebv{}
81 \renewcommand*\pagebiv{}
82 \renewcommand*\pagebii{}
83 % \renewcommand*\pagemetriccrownvo{}% in docs but not in the package
84 \renewcommand*\pagemlargecrownvo{}
85 \renewcommand*\pagemdemyvo{}
86 \renewcommand*\pagemsmallroyalvo{}
87
88 \renewcommand*\stockdbill{}
89 \renewcommand*\stockstatement{}
90 \renewcommand*\stockexecutive{}
91 \renewcommand*\stockletter{}
92 \renewcommand*\stockold{}
93 \renewcommand*\stocklegal{}
94 \renewcommand*\stockledger{}
95 \renewcommand*\stockbroadsheet{}
96 \renewcommand*\pagedbill{}
97 \renewcommand*\pagestatement{}
98 \renewcommand*\pageexecutive{}
99 \renewcommand*\pageletter{}
100 \renewcommand*\pageold{}
101 \renewcommand*\pagelegal{}
102 \renewcommand*\pageledger{}
103 \renewcommand*\pagebroadsheet{}
104
105 \renewcommand*\stockpottvo{}
106 \renewcommand*\stockfoolscapvo{}
107 \renewcommand*\stockcrownvo{}
108 \renewcommand*\stockpostvo{}
109 \renewcommand*\stocklargecrownvo{}

```

```
110 \renewcommand*\stocklargepostvo{}
111 \renewcommand*\stocksmallldemyvo{}
112 \renewcommand*\stockdemyvo{}
113 \renewcommand*\stockmediumvo{}
114 \renewcommand*\stocksmallroyalvo{}
115 \renewcommand*\stockroyalvo{}
116 \renewcommand*\stocksuperroyalvo{}
117 \renewcommand*\stockimperialvo{}
118 \renewcommand*\pagepottvo{}
119 \renewcommand*\pagefoolscapvo{}
120 \renewcommand*\pagecrownvo{}
121 \renewcommand*\pagepostvo{}
122 \renewcommand*\pagelargecrownvo{}
123 \renewcommand*\pagelargepostvo{}
124 \renewcommand*\pagesmallldemyvo{}
125 \renewcommand*\pagedemyvo{}
126 \renewcommand*\pagemediumvo{}
127 \renewcommand*\pagesmallroyalvo{}
128 \renewcommand*\pageroyalvo{}
129 \renewcommand*\pagesuperroyalvo{}
130 \renewcommand*\pageimperialvo{}
131
132 \renewcommand*\memfontfamily{}
133 \renewcommand*\memfontenc{}
134 \renewcommand*\memfontpack{}
135
136 \renewcommand*\anyptfilebase{}
137 \renewcommand*\anyptsize{10}
138
139 \renewcommand*\setstocksize[2]{}
140 \renewcommand*\settrimmedsize[3]{}
141 \renewcommand*\settrims[2]{}
142
143 % \newlength{\lxvchars}
144 % \setlength{\lxvchars}{305pt}
145 % \newlength{\xlvchars}
146 % \setlength{\xlvchars}{190pt}
147 \renewcommand*\setxlvchars[1]{}
148 \renewcommand*\setlxvchars[1]{}
149
150 \renewcommand*\settypeblocksize[3]{}
151 \renewcommand*\setlrmargins[3]{}
152 \renewcommand*\setlrmarginsandblock[3]{}
153 \renewcommand*\setbinding[1]{}
154 \renewcommand*\setulmargins[3]{}
155 \renewcommand*\setulmarginsandblock[3]{}
156 \renewcommand*\setcolsepandrul[2]{}
157
158 \renewcommand*\setheadfoot[2]{}
159 \renewcommand*\setheaderspaces[3]{}
160 \renewcommand*\setmarginnotes[3]{}
161 \renewcommand*\setfootins[2]{}
162 \renewcommand*\checkandfixthelayout[1][1]{}
163 \renewcommand*\checkthelayout[1]{}
164 \renewcommand*\fixthelayout{}
165 %
166 % \newlength{\stockheight}
167 % \newlength{\trimtop}
168 % \newlength{\trimedge}
169 % \newlength{\stockwidth}
```



```

170 % \newlength{\spinemargin}
171 % \newlength{\foremargin}
172 % \newlength{\uppermargin}
173 % \newlength{\headmargin}
174 %
175 \renewcommand*\typeoutlayout{}
176 \renewcommand*\typeoutstandardlayout{}
177 \renewcommand*\settypeoutlayoutunit}[1]{}
178 \renewcommand*\fixpdflayout{}
179 \renewcommand*\fixdvipslayout{}
180
181 \renewcommand*\medievalpage}[1][{}
182 \renewcommand*\isopage}[1][{}
183 \renewcommand*\semiisopage}[1][{}
184
185 \renewcommand{\setpagebl}[3]{}
186 \renewcommand{\setpageml}[3]{}
187 \renewcommand{\setpagetl}[3]{}
188 \renewcommand{\setpagetm}[3]{}
189 \renewcommand{\setpagetr}[3]{}
190 \renewcommand{\setpagemr}[3]{}
191 \renewcommand{\setpagebr}[3]{}
192 \renewcommand{\setpagebm}[3]{}
193 \renewcommand{\setpagecc}[3]{}

```

#### § 703.4 Text and fonts

```

194 \let\miniscule\tiny
195 \let\HUGE\Huge
196
197 \renewcommand*\abnormalparskip}[1]{}
198 \renewcommand*\nonzeroparskip{}
199 \renewcommand*\traditionalparskip{}
200
201 \let\onelineskip\baselineskip
202
203 \let\OnehalfSpacing\onehalfspacing
204 \let\DoubleSpacing\doublespacing
205 \renewcommand*\setPagenoteSpacing}[1]{}
206 \renewcommand*\setFloatSpacing}[1]{}

207 \renewcommand{\SingleSpacing}{\@ifstar\singlespacing\singlespacing}

208 \let\setSingleSpace\SetSingleSpace
209 \let\SingleSpace\singleSpace
210 \let\endSingleSpace\endSingleSpace
211 \let\Spacing\spacing
212 \let\endSpacing\endSpacing
213 \let\OnehalfSpace\onehalfSpace
214 \let\endOnehalfSpace\endonehalfSpace
215 \csletcs{OnehalfSpace*}{onehalfSpace}
216 \csletcs{endOnehalfSpace*}{endonehalfSpace}
217 \let\DoubleSpace\doublespace
218 \let\endDoubleSpace\enddoublespace
219 \csletcs{DoubleSpace*}{doublespace}
220 \csletcs{endDoubleSpace*}{enddoublespace}
221 \renewcommand*\setDisplayskipStretch}[1]{}
222 \renewcommand*\memdskipstretch{}
223 \renewcommand*\noDisplayskipStretch{}
224 \renewcommand*\memdskips{}

```

```

225
226 \renewcommand*\midsloppy{}
227 \renewenvironment*midsloppypar{}{}
228
229 \renewcommand*\sloppybottom{}

```

### § 703.5 Titles

```

230 \csletcs{titlingpage*}{titlingpage}
231 \csletcs{endtitlingpage*}{endtitlingpage}
232 \let\titlingpageend\relax
233 \newcommand{\titlingpageend}[2]{}
234 \let\andnext\and
235 \renewcommand*\thanksmarkstyle}[1]{}
236
237 \renewcommand{\thanksfootmark}{%
238 \thanksscript{\tmark}%
239 }
240
241 % \newlength{\thanksmarksep}% already provided by memoir

```

242 \renewcommand\titlingpageend[2]{}

### § 703.6 Abstracts

```

243 % \newlength{\absindent}
244 % \newlength{\absparsep}
245 \renewcommand*\abstractcol{}
246 \renewcommand*\abstractintoc{}
247 \renewcommand*\abstractnum{}
248 \renewcommand*\abstractrunin{}

```

### § 703.7 Document divisions

```

\book
 * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}

249 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
250 \LWR@section{#1}{#3}{#6}{book}%
251 }

252 \def\@apppage{%
253 \part*\appendixpagename}
254 }
255 \renewcommand\mempreaddappagetotochook{}
256 \renewcommand\mempostaddappagetotochook{}
257
258 \def\@sapppage{%
259 \part*\appendixpagename}
260 }

261 \DeclareDocumentCommand{\mainmatter}{s}{%
262 \booltrue{LWR@mainmatter}%
263 }
264
265 \DeclareDocumentCommand{\frontmatter}{s}{%
266 \boolfalse{LWR@mainmatter}%
267 }

```

```

268 \renewcommand*\raggedbottomsection{}
269 \renewcommand*\normalbottomsection{}
270 \renewcommand*\bottomsectionskip{}
271 \renewcommand*\bottomsectionpenalty{}
272 \csletcs{appendixpage*}{appendixpage}
273 \renewcommand*\namedsubappendices{}
274 \renewcommand*\unnamedsubappendices{}
275 \renewcommand*\beforebookskip{}
276 \renewcommand*\afterbookskip{}
277 \renewcommand*\beforepartskip{}
278 \renewcommand*\afterpartskip{}
279 \renewcommand*\midbookskip{}
280 \renewcommand*\midpartskip{}
281 \renewcommand*\printbookname{}
282 \renewcommand*\booknamefont{}
283 \renewcommand*\booknamenum{}
284 \renewcommand*\printbooknum{}
285 \renewcommand*\booknumfont{}
286 \renewcommand*\printpartname{}
287 \renewcommand*\partnamefont{}
288 \renewcommand*\partnamenum{}
289 \renewcommand*\printpartnum{}
290 \renewcommand*\partnumfont{}
291 \renewcommand*\printbooktitle[1]{}
292 \renewcommand*\booktitlefont{}
293 \renewcommand*\printparttitle[1]{}
294 \renewcommand*\parttitlefont{}
295 \renewcommand*\bookpageend{}
296 \renewcommand*\bookblankpage{}
297 \renewcommand*\nobookblankpage{}
298 \renewcommand*\partpageend{}
299 \renewcommand*\partblankpage{}
300 \renewcommand*\nopartblankpage{}
301 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo
302 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo
303 \renewcommand*\leadpagetoclevel{chapter}
304
305 \renewcommand*\openright{}
306 \renewcommand*\openleft{}
307 \renewcommand*\openany{}
308 \renewcommand*\clearforchapter{}
309 \renewcommand*\memendofchapterhook{}
310 \renewcommand*\chapterheadstart{}
311 % \newlength{\beforechapskip}
312 \renewcommand*\afterchapternum{}
313 % \newlength{\midchapskip}
314 \renewcommand*\afterchaptertitle{}
315 % \newlength{\afterchapskip}
316 \renewcommand*\printchaptername{}
317 \renewcommand*\chapnamefont{}
318 \renewcommand*\chapternamenum{}
319 \renewcommand*\printchapternum{}
320 \renewcommand*\chapnumfont{}
321 \renewcommand*\printchaptertitle[1]{}
322 \renewcommand*\chaptitlefont{}
323 \renewcommand*\printchapternonum{}
324 \renewcommand*\indentafterchapter{}
325 \renewcommand*\noindentafterchapter{}
326 \renewcommand*\insertchapterspace{}
327

```

```

328 \renewcommand*\chapterstyle}[1]{}
329 \renewcommand\makechapterstyle}[2]{}
330 \renewcommand*\chapindent{}
331 \let\chapterprecis\cftchapterprecis
332 \let\chapterprecishere\cftchapterprecishere
333 \let\chapterprecistoc\cftchapterprecistoc
334 \renewcommand*\precisfont{}
335 \renewcommand*\prechapterprecis{}
336 \renewcommand*\postchapterprecis{}
337 \renewcommand\precistocfont}[1]{}
338 \renewcommand*\precistocfont{}
339 \renewcommand*\precistocformat{}
340 % \newlength\prechapterprecisshift
341
342 \renewcommand*\setbeforesecskip}[1]{}
343 \renewcommand*\setaftersecskip}[1]{}
344 \renewcommand*\setsecindent}[1]{}
345 \renewcommand*\setsecheadstyle}[1]{}
346 \renewcommand*\setbeforesubsecskip}[1]{}
347 \renewcommand*\setaftersubsecskip}[1]{}
348 \renewcommand*\setsubsecindent}[1]{}
349 \renewcommand*\setsubseheadstyle}[1]{}
350 \renewcommand*\setbeforesubsubsecskip}[1]{}
351 \renewcommand*\setaftersubsubsecskip}[1]{}
352 \renewcommand*\setsubsubsecindent}[1]{}
353 \renewcommand*\setsubsubseheadstyle}[1]{}
354 \renewcommand*\setbeforeparaskip}[1]{}
355 \renewcommand*\setafterparaskip}[1]{}
356 \renewcommand*\setparaindent}[1]{}
357 \renewcommand*\setparaheadstyle}[1]{}
358 \renewcommand*\setbeforesubparaskip}[1]{}
359 \renewcommand*\setaftersubparaskip}[1]{}
360 \renewcommand*\setsubparaindent}[1]{}
361 \renewcommand*\setsubparaheadstyle}[1]{}
362 \renewcommand{\@hangfrom}[1]{#1}
363 \renewcommand\sethangfrom}[1]{}
364 \renewcommand\setsecnumformat}[1]{}
365
366 \renewcommand*\hangsecnum{}
367 \renewcommand*\defaultsecnum{}
368
369 \renewcommand*\sechook{}
370 \renewcommand\setsechook}[1]{}
371 \renewcommand*\subsechook{}
372 \renewcommand\setsubsechook}[1]{}
373 \renewcommand*\subsubsechook{}
374 \renewcommand\setsubsubsechook}[1]{}
375 \renewcommand*\parahook{}
376 \renewcommand\setparahook}[1]{}
377 \renewcommand*\subparahook{}
378 \renewcommand\setsubparahook}[1]{}
379
380 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
381
382 \RenewDocumentCommand{\fancybreak}{s +m}{%
383 \begin{center}#2\end{center}%
384 }
385
386 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
387 \begin{center}#4\end{center}%

```

```

388 }
389
390 \RenewDocumentCommand{\pfbreak}{s}{%
391 \begin{center}
392 \pfbreakdisplay
393 \end{center}
394 }
395
396 % \newlength{\pfbreakskip}
397 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
398
399 \renewcommand{\makeheadstyles}[2]{}
400 \renewcommand*\headstyles[1]{}

```

### § 703.8 **Pagination and headers**

```

401 \renewcommand*\savepagenumber{}
402 \renewcommand*\restorepagenumber{}
403 \renewcommand*\uppercaseheads{}
404 \renewcommand*\nouppercaseheads{}
405
406 \renewcommand*\bookpagemark[1]{}
407 \renewcommand*\partmark[1]{}
408 \renewcommand*\bibmark{}
409 \renewcommand*\indexmark{}
410 \renewcommand*\glossarymark{}
411
412 \LWR@origpagestyle{empty}
413 \renewcommand*\ps@empty{}
414 \renewcommand*\makepagestyle[1]{}
415 \renewcommand*\emptytypshook{}%
416 % \renewcommand*\empty@oddhead{}
417 % \renewcommand*\empty@oddfoot{}
418 % \renewcommand*\empty@evenhead{}
419 % \renewcommand*\empty@evenfoot{}
420 \renewcommand*\@oddhead{}
421 \renewcommand*\@oddfoot{}
422 \renewcommand*\@evenhead{}
423 \renewcommand*\@evenfoot{}
424 \renewcommand*\aliaspagestyle[2]{}
425 \renewcommand*\copypagestyle[2]{}
426
427 \renewcommand*\makeevenhead[4]{}
428 \renewcommand*\makeoddhead[4]{}
429 \renewcommand*\makeevenfoot[4]{}
430 \renewcommand*\makeoddfoot[4]{}
431 \renewcommand*\makerunningwidth[3]{}
432 % \newlength{\headwidth}
433 \renewcommand*\makeheadrule[3]{}
434 \renewcommand*\makefootrule[3]{}
435 \renewcommand*\makeheadfootruleprefix[3]{}
436 % \newlength{\normalrulethickness}
437 % \setlength{\normalrulethickness}{.4pt}
438 % \newlength{\footruleheight}
439 % \newlength{\footruleskip}
440 \renewcommand*\makeheadposition[5]{}
441 \renewcommand*\makepsmarks[2]{}
442 \renewcommand*\makeheadfootstrut[3]{}

443 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{}

```

```

444 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{}}
445 \renewcommand{\memUChead}[1]{}
446 \renewcommand*\clearplainmark[1]{}
447 \renewcommand*\clearmark[1]{}
448 \renewcommand{\addtopmarks}[3]{}
449 \renewcommand{\ifonlyfloats}[2]{#2}
450 \renewcommand*\mergepagefloatstyle}[3]{}
451
452 \renewcommand*\framepichead{}
453 \renewcommand*\framepicfoot{}
454 \renewcommand*\framepichook{}
455 \renewcommand*\showheadfootlocoff{}
456 \renewcommand*\showtextblocklocoff{}

```

### § 703.9 Paragraphs and lists

```

457 \renewcommand{\hangfrom}[1]{#1}
458 \let\centerfloat\centering
459 \renewcommand*\raggedyright[1][1]{}
460 % \newlength{\ragrparindent}
461 \renewcommand{\sourceatright}[2][1]{\attribution{#2}}
462 \let\memorigdbs\LWR@endofline

463 \renewcommand*\memorigpar}{\par}

464 \let\atcentercr\LWR@endofline
465
466 \renewcommand*\linenottooshort[1][1]{}
467 \renewcommand*\russianpar{}
468 \renewcommand*\lastlinerulefill{}
469 \renewcommand*\lastlineparrule{}
470 \renewcommand*\justlastraggedleft{}
471 \renewcommand*\raggedrightthenleft{}
472 \renewcommand*\leftcenterright{}
473
474 \renewcommand{\leftspringright}[4]{%
475 \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
476 \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
477 }
478
479 \renewenvironment*{blockdescription}
480 {\LWR@descriptionstart\LWR@origdescription}
481 {\enddescription}
482
483 \renewcommand*\blockdescriptionlabel}[1]{\textbf{#1}}
484 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
485 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
486 \renewcommand*\tightlists{}
487 \renewcommand*\defaultlists{}
488 \RenewDocumentCommand{\firmlists}{s}{}
489 \renewcommand*\firmlist{}
490 \renewcommand*\tightlist{}
491 \renewcommand*\zerotrivseps{}
492 \renewcommand*\savetrivseps{}
493 \renewcommand*\restoretativseps{}

```

### § 703.10 Contents lists

```

494 \csletcs{tableofcontents*}{tableofcontents}

```

```

495 \csletcs{listoffigures*}{listoffigures}
496 \csletcs{listoftables*}{listoftables}
497 \renewenvironment{KeepFromToc}{}{}
498 \renewcommand*\onecoltocetc{}
499 \renewcommand*\twocoltocetc{}
500 \renewcommand*\ensureonecol{}
501 \renewcommand*\restorefromonecol{}
502 \renewcommand*\doccoltocetc{}
503
504 \renewcommand{\toheadstart}{}
505 \renewcommand{\printtoctitle}[1]{}
506 \renewcommand{\tocmark}{}
507 \renewcommand{\aftertoctitle}{}
508 \renewcommand{\lofheadstart}{}
509 \renewcommand{\printloftitle}[1]{}
510 \renewcommand{\lofmark}{}
511 \renewcommand{\afterloftitle}{}
512 \renewcommand{\lotheadstart}{}
513 \renewcommand{\printlottitle}[1]{}
514 \renewcommand{\lotmark}{}
515 \renewcommand{\afterlottitle}{}
516
517 \renewcommand*\setpnumwidth[1]{}
518 \renewcommand*\setrmarg[1]{}
519 \renewcommand*\cftbookbreak{}
520 \renewcommand*\cftpartbreak{}
521 \renewcommand*\cftchapterbreak{}

522 % \newlength{\cftbeforebookskip}
523 % \newlength{\cftbookindent}
524 % \newlength{\cftbooknumwidth}
525 \renewcommand*\cftbookfont{}
526 \renewcommand*\cftbookname{}
527 \renewcommand*\cftbookpresnum{}
528 \renewcommand*\cftbookaftersnum{}
529 \renewcommand*\cftbookaftersnumb{}
530 \renewcommand*\cftbookleader{}
531 \renewcommand*\cftbookdotsep}{1}
532 \renewcommand*\cftbookpagefont{}
533 \renewcommand*\cftbookafterpnum{}
534 \renewcommand*\cftbookformatpnum}[1]{}
535 \renewcommand*\cftbookformatpnumhook}[1]{}

```

Part is already defined by tocloft.

```

536 % \newlength{\cftbeforechapterskip}
537 % \newlength{\cftchapterindent}
538 % \newlength{\cftchapternumwidth}
539 \renewcommand*\cftchapterfont{}
540 \renewcommand*\cftchaptername{}
541 \renewcommand*\cftchapterpresnum{}
542 \renewcommand*\cftchapteraftersnum{}
543 \renewcommand*\cftchapteraftersnumb{}
544 \renewcommand*\cftchapterleader{}
545 \renewcommand*\cftchapterdotsep}{1}
546 \renewcommand*\cftchapterpagefont{}
547 \renewcommand*\cftchapterafterpnum{}
548 \renewcommand*\cftchapterformatpnum}[1]{}
549 \renewcommand*\cftchapterformatpnumhook}[1]{}

```

```
550 % \newlength{\cftbeforesectionsip}
551 % \newlength{\cftsectionindent}
552 % \newlength{\cftsectionnumwidth}
553 \renewcommand*\cftsectionfont{}
554 \renewcommand*\cftsectionname{}
555 \renewcommand*\cftsectionpresnum{}
556 \renewcommand*\cftsectionaftersnum{}
557 \renewcommand*\cftsectionaftersnumb{}
558 \renewcommand*\cftsectionleader{}
559 \renewcommand*\cftsectiondotsep}{1}
560 \renewcommand*\cftsectionpagefont{}
561 \renewcommand*\cftsectionafterpnum{}
562 \renewcommand*\cftsectionformatpnum}[1]{}
563 \renewcommand*\cftsectionformatpnumhook}[1]{}

564 % \newlength{\cftbeforesubsectionskip}
565 % \newlength{\cftsubsectionindent}
566 % \newlength{\cftsubsectionnumwidth}
567 \renewcommand*\cftsubsectionfont{}
568 \renewcommand*\cftsubsectionname{}
569 \renewcommand*\cftsubsectionpresnum{}
570 \renewcommand*\cftsubsectionaftersnum{}
571 \renewcommand*\cftsubsectionaftersnumb{}
572 \renewcommand*\cftsubsectionleader{}
573 \renewcommand*\cftsubsectiondotsep}{1}
574 \renewcommand*\cftsubsectionpagefont{}
575 \renewcommand*\cftsubsectionafterpnum{}
576 \renewcommand*\cftsubsectionformatpnum}[1]{}
577 \renewcommand*\cftsubsectionformatpnumhook}[1]{}

578 % \newlength{\cftbeforesubsubsectionskip}
579 % \newlength{\cftsubsubsectionindent}
580 % \newlength{\cftsubsubsectionnumwidth}
581 \renewcommand*\cftsubsubsectionfont{}
582 \renewcommand*\cftsubsubsectionname{}
583 \renewcommand*\cftsubsubsectionpresnum{}
584 \renewcommand*\cftsubsubsectionaftersnum{}
585 \renewcommand*\cftsubsubsectionaftersnumb{}
586 \renewcommand*\cftsubsubsectionleader{}
587 \renewcommand*\cftsubsubsectiondotsep}{1}
588 \renewcommand*\cftsubsubsectionpagefont{}
589 \renewcommand*\cftsubsubsectionafterpnum{}
590 \renewcommand*\cftsubsubsectionformatpnum}[1]{}
591 \renewcommand*\cftsubsubsectionformatpnumhook}[1]{}

592 % \newlength{\cftbeforeparagraphskip}
593 % \newlength{\cftparagraphindent}
594 % \newlength{\cftparagraphnumwidth}
595 \renewcommand*\cftparagraphfont{}
596 \renewcommand*\cftparagraphname{}
597 \renewcommand*\cftparagraphpresnum{}
598 \renewcommand*\cftparagraphaftersnum{}
599 \renewcommand*\cftparagraphaftersnumb{}
600 \renewcommand*\cftparagraphleader{}
601 \renewcommand*\cftparagraphdotsep}{1}
602 \renewcommand*\cftparagraphpagefont{}
603 \renewcommand*\cftparagraphafterpnum{}
604 \renewcommand*\cftparagraphformatpnum}[1]{}
605 \renewcommand*\cftparagraphformatpnumhook}[1]{}

606 % \newlength{\cftbeforesubparagraphskip}
```



```
607 % \newlength{\cftsubparagraphindent}
608 % \newlength{\cftsubparagraphnumwidth}
609 \renewcommand*{\cftsubparagraphfont}{}
610 \renewcommand*{\cftsubparagraphname}{}
611 \renewcommand*{\cftsubparagraphpresnum}{}
612 \renewcommand*{\cftsubparagraphaftersnum}{}
613 \renewcommand*{\cftsubparagraphaftersnumb}{}
614 \renewcommand*{\cftsubparagraphleader}{}
615 \renewcommand*{\cftsubparagraphdotsep}{1}
616 \renewcommand*{\cftsubparagraphpagefont}{}
617 \renewcommand*{\cftsubparagraphafterpnum}{}
618 \renewcommand*{\cftsubparagraphformatpnum}[1]{}
619 \renewcommand*{\cftsubparagraphformatpnumhook}[1]{}

620 % \newlength{\cftbeforefigureskip}
621 % \newlength{\cftfigureindent}
622 % \newlength{\cftfigurenumwidth}
623 \renewcommand*{\cftfigurefont}{}
624 \renewcommand*{\cftfigurename}{}
625 \renewcommand*{\cftfigurepresnum}{}
626 \renewcommand*{\cftfigureaftersnum}{}
627 \renewcommand*{\cftfigureaftersnumb}{}
628 \renewcommand*{\cftfigureleader}{}
629 \renewcommand*{\cftfiguredotsep}{1}
630 \renewcommand*{\cftfigurepagefont}{}
631 \renewcommand*{\cftfigureafterpnum}{}
632 \renewcommand*{\cftfigureformatpnum}[1]{}
633 \renewcommand*{\cftfigureformatpnumhook}[1]{}

634 % \newlength{\cftbeforesubfigureskip}
635 % \newlength{\cftsubfigureindent}
636 % \newlength{\cftsubfigurenumwidth}
637 \newcommand*{\cftsubfigurefont}{}
638 \newcommand*{\cftsubfigurename}{}
639 \newcommand*{\cftsubfigurepresnum}{}
640 \newcommand*{\cftsubfigureaftersnum}{}
641 \newcommand*{\cftsubfigureaftersnumb}{}
642 \newcommand*{\cftsubfigureleader}{}
643 \newcommand*{\cftsubfiguredotsep}{1}
644 \newcommand*{\cftsubfigurepagefont}{}
645 \newcommand*{\cftsubfigureafterpnum}{}
646 \newcommand*{\cftsubfigureformatpnum}[1]{}
647 \newcommand*{\cftsubfigureformatpnumhook}[1]{}

648 % \newlength{\cftbeforetableskip}
649 % \newlength{\cfttableindent}
650 % \newlength{\cfttablenumwidth}
651 \renewcommand*{\cfttablefont}{}
652 \renewcommand*{\cfttablename}{}
653 \renewcommand*{\cfttablepresnum}{}
654 \renewcommand*{\cfttableaftersnum}{}
655 \renewcommand*{\cfttableaftersnumb}{}
656 \renewcommand*{\cfttableleader}{}
657 \renewcommand*{\cfttabledotsep}{1}
658 \renewcommand*{\cfttablepagefont}{}
659 \renewcommand*{\cfttableafterpnum}{}
660 \renewcommand*{\cfttableformatpnum}[1]{}
661 \renewcommand*{\cfttableformatpnumhook}[1]{}

662 % \newlength{\cftbeforesubtableskip}
663 % \newlength{\cftsubtableindent}
```

```

664 % \newlength{\cftsubtablenumwidth}
665 \newcommand*{\cftsubtablefont}{}
666 \newcommand*{\cftsubtablename}{}
667 \newcommand*{\cftsubtablepresnum}{}
668 \newcommand*{\cftsubtableaftersnum}{}
669 \newcommand*{\cftsubtableaftersnumb}{}
670 \newcommand*{\cftsubtableleader}{}
671 \newcommand*{\cftsubtabledotsep}[1]{}
672 \newcommand*{\cftsubtablepagefont}{}
673 \newcommand*{\cftsubtableafterpnum}{}
674 \newcommand*{\cftsubtableformatpnum}[1]{}
675 \newcommand*{\cftsubtableformatpnumhook}[1]{}

676 \renewcommand*{\booknumberline}[1]{}
677 \renewcommand*{\partnumberline}[1]{}
678 \renewcommand*{\chapternumberline}[1]{}
679 \renewcommand*{\numberlinehook}[1]{}
680 % \renewcommand*{\cftwhatismyname}{}%
681 \renewcommand*{\booknumberlinehook}[1]{}
682 \renewcommand*{\partnumberlinehook}[1]{}
683 \renewcommand*{\chapternumberlinehook}[1]{}
684 \renewcommand{\numberlinebox}[2]{}
685 \renewcommand{\booknumberlinebox}[2]{}
686 \renewcommand{\partnumberlinebox}[2]{}
687 \renewcommand{\chapternumberlinebox}[2]{}
688 %
689 % \newlength{\cftparfillskip}
690 \renewcommand*{\cftpagenumbersoff}[1]{}
691 \renewcommand*{\cftpagenumberson}[1]{}
692 \renewcommand*{\cftlocalchange}[3]{}
693 \renewcommand*{\cftaddtitleline}[4]{}
694 \renewcommand*{\cftaddnumtitleline}[4]{}
695 \renewcommand{\cftinsertcode}[2]{}
696 \renewcommand{\cftinserthook}[2]{}
697 \renewcommand{\settocpreprocessor}[2]{}
698 \DeclareRobustCommand{\cftpagenumbersoff}[1]{}
699 \DeclareRobustCommand{\cftpagenumberson}[1]{}

```

### § 703.11 Floats and captions

\@xfloat

\@xdblfloat

Reestablish `lwarp`'s takeover the float handling, which memoir tried to grab:

```

700 \AtBeginDocument{
701 \def\@xfloat #1[#2]{%
702 \LWR@floatbegin{#1}[#2]
703 \normalsize
704 \@nameuse{#1adjustment}%
705 \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
706 }
707 \def\@xdblfloat #1[#2]{%
708 \LWR@floatbegin{#1}[#2]
709 \normalsize
710 \@nameuse{#1adjustment}%
711 \LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment%
712 }
713 }

```

\newfloat

{<1: *within*>} {<2: *type*>} {<3: *ext*>} {<4: *capname*>}

```

714 \RenewDocumentCommand{\newfloat}{o m m}{%
715 \def\LWR@tempone{#4}%
716 \def\LWR@temptwo{\@nameuse{#2name}}%
717 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
718 \IfValueTF{#1}%
719 {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
720 {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
721 }{% not recursive name
722 \IfValueTF{#1}%
723 {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
724 {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
725 }%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```

726 \cslet{listof#2s}\relax%
727 \cslet{listof#2es}\relax%
728 }

```

`\newlistof`

`[<within>] <type> <ext> <listofname>`

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```

729 \RenewDocumentCommand{\newlistof}{o m m}
730 {%
731 \IfValueTF{#1}%
732 {\newlistentry[#1]{#2}{#3}{0}}%
733 {\newlistentry{#2}{#3}{0}}%
734 \@namedef{ext@#2}{#3}%
735 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{%
736 \setcounter{#3depth}{1}%
737 \@namedef{#3mark}{}%
738 \@namedef{#2}{\LWR@listof{#2}{#4}}%
739 \@namedef{@cftmake#3title}{}%
740 \@ifundefined{cftbefore#3titleskip}{%
741 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
742 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
743 }{}%
744 \@namedef{cft#3titlefont}{}%
745 \@namedef{cftafter#3title}{}%
746 \@namedef{cft#3prehook}{}%
747 \@namedef{cft#3posthook}{}%
748 }

```

```

749 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the `lwarp` version of `keyfloat`:

```

750 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{0{-1.2ex} m}
751 {% start
752 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}(note){marginblock}%
753 \renewcommand*{\@capttype}{#2}%
754 }
755 {%
756 \endLWR@BlockClassWP%
757 }
758
759 \DeclareDocumentEnvironment{marginfigure}{o}
760 {\begin{KFLTmemoir@marginfloat}{figure}}

```

```

761 {\end{KFLTmemoir@marginfloat}}
762
763 \DeclareDocumentEnvironment{margintable}{o}
764 {\begin{KFLTmemoir@marginfloat}{table}}
765 {\end{KFLTmemoir@marginfloat}}

766 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
767 \renewcommand{\setmpjustification}[2]{}
768 \renewcommand*\mpjustification{}
769 \renewcommand*\setfloatlocations[2]{}
770 \DeclareDocumentCommand{\suppressfloats}{o}{}
771 \renewcommand*\FloatBlock{}
772 \renewcommand*\FloatBlockAllowAbove{}
773 \renewcommand*\FloatBlockAllowBelow{}
774 \renewcommand*\setFloatBlockFor{}
775
776 \renewcommand{\captiontitlefinal}[1]{}

```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by `memoir` using `\newfloat`. These are defined with an @ in `caption`.

```

777 \renewcommand{\flegtable}{\tablename}
778 \renewcommand{\flegfigure}{\figurename}
779 \renewcommand{\flegtocfigure}{}
780 \renewcommand{\flegtocfigure}{}

781 \renewcommand{\@makesubfloatcaption}[2]{%
782 \minipagefullwidth
783 \begin{minipage}{\linewidth}%
784 #1 \ignorespaces #2 \unskip%
785 \end{minipage}
786 }
787
788 \renewcommand*\tightsubcaptions{}
789 \renewcommand*\loosesubcaptions{}
790
791 \renewcommand*\subcaptionsize[1]{}
792 \renewcommand*\subcaptionlabelfont[1]{}
793 \renewcommand*\subcaptionfont[1]{}
794 \renewcommand*\subcaptionstyle[1]{}
795
796 \renewcommand*\hangsubcaption{}
797 \renewcommand*\shortsubcaption{}
798 \renewcommand*\normalsubcaption{}

```

`\AfterEndPreamble` now required for `sidecaption`.

```

799 \AfterEndPreamble{%
800 \RenewDocumentEnvironment{sidecaption}{o m o}
801 {}
802 {%
803 \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
804 \IfValueT{#3}{\label{#3}}%
805 }
806 }
807
808 % \newlength{\sidecapwidth}
809 % \newlength{\sidecapsep}

```

```

810 \renewcommand*\setsidecaps}[2]{}
811 \renewcommand*\sidecapmargin}[1]{}
812 % \newif\ifscapmargleft
813 \scapmargleftfalse
814 \renewcommand*\setsidecappos}[1]{}

```

Env sidecontcaption

```

815 \RenewDocumentEnvironment{sidecontcaption}{m o}
816 {}
817 {%
818 \ifdef{\ContinuedFloat}%
819 {\ContinuedFloat}%
820 {\addtocounter{\@capttype}{-1}}%
821 \caption{#1}%

```

Without \@capttype, the section is referred to instead.

```

822 \IfValueT{#2}{\label[\@capttype]{#2}}%
823 }

```

\sidenamedlegend does not appear to use the toc argument.

```

824 \renewenvironment{sidenamedlegend}[2][]{
825 \begin{center}
826 \@nameuse{\@capttype name}\CaptionSeparator#2
827 \end{center}
828 }
829 {}
830
831 \renewenvironment{sidelegend}[1]
832 {\begin{center}
833 #1
834
835 }
836 {\end{center}}
837
838 \renewcommand*\sidecapstyle{}
839 \renewcommand*\overridescapmargin}[1]{}
840 % \newlength{\sidecapraise}
841 \renewcommand*\sidecapfloatwidth{\linewidth}
842
843 \LetLtxMacro\ctabular\tabular
844 \LetLtxMacro\endctabular\endtabular
845
846 \renewcommand{\autorows}[5][]{%
847 #5%
848 }
849
850 \renewcommand{\autocols}[5][]{%
851 #5%
852 }

```

§ 703.12 **Footnotes and page notes**

```

853 \renewcommand*\feetaboveloat{}
854 \renewcommand*\feetbelowloat{}
855 \renewcommand*\feetatbottom{}
856
857 \renewcommand*\verbfootnote[2][{}%
858 \PackageError{lwarp, memoir}%
859 {Verbatim footnotes are not yet supported by lwarp}%
860 {This may be improved some day.}%
861 }
862
863 \renewcommand*\plainfootnotes{}
864 \renewcommand*\twocolumnfootnotes{}
865 \renewcommand*\threecolumnfootnotes{}
866 \renewcommand*\paragraphfootnotes{}
867 \renewcommand*\footfudgefiddle{}
868
869 \renewcommand*\newfootnoteseries[1]{%
870 \PackageError{lwarp, memoir}%
871 {Memoir footnote series are not yet supported by lwarp}%
872 {This may be improved some day.}%
873 }
874
875 \renewcommand*\plainfootstyle[1]{}
876 \renewcommand*\twocolumnfootstyle[1]{}
877 \renewcommand*\threecolumnfootstyle[1]{}
878 \renewcommand*\paragraphfootstyle[1]{}
879
880 \renewcommand*\footfootmark{}
881 \renewcommand*\footmarkstyle[1]{}
882
883 % \newlength{\footmarkwidth}
884 % \newlength{\footmarksep}
885 % \newlength{\footparindent}
886
887 \renewcommand*\foottextfont{}
888
889 \renewcommand*\marginparmargin[1]{}
890 \renewcommand*\sideparmargin[1]{}
891
892 \LetLtxMacro\sidepar\marginpar
893 \renewcommand*\sideparfont{}
894 \renewcommand*\sideparform{}
895 \LWR@providelength{\sideparvshift}
896
897 \renewcommand*\parnopar{}
898
899 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
900 \renewcommand*\sidebarmargin[1]{}
901 \renewcommand*\sidebarfont{}
902 \renewcommand*\sidebarform{}
903 % \newlength{\sidebarhsep}
904 % \newlength{\sidebarvsep}
905 % \newlength{\sidebarwidth}
906 % \newlength{\sidebartopsep}
907 \renewcommand{\setsidebarheight}[1]{}
908 \renewcommand*\setsidebars}[6]{}
909 \renewcommand*\footnotesatfoot{}
910 \renewcommand*\footnotesinmargin{}

```

```

911
912 \LetLtxMacro\sidefootnote\footnote
913 \LetLtxMacro\sidefootnotemark\footnotemark
914 \LetLtxMacro\sidefootnotetext\footnotetext
915
916 \renewcommand*\sidefootmargin[1]{
917 % \newlength{\sidefoothsep}
918 % \newlength{\sidefootvsep}
919 % \newlength{\sidefootwidth}
920 % \newlength{\sidefootadjust}
921 % \newlength{\sidefootheight}
922 \renewcommand*\setsidefootheight[1]{
923 % \renewcommand*\sidefootfont}{}% in docs but not in the package
924 \renewcommand*\setsidefeet[6]{
925 \renewcommand*\sidefootmarkstyle[1]{
926 \renewcommand*\sidefoottextfont}{
927 \renewcommand*\sidefootform}{

928 \renewcommand*\continuousnotenums{\pncontopttrue}% from pagenote
929 \renewcommand*\notepageref}{
930 \renewcommand*\prenotetext}{
931 \renewcommand*\postnotetext}{
932 \LetLtxMacro\printpageinnoteshyperref\printpageinnotes
933 \renewcommand*\foottopagenote}{
934 \renewcommand*\pagetofootnote}{

```


\m@m@wrpnote

\startnoteentrystart

To have `cleveref` work with page note labels, the following patch writes `\thepagenote` and also adds `\arabic{pagenote}` to the first argument written to the `.ent` file:

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} . . .
```

The arabic value is required for `cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

 `\nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```

935 \VerifyCommand[lwarp][lwarp-patch-memoir]{\m@m@wrpnote}
936 {D2AE41FE9A265B639F7074AB2AF29976}
937
938 \xpatchcmd{\m@m@wrpnote}
939 {\string\startnoteentry{\thepagenote}}
940 {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}}
941 {}
942 {\LWR@patcherror{memoir}{m@m@wrpnote}}
943
944 \VerifyCommand[lwarp][lwarp-patch-memoir]{\startnoteentrystart}
945 {2A595EA1DC483451337C33072604EDD6}
946
947 \renewcommand\startnoteentrystart[4]{%
948 \prenoteinnotes%
949 \noteidinnotes{\@firstoftwo#1}{#2}%
950 \ifmtarg{#2}{%
951 % \phantomsection\def\@currentlabel{#1}% original
952 \def\@currentlabel{\@firstoftwo#1}% lwarp
953 \def\@cref@currentlabel{% lwarp
954 [pagenote][\@secondoftwo#1][\@firstoftwo#1%
955]%
956 }{}}%

```

```

957 \pagenoteanchor{#4}%
958 \pageinnotes{#3}%
959 \prenotetext%
960 }

```

### § 703.13 Decorative text

```

961 \renewcommand*\epigraphposition}[1]{}
962 \renewcommand*\epigraphtextposition}[1]{}
963 \renewcommand*\epigraphsourceposition}[1]{}
964 \renewcommand*\epigraphfontsize}[1]{}
965 \renewcommand*\epigraphforheader}[2][1]{}
966 \renewcommand*\epigraphpicture{}

```

### § 703.14 Poetry

```

967 \renewcommand*\vinphantom{}
968 \renewcommand*\vleftofline}[1]{#1}
969 % \let\linenumberfrequency\poemlines
970 % \renewcommand*\linenumberfont}[1]{}
971
972 \DeclareDocumentCommand{\PoemTitle}{s o m}{%
973 \IfValueTF{#2}%
974 {\poemtitle[#2]{#4}}%
975 {\poemtitle{#4}}%
976 }
977
978 \renewcommand*\NumberPoemTitle{}
979 \renewcommand*\PlainPoemTitle{}
980 \renewcommand*\poemtitlestyle{}
981 \renewcommand*\poemtitlestarmark}[1]{}
982 \renewcommand*\poemtitlestarpstyle{}
983 \renewcommand*\PoemTitleheadstart{}
984 \renewcommand*\printPoemTitlenonum{}
985 \renewcommand*\printPoemTitlenum{}
986 \renewcommand*\afterPoemTitlenum{}
987 \renewcommand*\printPoemTitletitle}[1]{}
988 \renewcommand*\afterPoemTitle{}
989 \newlength{\midpoemtitleskip}
990 \renewcommand*\PoemTitlenumfont{}
991 \renewcommand*\PoemTitlefont{}

```

### § 703.15 Boxes, verbatims and files

```

992 \renewenvironment{qframe}{\framed}{\endframed}
993 \renewenvironment{qshade}{\shaded}{\endshaded}

994 \renewcommand*\setverbatimfont}[1]{}
995 \renewcommand*\tabson}[1]{}% disabled as of 3.8.2
996 \renewcommand*\tabsoff{}% disabled as of 3.8.2
997 \renewcommand*\wrappingon{}% disabled as of 3.8.2
998 \renewcommand*\wrappingoff{}% disabled as of 3.8.2
999 \renewcommand*\verbatimindent{}% no longer used as of 3.8.2
1000 \renewcommand*\verbatimbreakchar}[1]{}% no longer used as of 3.8.2

1001 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

boxedverbatim is already defined by moreverb. boxedverbatim\* does not appear to work at all, even in a minimal print memoir document.



```

1002 \renewcommand*\bvbox{}
1003 \renewcommand*\bvtopandtail{}
1004 \renewcommand*\bvboxes{}
1005 \renewcommand*\nobvbox{}
1006 % \newlength\bvboxsep
1007 \renewcommand*\bvtoprulehook{}
1008 \renewcommand*\bvtopmidhook{}
1009 \renewcommand*\bvendrulehook{}
1010 \renewcommand*\bvleftsidehook{}
1011 \renewcommand*\bvrightsidehook{}
1012 \renewcommand*\bvperpagetrue{}
1013 \renewcommand*\bvperpagefalse{}
1014 \renewcommand{\bvtopofpage}[1]{}
1015 \renewcommand{\bvendofpage}[1]{}
1016 \renewcommand*\linenumberfrequency}[1]{}
1017 \renewcommand*\resetbvlinenumber{}
1018 \renewcommand*\setbvlinenums}[2]{}
1019 \renewcommand*\linenumberfont}[1]{}
1020 \renewcommand*\bvnumbersinside{}
1021 \renewcommand*\bvnumbersoutside{}

```

### § 703.16 Cross referencing

```

1022 \renewcommand*\fref}[1]{\cref{#1}}
1023 \renewcommand*\tref}[1]{\cref{#1}}
1024 \renewcommand*\pref}[1]{\cpageref{#1}}
1025 \renewcommand*\Aref}[1]{\cref{#1}}
1026 \renewcommand*\Bref}[1]{\cref{#1}}
1027 \renewcommand*\Pref}[1]{\cref{#1}}
1028 \renewcommand*\Sref}[1]{\cref{#1}}
1029 \renewcommand*\figurerefname}{Figure}
1030 \renewcommand*\tablerefname}{Table}
1031 \renewcommand*\pagerefname}{page}
1032 \renewcommand*\bookrefname}{Book~}
1033 \renewcommand*\partrefname}{Part~}
1034 \renewcommand*\chapterrefname}{Chapter~}
1035 \renewcommand*\sectionrefname}{S}
1036 \renewcommand*\appendixrefname}{Appendix~}
1037 \LetLtxMacro\titleref\nameref
1038 \renewcommand*\headnameref{}
1039 \renewcommand*\tocnameref{}

```

\currenttitle has been removed from memoir.

```

1040 \renewcommand*\theTitleReference}[2]{}
1041 \renewcommand*\namerefon{}
1042 \renewcommand*\namerefoff{}

```

### § 703.17 Back matter

\@@wrindexhyp

Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```

1043 \AtBeginDocument{
1044
1045 \VerifyCommand[lwarp][lwarp-patch-memoir]{\@@wrindexhyp}
1046 {8DA7E3C8BE7A830442D98EA033147F63}
1047
1048 \def\@@wrindexhyp#1||\%
1049 \addtocounter{LWR@autoindex}{1}% lwarp

```

```

1050 % \ifshowindexmark\@showidx{#1}\fi
1051 \protected@write\@auxout{}%
1052 % {\string\@wrindexm@m{\idxfile}{#1}{\thepage}}%
1053 {\string\@wrindexm@m{\idxfile}{#1}{\arabic{LWR@autoindex}}}% lwarp

```

The label is assigned after the file write to avoid conflict with cleveref.

```

1054 \label{LWRindex-\arabic{LWR@autoindex}}% lwarp
1055 \endgroup
1056 \@esphack}%

```

\@wrspindexhyp

\specialindex behaves like a regular \index, pointing to where \specialindex is used. If \specialindex is used inside a figure or table after the \caption, then the hyperlink will be given the name of that particular figure or table.

```

1057 \def\@wrspindexhyp#1||\{\%
1058 \addtocounter{LWR@autoindex}{1}%
1059 % \ifshowindexmark\@showidx{#1}\fi
1060 \protected@write\@auxout{}%
1061 % {\string\@wrindexm@m{\idxfile}{#1}{\@nameuse{the\@sptheid}}}%
1062 {\string\@wrindexm@m{\idxfile}{#1}{\arabic{LWR@autoindex}}}%

```

The label is assigned after the file write to avoid conflict with cleveref.

```

1063 \label{LWRindex-\arabic{LWR@autoindex}}%
1064 \endgroup
1065 \@esphack}%
1066
1067 }% \AtBeginDocument

```

\@spindex

Patched to append \_html to the file:

```

1068 \renewcommand{\@spindex}[2]{%
1069 \ifundefined{#1@idxfile}%
1070 {\ifreportnoidxfile
1071 \memwarn{Undefined index file #1}%
1072 \fi
1073 \begingroup
1074 \@sanitize
1075 \nowrindex}%
1076 {\def\@idxfile{#1_html}%
1077 \def\@sptheid{#2}%
1078 \begingroup
1079 \@sanitize
1080 \@wrspindex}}

```

\makeindex

Patched to use \_html filename and \BaseJobname:

```

1081 \catcode`_ =12%
1082 \renewcommand*\makeindex[1][\BaseJobname]{%
1083 \if@filesw
1084 \def\gindex{\@bsphack%
1085 \ifnextchar [{\@index}{\@index[\BaseJobname]}}
1086 \def\specialindex{\@bsphack\@spindex}%
1087 \makememindexhook
1088 \expandafter\newwrite\csname #1@idxfile\endcsname
1089 \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1090 \typeout{Writing index file #1_html.idx}%
1091 \fi}
1092 \catcode`_ =8%

```

\printindex

Patched to use `_html` filename and `\BaseJobname`. This will later be patched by the `lwarp` core.

```
1093 \catcode`_ =12%
1094 \renewcommand{\printindex}[1][\BaseJobname]{\input@{#1}_html.ind}}
1095 \catcode`_ =8%

1096 \DeclareDocumentCommand{\newblock}{}{}
1097 %
1098 \renewcommand*\showindexmarks{}
1099 \renewcommand*\hideindexmarks{}
1100
1101 \renewcommand*\xindyindex{}
```

### § 703.18 Miscellaneous

```
1102 \renewcommand*\changemarks{}
1103 \renewcommand*\nochangemarks{}
1104 \renewcommand*\added[1]{}
1105 \renewcommand*\deleted[1]{}
1106 \renewcommand*\changed[1]{}
1107
1108 \renewcommand*\showtrimsoff{}
1109 \renewcommand*\showtrimson{}
1110 \renewcommand*\trimXmarks{}
1111 \renewcommand*\trimLmarks{}
1112 \renewcommand*\trimFrame{}
1113 \renewcommand*\trimNone{}
1114 \renewcommand*\trimmarkscolor{}
1115 \renewcommand*\trimmarks{}
1116 \renewcommand*\tmarktl{}
1117 \renewcommand*\tmarktr{}
1118 \renewcommand*\tmarkbr{}
1119 \renewcommand*\tmarkbl{}
1120 \renewcommand*\tmarktm{}
1121 \renewcommand*\tmarkmr{}
1122 \renewcommand*\tmarkbm{}
1123 \renewcommand*\tmarkml{}
1124 \renewcommand*\trimmark{}
1125 \renewcommand*\quarkmarks{}
1126 \renewcommand*\registrationColour[1]{}
1127
1128 \renewcommand*\leavespergathering[1]{}
1129
1130 \renewcommand*\noprelistbreak{}
1131
1132 \renewcommand*\cleartorecto{}
1133 \renewcommand*\cleartoverso{}
1134
1135 \renewenvironment{vplace}[1][{}]{}
```

### § 703.19 caption emulation

```
1136 \renewcommand*\captiondelim[1]{\renewcommand*\CaptionSeparator{#1}}
1137 \renewcommand*\captionnamefont[1]{}
1138 \renewcommand*\captiontitlefont[1]{}
1139 \renewcommand*\flushleft{}
1140 \renewcommand*\centerlastline{}
1141 \renewcommand*\captionstyle[2][{}]{
1142 \DeclareDocumentCommand{\captionwidth}{m}{}
```

```

1143 \renewcommand*\changepcaptionwidth{}
1144 \renewcommand*\normalcaptionwidth{}
1145 \renewcommand*\hangcaption{}
1146 \renewcommand*\indentcaption}[1]{}
1147 \renewcommand*\normalcaption{}
1148 \renewcommand{\precaption}[1]{}
1149 \renewcommand{\postcaption}[1]{}
1150 \renewcommand{\midbication}[1]{}
1151 \renewcommand{\contcaption}[1]{}
1152 % \ContinuedFloat%
1153 % \caption{#1}%
1154 \begin{LWR@figcaption}% later becomes \caption*
1155 \LWR@isolate{\@nameuse{\@capttype name}}~%
1156 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#1}%
1157 \end{LWR@figcaption}%
1158 }

1159 \newlength{\abovelegendskip}
1160 \setlength{\abovelegendskip}{0.5\baselineskip}
1161 \newlength{\belowlegendskip}
1162 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra `\\` here forces a `<br>` in HTML when `\legend` is used in a `\marginpar`.

```

1163 \renewcommand{\legend}[1]{\begin{center}#1\\end{center}}
1164
1165 \renewcommand{\namedlegend}[2][1]{}
1166 \begin{center}
1167 \@nameuse{fleg\@capttype}\CaptionSeparator#2\\
1168 \end{center}
1169 \@nameuse{flegtoc\@capttype}{#1}
1170 }

```

`\flegtable`, `\flegfigure`, `\flegtocable`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an `@` in `ccaption`.

```

1171 \renewcommand{\newfixedcaption}[3][\caption]{%
1172 \renewcommand{#2}{\def\@capttype{#3}#1}}
1173 \renewcommand{\rennewfixedcaption}[3][\caption]{%
1174 \renewcommand{#2}{\def\@capttype{#3}#1}}
1175 \renewcommand{\providefixedcaption}[3][\caption]{%
1176 \providecommand{#2}{\def\@capttype{#3}#1}}
1177
1178 \renewcommand{\bitwonumcaption}[6][1]{}
1179 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1180 \addtocounter{\@capttype}{-1}%
1181 \begingroup%
1182 \csdef{\@capttype name}{#4}%
1183 \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1184 \endgroup%
1185 \ifblank{#1}{\label{#1}}%
1186 }
1187
1188 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1189
1190 \renewcommand{\bicaption}[5][1]{}
1191 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1192 \begin{LWR@figcaption}% later becomes \caption*
1193 \LWR@isolate{#4} % space
1194 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%

```

```

1195 \end{LWR@figcaption}%
1196 \ifblank{#1}{\label{#1}}%
1197 }
1198
1199 \renewcommand{\bicontcaption}[3]{%
1200 \contcaption{#1}%
1201 \begingroup%
1202 \csdef{\@captype name}{#2}%
1203 \contcaption{#3}%
1204 \endgroup%
1205 }

```

Only in ccaption, not in memoir:

```

1206 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1207 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1208 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1209 \renewcommand{\@memsubbody}{%
1210 \bgroup
1211 \let\label=\memsub@label
1212 \ifdonemaincaption\else
1213 \advance\csname c@\@captype\endcsname\@ne
1214 \fi
1215 % \refstepcounter{sub\@captype}\@contkeep%
1216 % \leavevmode\lwarp
1217 \@ifnextchar [%
1218 {\@memsubfig}%
1219 {\@memsubfig[\@empty]}}
1220
1221 \renewcommand{\@memcontsubbody}{%
1222 \bgroup
1223 \let\label=\memsub@label
1224 \@contset
1225 % \refstepcounter{sub\@captype}\@contkeep%
1226 % \leavevmode\lwarp
1227 \@ifnextchar [%
1228 {\@memsubfig}%
1229 {\@memsubfig[\@empty]}}
1230
1231
1232 \long\def\@memsubfloat#1[#2][#3]#4{%
1233 % \@tempcnta=\@ne
1234 % \if@tightsubcap
1235 % \if@minipage
1236 % \@tempcnta=\z@
1237 % \else
1238 % \ifdim\lastskip=\z@
1239 % \@tempcnta=\@ne
1240 % \else
1241 % \@tempcnta=\tw@
1242 % \fi
1243 % \fi
1244 % \fi
1245 % \if@contbotsub
1246 % \def\subfig@top{\subfloattopskip}%
1247 % \def\subfig@bottom{\subfloatbottomskip}%
1248 % \else

```

```

1249 % \def\subfig@top{\subfloatbottomskip}%
1250 % \def\subfig@bottom{\subfloattopskip}%
1251 % \fi
1252 % \setbox\@tempboxa \hbox{#4}%
1253 % \@tempdima=\wd\@tempboxa
1254 % \vbox
1255 \bgroup%
1256 \mem@step@subcounter%
1257 % \vbox
1258 \LWR@stoppars%
1259 \minipagefullwidth% lwarp
1260 \begin{minipage}{\linewidth}% lwarp
1261 \bgroup
1262 % \ifcase\@tempcnta
1263 % \@minipagefalse
1264 % \or
1265 % \vspace{\subfig@top}
1266 % \or
1267 % \ifdim \lastskip=\z@ \else
1268 % \@tempskip\subfig@top\@xaddvskip
1269 % \fi
1270 % \fi
1271 \if@contbotsub
1272 #4% \box\@tempboxa
1273 \egroup
1274 \ifx \@empty#3\relax \else
1275 % \vskip\subfloatcapskip
1276 \@memsubcaption{#1}{#2}{#3}%
1277 \fi
1278 \else
1279 \ifx \@empty#3\relax \else
1280 \@memsubcaption{#1}{#2}{#3}%
1281 % \vskip\subfloatcapskip
1282 % \vskip\subfloatcaptopadj
1283 \fi\egroup
1284 #4% \box\@tempboxa
1285 \fi
1286 % \vspace{\subfig@bottom}
1287 \end{minipage}% lwarp
1288 \LWR@startpars% lwarp
1289 \egroup
1290 \egroup
1291 }

```

### § 703.20 Final patchwork

```

1292 \newlistof{tableofcontents}{toc}{\contentsname}
1293 \newlistof{listoffigures}{lof}{\listfigurename}
1294 \newlistof{listoftables}{lot}{\listtablename}

```

---

File 592 **lwarp-common-multimedia.sty**

§ 704 Package **common-multimedia**

lwarp-common-multimedia (*Pkg*) Common code for multimedia, movie15, and media9.

The packages multimedia, movie15, and media9 are supported.

HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]
2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}
7 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}

```

`\LWR@multimedia@printsizesize`

Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```

10 \newcommand*{\LWR@multimedia@printsizesize}{%
11 \setlength{\LWR@multimedia@maxdimension}{%
12 \maxof%
13 {\linewidth}%
14 {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15 }%

```

```

16 \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17 \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18 width:%
19 \LWR@printpercentlength%
20 {\LWR@multimedia@width}%
21 {\LWR@multimedia@maxdimension}vmin ; % space
22 }{%
23 \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24 height:%
25 \LWR@printpercentlength%
26 {\LWR@multimedia@height}%
27 {\LWR@multimedia@maxdimension}vmin ; % space
28 }{%
29 }

```

`\LWR@multimedia@fileAV`

`{\langle poster text \rangle} {\langle filename \rangle} {\langle audio/video \rangle} {\langle mimetype \rangle}`

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```

30 \newcommand*\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{"}{[\LWR@parsedfilename]}%

```

The container `<div>` is sized as desired.

```

33 \ifstrequal{#3}{audio}{%
34 \begin{BlockClass}{AVviewport}
35 }{%
36 \begin{BlockClass}[\LWR@multimedia@printsizel margin:auto]{AVviewport}
37 }

```

Paragraph tags are unnecessary for the A/v tags.

```
38 \LWR@stoppars
```

The A/v element is 100% of the container.

```

39 \LWR@htmltag{%
40 #3\ % space
41 \ifstrequal{#3}{audio}{%
42 width=\textquotedbl{}100%\textquotedbl\ % space
43 height=\textquotedbl{}100%\textquotedbl\ % space
44 }%
45 controls%
46 }\LWR@orignewline

```

The file source and type:

```

47 \LWR@htmltag{%
48 source % space
49 src=\textquotedbl%
50 \LWR@parsedfilename\unskip\textquotedbl\ % space
51 type=\textquotedbl{}#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the file.

```

52 \LWR@startpars
53 \LWR@href{\LWR@parsedfilename}{#1}
54 \LWR@stoppars

```

Finish.

```

55 \LWR@htmltag{/#3}\LWR@orignewline
56 \end{BlockClass}

```



```

57 }{%
58 \PackageError{lwarp-common-multimedia}
59 {File '#2' not found}
60 {Perhaps an incorrect path?}
61 }{%
62 }

```

`\LWR@multimedia@httpAV`       $\langle poster\ text \rangle$   $\langle filename \rangle$   $\langle audio/video \rangle$   $\langle mimetype \rangle$

Creates a video or audio from a URL link.

```
63 \newcommand*{\LWR@multimedia@httpAV}[4]{%
```

The container `<div>` is sized as desired.

```

64 \ifstrequal{#3}{audio}{%
65 \begin{BlockClass}{AVviewport}
66 }{%
67 \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
68 }

```

Paragraph tags are unnecessary for the A/v tags.

```
69 \LWR@stoppars
```

The A/v element is 100% of the container.

```

70 \LWR@htmltag{%
71 #3\ % space
72 \ifstrequal{#3}{audio}{}{%
73 width=\textquotedbl{}100%\textquotedbl\ % space
74 height=\textquotedbl{}100%\textquotedbl\ controls%
75 }%
76 }\LWR@orignewline

```

The file source and type:

```

77 \LWR@htmltag{%
78 source % space
79 src=\textquotedbl#2\textquotedbl\ % space
80 type=\textquotedbl#4\textquotedbl}

```

The poster text inside paragraph tags, along with a reference to the URL.

```

81 \LWR@startpars
82 \LWR@href{#2}{#1}
83 \LWR@stoppars

```

Finish.

```

84 \LWR@htmltag{/#3}\LWR@orignewline
85 \end{BlockClass}
86 }

```

`\LWR@multimedia@AV`       $\langle poster\ text \rangle$   $\langle filename \rangle$   $\langle audio/video \rangle$   $\langle mimetype \rangle$

Creates an audio or video from a file or a URL.

```

87 \newcommand*{\LWR@multimedia@AV}[4]{%
88 \IfBeginWith{#2}{http}%
89 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90 {%
91 \IfBeginWith{#2}{HTTP}%
92 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94 }%

```

95 }

\LWR@multimedia@embed

 $\langle poster\ text \rangle \langle URL\ or\ filename \rangle \langle mime\ type \rangle$ 

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the <embed> element is supported.

```

96 \newcommand*\LWR@multimedia@embed}[3]{%
97 \begin{BlockClass}[width:100\%]{AVviewport}%
98 \LWR@stoppars
99 \LWR@htmltag{%
100 embed % space
101 \ifblank{#3}{\type=\textquotedbl#3\textquotedbl }%
102 style=\textquotedbl\LWR@multimedia@printsize\ margin:auto\textquotedbl\ % space
103 src=\textquotedbl#2\textquotedbl\ % space
104 }%
105 \LWR@startpars
106 \end{BlockClass}
107 }
```

Error message if the comment character is used among the arguments of

\LWR@multimedia@percenterror

\LWR@multimedia@b.

```

108 \newcommand*\LWR@multimedia@percenterror){%
109 \PackageError{lwarp-media9}
110 {%
111 Do not use a percent comment between\MessageBreak
112 \protect\includemedia\space arguments%
113 }
114 {%
115 Percent is changed to a regular character\MessageBreak
116 to allow its use inside a URL.%
117 }
118 }
```

\LWR@multimedia@b

 $[\langle options \rangle] \langle poster\ text \rangle \langle filename \rangle$ 

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

119 \newcommand\*\LWR@multimedia@b}[3][[]]{%

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120 \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121 \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122 \if#3\@percentchar\LWR@multimedia@percenterror\fi%
```

Paragraph handling:

123 \LWR@stoppars%

Record the desired size.

```

124 \setlength{\LWR@multimedia@width}{0pt}%
125 \setlength{\LWR@multimedia@height}{0pt}%
126 \setkeys*{\LWR@multimedia}{#1}%
```

If a known A/V type, create an HTML5 <video> or <audio>.

127 \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%

```

128 \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129 \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130 \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%

```

If an arbitrary URL, embed it.

```

131 \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}}{%
132 \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}}{%
133 \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}}{%
134 \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}}{%

```

If unknown, create a link to it.

```

135 \LWR@href{#3}{#2}% unknown format
136 }}}}]}%

```

Paragraph handling:

```

137 \LWR@startpars%
138 \endgroup%
139 }

```

Catcodes which may apper in a URL.

```

140 \newrobustcmd*{\LWR@multimedia}{%
141 \begingroup%
142 \LWR@linkmediacatcodes%
143 \LWR@multimediab%
144 }

```

File 593 **lwarp-common-mathjax-letters.sty**

§ 705 Package **common-mathjax-letters**

lwarp-common-mathjax-letters Common code used by a number of packages to generate Greek math characters for MATHJAX.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

`\LWR@mathjax@addletter` \*  $\langle 2: \textit{capitalize name?} \rangle \langle 3: \textit{prefix} \rangle \langle 4: \textit{postfix} \rangle \langle 5: \textit{name} \rangle \langle 6: \textit{unicode} \rangle$

Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5 \IfBooleanTF{#2}%
6 {\edef\LWR@tempone{\LWRtexttitlecase{#5}}}%
7 {\edef\LWR@tempone{#5}}%
8 \xdef\LWR@customizedMathJax{%
9 \LWR@customizedMathJax%
10 \LWRbackslash(%
11 \LWRbackslash def\LWRbackslash%
12 #3% prefix
13 \LWR@tempone%name
14 #4% postfix
15 \LWRleftbrace%
16 }%
17 \IfBooleanTF{#1}{%
18 \xdef\LWR@customizedMathJax{%

```

```

19 \LWR@customizedMathJax%
20 \LWRbackslash mathit\LWRleftbrace%
21 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22 \LWRrightbrace%
23 }%
24 }{%
25 \xdef\LWR@customizedMathJax{%
26 \LWR@customizedMathJax%
27 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28 }%
29 }%
30 \xdef\LWR@customizedMathJax{%
31 \LWR@customizedMathJax%
32 \LWRrightbrace\LWRbackslash)\par%
33 }%
34 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@l@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{
36 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{03B1}
37 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{03B9}
49 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{03BA}
50 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{03F0}
51 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{03BB}
52 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{03BC}
53 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{03BD}
54 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{03BE}
55 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{03BF}
56 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03C0}
57 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}
58 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03C1}
59 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{03F1}
60 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03C3}
61 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{03C2}
62 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03C4}
63 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03C5}
64 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03D5}
65 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{03C6}
66 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03C7}
67 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03C8}
68 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03C9}
69 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```
70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{0391}
72 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{0392}
73 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{0393}
74 \LWR@mathjax@addletter{#1}{#2}{#3}{digamma}{03DC}
75 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{0394}
76 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{0395}
77 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{0396}
78 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{0397}
79 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{0398}
80 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{03F4}
81 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{0399}
82 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{039A}
83 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{039B}
84 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{039C}
85 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{039D}
86 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{039E}
87 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{039F}
88 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{03A0}
89 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{03D6}
90 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{03A1}
91 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{03A3}
92 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{03A4}
93 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{03A5}
94 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{03A6}
95 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{03A7}
96 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{03A8}
97 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{03A9}
98 }
```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@l@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```
99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6FC}
101 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6FD}
102 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
103 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6FE}
104 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
105 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6FF}
106 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D716}
107 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D700}
108 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D701}
109 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D702}
110 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D703}
111 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D717}
112 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D704}
113 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D705}
114 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D718}
115 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D706}
116 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D707}
```

```

117 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D708}
118 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D709}
119 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D70A}
120 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D70B}
121 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D71B}
122 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D70C}
123 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D71A}
124 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D70E}
125 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D70D}
126 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D70F}
127 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D710}
128 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D719}
129 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D711}
130 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D712}
131 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D713}
132 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D714}
133 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@eit

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@eit}{s m m}{
135 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6E2}
136 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6E3}
137 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6E4}
138 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
139 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6E5}
140 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6E7}
142 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6E8}
143 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6E9}
144 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6EA}
146 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6EB}
147 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6EC}
148 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6ED}
149 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6EE}
150 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6EF}
151 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6F0}
152 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6F1}
153 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6F2}
154 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6F4}
155 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6F5}
156 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6F6}
157 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6F7}
158 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6F8}
159 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6F9}
160 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6FA}
161 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@l@bfit

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{

```

```

163 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D736}
164 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D737}
165 \LWR@mathjax@addletter{#1}{#2}{#3}{varbeta}{03D0}
166 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D738}
167 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DD}
168 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D739}
169 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D750}
170 \LWR@mathjax@addletter{#1}{#2}{#3}{varepsilon}{1D73A}
171 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D73B}
172 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D73C}
173 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D73D}
174 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D751}
175 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D73E}
176 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D73F}
177 \LWR@mathjax@addletter{#1}{#2}{#3}{varkappa}{1D752}
178 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D740}
179 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D741}
180 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D742}
181 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D743}
182 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D744}
183 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D745}
184 \LWR@mathjax@addletter{#1}{#2}{#3}{varpi}{1D755}
185 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D746}
186 \LWR@mathjax@addletter{#1}{#2}{#3}{varrho}{1D754}
187 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D748}
188 \LWR@mathjax@addletter{#1}{#2}{#3}{varsigma}{1D747}
189 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D749}
190 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D74A}
191 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D753}
192 \LWR@mathjax@addletter{#1}{#2}{#3}{varphi}{1D74B}
193 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D74C}
194 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D74D}
195 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D74E}
196 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

`\LWR@mathjax@addgreek@u@bfit` Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
198 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D72B}

```

```

216 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D734}
224 }

```

\LWR@mathjax@addgreek@u@bfup is not needed.

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@u@bfup Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
226 \LWR@mathjax@addletter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addletter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addletter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addletter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addletter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addletter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addletter{#1}{#2}{#3}{zeta}{1D6AD}
233 \LWR@mathjax@addletter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addletter{#1}{#2}{#3}{theta}{1D6AF}
235 \LWR@mathjax@addletter{#1}{#2}{#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addletter{#1}{#2}{#3}{iota}{1D6B0}
237 \LWR@mathjax@addletter{#1}{#2}{#3}{kappa}{1D6B1}
238 \LWR@mathjax@addletter{#1}{#2}{#3}{lambda}{1D6B2}
239 \LWR@mathjax@addletter{#1}{#2}{#3}{mu}{1D6B3}
240 \LWR@mathjax@addletter{#1}{#2}{#3}{nu}{1D6B4}
241 \LWR@mathjax@addletter{#1}{#2}{#3}{xi}{1D6B5}
242 \LWR@mathjax@addletter{#1}{#2}{#3}{omicron}{1D6B6}
243 \LWR@mathjax@addletter{#1}{#2}{#3}{pi}{1D6B7}
244 \LWR@mathjax@addletter{#1}{#2}{#3}{rho}{1D6B8}
245 \LWR@mathjax@addletter{#1}{#2}{#3}{sigma}{1D6BA}
246 \LWR@mathjax@addletter{#1}{#2}{#3}{tau}{1D6BB}
247 \LWR@mathjax@addletter{#1}{#2}{#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addletter{#1}{#2}{#3}{phi}{1D6BD}
249 \LWR@mathjax@addletter{#1}{#2}{#3}{chi}{1D6BE}
250 \LWR@mathjax@addletter{#1}{#2}{#3}{psi}{1D6BF}
251 \LWR@mathjax@addletter{#1}{#2}{#3}{omega}{1D6C0}
252 }

```

$\langle prefix \rangle$

\LWR@mathjax@addlatin@u@bfit Adds \CustomizeMathjax expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addlatin@u@bfit}{m}{
254 \LWR@mathjax@addletter{\BooleanFalse}{#1}{A}{1D468}
255 \LWR@mathjax@addletter{\BooleanFalse}{#1}{B}{1D469}
256 \LWR@mathjax@addletter{\BooleanFalse}{#1}{C}{1D46A}
257 \LWR@mathjax@addletter{\BooleanFalse}{#1}{D}{1D46B}
258 \LWR@mathjax@addletter{\BooleanFalse}{#1}{E}{1D46C}
259 \LWR@mathjax@addletter{\BooleanFalse}{#1}{F}{1D46D}
260 \LWR@mathjax@addletter{\BooleanFalse}{#1}{G}{1D46E}

```



```

261 \LWR@mathjax@addletter{\BooleanFalse}{#1}{H}{1D46F}
262 \LWR@mathjax@addletter{\BooleanFalse}{#1}{I}{1D470}
263 \LWR@mathjax@addletter{\BooleanFalse}{#1}{J}{1D471}
264 \LWR@mathjax@addletter{\BooleanFalse}{#1}{K}{1D472}
265 \LWR@mathjax@addletter{\BooleanFalse}{#1}{L}{1D473}
266 \LWR@mathjax@addletter{\BooleanFalse}{#1}{M}{1D474}
267 \LWR@mathjax@addletter{\BooleanFalse}{#1}{N}{1D475}
268 \LWR@mathjax@addletter{\BooleanFalse}{#1}{O}{1D476}
269 \LWR@mathjax@addletter{\BooleanFalse}{#1}{P}{1D477}
270 \LWR@mathjax@addletter{\BooleanFalse}{#1}{Q}{1D478}
271 \LWR@mathjax@addletter{\BooleanFalse}{#1}{R}{1D479}
272 \LWR@mathjax@addletter{\BooleanFalse}{#1}{S}{1D47A}
273 \LWR@mathjax@addletter{\BooleanFalse}{#1}{T}{1D47B}
274 \LWR@mathjax@addletter{\BooleanFalse}{#1}{U}{1D47C}
275 \LWR@mathjax@addletter{\BooleanFalse}{#1}{V}{1D47D}
276 \LWR@mathjax@addletter{\BooleanFalse}{#1}{W}{1D47E}
277 \LWR@mathjax@addletter{\BooleanFalse}{#1}{X}{1D47F}
278 \LWR@mathjax@addletter{\BooleanFalse}{#1}{Y}{1D480}
279 \LWR@mathjax@addletter{\BooleanFalse}{#1}{Z}{1D481}
280 }

```

$\langle prefix \rangle$

`\LWR@mathjax@addlatin@l@bfit` Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addlatin@l@bfit}{m}{
282 \LWR@mathjax@addletter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addletter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addletter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addletter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addletter{\BooleanFalse}{#1}{e}{1D486}
287 \LWR@mathjax@addletter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addletter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addletter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addletter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addletter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addletter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addletter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addletter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addletter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addletter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addletter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addletter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addletter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addletter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addletter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addletter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addletter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addletter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addletter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addletter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addletter{\BooleanFalse}{#1}{z}{1D49B}
308 }
309 \end{warpMathJax}

```

File 594 **lwarp-common-mathjax-newpctxmath.sty**

§ 706 Package **common-mathjax-newpctxmath**

(Emulates or patches code by MICHAEL SHARPE.)

lwarp-common-mathjax-newpctxmath Common code used by newpctxmath, newtxmath, and newtxsf for MATHJAX.

(Pkg)

for HTML output:

```
1 \ProvidesPackage{lwarp-common-mathjax-newpctxmath}[2020/09/20]
```

For MATHJAX:

```
2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}
```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```
11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}
13
14 \CustomizeMathJax{\let\smllbrace\{ }
15 \CustomizeMathJax{\let\smrbrace\} }
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\! \unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\unicode{x2297}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgroupra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergroupla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{%
35 \stackrel{\unicode{x2218}}{\overgroup{#1}}%
36 }}
37 \CustomizeMathJax{\let\widearc\overparen}
38 \CustomizeMathJax{\let\wideOarc\overrightarrow}
39 \CustomizeMathJax{\newcommand{\LWRvvstar}[2]{\overrightarrow{#1}_{#2}}}
40 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRvvstar\overrightarrow}}
```

```

41 %
42 \CustomizeMathJax{\let\smallintsl\smallint}
43 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
46 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
47 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222F}}\limits}}
48 \CustomizeMathJax{\newcommand{\smallloiiintsl}{\mathop{\unicode{x2230}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallvarointclockwisesl}{%
50 \mathop{\unicode{x2232}}\limits%
51 }}
52 \CustomizeMathJax{\newcommand{\smallointctrlockwisesl}{%
53 \mathop{\unicode{x2233}}\limits%
54 }}
55 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\unicode{x2A0B}}\limits}}
56 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\unicode{x2A0F}}\limits}}
57 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\unicode{x2A16}}\limits}}
58 %
59 \CustomizeMathJax{\let\smallintup\smallint}
60 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
62 \CustomizeMathJax{\newcommand{\smalliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
64 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222F}}\limits}}
65 \CustomizeMathJax{\newcommand{\smallloiiintup}{\mathop{\unicode{x2230}}\limits}}
66 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{%
67 \mathop{\unicode{x2232}}\limits%
68 }}
69 \CustomizeMathJax{\newcommand{\smallointctrlockwiseup}{%
70 \mathop{\unicode{x2233}}\limits%
71 }}
72 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\unicode{x2A0B}}\limits}}
73 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\unicode{x2A0F}}\limits}}
74 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\unicode{x2A16}}\limits}}
75 %
76 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
77 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}
78 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\unicode{x2A0C}}\limits}}
79 \CustomizeMathJax{\newcommand{\oint}{\mathop{\unicode{x222F}}\limits}}
80 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
81 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
82 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
83 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
84 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
85 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
86 %
87 \CustomizeMathJax{\let\intsl\int}
88 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
89 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
90 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
91 \CustomizeMathJax{\let\ointsl\oint}
92 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x222F}}\limits}}
93 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x2230}}\limits}}
94 \CustomizeMathJax{\newcommand{\varointclockwisesl}{\mathop{\unicode{x2232}}\limits}}
95 \CustomizeMathJax{\newcommand{\ointctrlockwisesl}{\mathop{\unicode{x2233}}\limits}}
96 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\unicode{x2A0B}}\limits}}
97 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\unicode{x2A0F}}\limits}}
98 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\unicode{x2A16}}\limits}}
99 %
100 \CustomizeMathJax{\let\intup\int}

```

```

101 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
102 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
103 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x2A0C}}\limits}}
104 \CustomizeMathJax{\let\ointup\oint}
105 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x222F}}\limits}}
106 \CustomizeMathJax{\newcommand{\oiiintup}{\mathop{\unicode{x2230}}\limits}}
107 \CustomizeMathJax{\newcommand{\varointclockwiseup}{%
108 \mathop{\unicode{x2232}}\limits%
109 }}
110 \CustomizeMathJax{\newcommand{\ointctrlockwiseup}{%
111 \mathop{\unicode{x2233}}\limits%
112 }}
113 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\unicode{x2A0B}}\limits}}
114 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\unicode{x2A0F}}\limits}}
115 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\unicode{x2A16}}\limits}}
116 %
117 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
118 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\unicode{x2A04}}}}
119 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
120 %
121 %
122 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}}}
123 \CustomizeMathJax{\let\varprod\bigtimes}
124 %
125 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\unicode{x021A4}}}}
126 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
127 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
128 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicode{x027FB}}}}
129 %
130 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicode{x02907}}}}
131 \CustomizeMathJax{\let\Mapstochar\Mapsto}
132 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
133 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicode{x02906}}}}
134 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
135 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x02906}}}}
136 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
137 %
138 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x025CB}}}}
139 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
140 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
141 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
142 \CustomizeMathJax{\newcommand{\nvarparallel}{%
143 \mathrel{\LWROverlaysymbols{-}\unicode{x02AFD}}}%
144 }}
145 \CustomizeMathJax{\newcommand{\nvarparallelinv}{%
146 \mathrel{\LWROverlaysymbols{-}\unicode{x244A}}}%
147 }}
148 %
149 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
150 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
151 %
152 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

```

```

153 %
154 \CustomizeMathJax{\newcommand{\preceqq}{\mathrel{\unicode{x02AB3}}}}
155 \CustomizeMathJax{\newcommand{\succeqq}{\mathrel{\unicode{x02AB4}}}}
156 %
157
158 \CustomizeMathJax{\newcommand{\nprecsim}{%
159 \mathrel{\LWOverlaysymbols{/}{\unicode{x0227E}}}%
160 }}
161 \CustomizeMathJax{\newcommand{\nsucsim}{%
162 \mathrel{\LWOverlaysymbols{/}{\unicode{x0227F}}}%
163 }}
164 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
165 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
166 %

167 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
168 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
169 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
170 \CustomizeMathJax{\let\notowns\notni}
171 %
172 \CustomizeMathJax{\newcommand{\nlessapprox}{%
173 \mathrel{\LWOverlaysymbols{/}{\unicode{x02A85}}}%
174 }}
175 \CustomizeMathJax{\newcommand{\ngtrapprox}{%
176 \mathrel{\LWOverlaysymbols{/}{\unicode{x02A86}}}%
177 }}
178 %
179 \CustomizeMathJax{\newcommand{\npreccurlyeq}{%
180 \mathrel{\LWOverlaysymbols{/}{\unicode{x0227C}}}%
181 }}
182 \CustomizeMathJax{\newcommand{\nsuccurlyeq}{%
183 \mathrel{\LWOverlaysymbols{/}{\unicode{x0227D}}}%
184 }}
185 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
186 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
187 \CustomizeMathJax{\newcommand{\nbumpeq}{%
188 \mathrel{\LWOverlaysymbols{/}{\unicode{x0224F}}}%
189 }}
190 \CustomizeMathJax{\newcommand{\nBumpeq}{%
191 \mathrel{\LWOverlaysymbols{/}{\unicode{x0224E}}}%
192 }}
193 %
194 \CustomizeMathJax{\newcommand{\nbacksim}{%
195 \mathrel{\LWOverlaysymbols{/}{\unicode{x0223D}}}%
196 }}
197 \CustomizeMathJax{\newcommand{\nbacksimeq}{%
198 \mathrel{\LWOverlaysymbols{/}{\unicode{x022CD}}}%
199 }}
200 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
201 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
202 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
203 %
204 \CustomizeMathJax{\newcommand{\nll}{%
205 \mathrel{\LWOverlaysymbols{/}{\unicode{x0226A}}}%
206 }}
207 \CustomizeMathJax{\newcommand{\ngg}{%
208 \mathrel{\LWOverlaysymbols{/}{\unicode{x0226B}}}%
209 }}
210 \CustomizeMathJax{\newcommand{\nthickapprox}{%
211 \mathrel{\LWOverlaysymbols{/}{\mathbf{\unicode{x02248}}}}}%

```

```

212 }}
213 \CustomizeMathJax{\newcommand{\naproxpeq}{%
214 \mathrel{\LWROverlaysymbols{/}{\unicode{x0224A}}}%
215 }}
216 \CustomizeMathJax{\newcommand{\nprecapprox}{%
217 \mathrel{\LWROverlaysymbols{/}{\unicode{x02AB7}}}%
218 }}
219 \CustomizeMathJax{\newcommand{\nsuccapprox}{%
220 \mathrel{\LWROverlaysymbols{/}{\unicode{x02AB8}}}%
221 }}
222 \CustomizeMathJax{\newcommand{\npreceqq}{%
223 \mathrel{\LWROverlaysymbols{/}{\unicode{x02AB3}}}%
224 }}
225 \CustomizeMathJax{\newcommand{\nsucceqq}{%
226 \mathrel{\LWROverlaysymbols{/}{\unicode{x02AB4}}}%
227 }}
228 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
229 %
230 \CustomizeMathJax{\newcommand{\nSubset}{%
231 \mathrel{\LWROverlaysymbols{/}{\unicode{x022D0}}}%
232 }}
233 \CustomizeMathJax{\newcommand{\nSupset}{%
234 \mathrel{\LWROverlaysymbols{/}{\unicode{x022D1}}}%
235 }}
236 \CustomizeMathJax{\newcommand{\nqssubseteq}{\mathrel{\unicode{x022E2}}}}
237 \CustomizeMathJax{\newcommand{\nqsupseteq}{\mathrel{\unicode{x022E3}}}}
238 %
239 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
240 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
241 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}
242 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
243 \CustomizeMathJax{\newcommand{\Eqcolon}{\mathrel{-\unicode{x2237}}}}
244 %
245 \CustomizeMathJax{\newcommand{\lvec}[1]{%
246 \mathord{\overset{\unicode{x02190}}{#1}}%
247 }}
248 \CustomizeMathJax{\newcommand{\lrvec}[1]{%
249 \mathord{\overset{\unicode{x2194}}{#1}}%
250 }}
251 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{%
252 \mathord{\overset{\unicode{x021C0}}{#1}}%
253 }}
254 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{%
255 \mathord{\overset{\unicode{x021BC}}{#1}}%
256 }}
257 \CustomizeMathJax{\newcommand{\lrharpoonacc}[1]{%
258 \mathord{\overset{\unicode{x0294E}}{#1}}%
259 }}
260 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{#1}}}}
261 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{#1}}}}
262 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{#1}}}}}
263 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{#1}}}}
264 \CustomizeMathJax{\newcommand{\tildetilde}[1]{\mathord{\overset{\approx}{#1}}}}
265 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{#1}}}}}
266 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{#1}}}}}
267 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{#1}}}}}
268 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\hat{#1}}}}}
269
270 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
271 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\unicode{x2022}}}}

```

```

272 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
273 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
274 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\unicode{x025CF}}}}
275 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\unicode{x02B24}}}}
276 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
277
278 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\unicode{x0214B}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

279 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\large\unicode{x027C5}}}}
280 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\large\unicode{x027C6}}}}
281 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
282 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
283 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\unicode{x029B8}}}}

284 \CustomizeMathJax{\newcommand{\LJoin}{\mathrel{\unicode{x22C9}}}}
285 \CustomizeMathJax{\newcommand{\RJoin}{\mathrel{\unicode{x22CA}}}}
286 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\unicode{x2A1D}}}}
287
288 \CustomizeMathJax{\newcommand{\lRtimes}{\mathrel{\unicode{x2A1D}}}}
289 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
290 \CustomizeMathJax{\newcommand{\npluss}{%
291 \mathrel{\LWROverlaysymbols+}{\unicode{x02229}}}%
292 }}
293 \CustomizeMathJax{\newcommand{\nsqsubset}{%
294 \mathrel{\LWROverlaysymbols/}{\unicode{x0228F}}}%
295 }}
296 \CustomizeMathJax{\newcommand{\nsqsupset}{%
297 \mathrel{\LWROverlaysymbols/}{\unicode{x02290}}}%
298 }}
299 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
300 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
301 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\unicode{x02900}}}}
302 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
303 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
304 \CustomizeMathJax{\newcommand{\boxbslash}{\mathbin{\unicode{x29C5}}}}
305 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
306 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
307
308 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
309 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
310 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
311 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\unicode{x02664}}}}
312
313 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
314 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
315 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
316 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
317 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
318 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
319
320 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}
321
322 \CustomizeMathJax{\newcommand{\sqcupplus}{%
323 \mathbin{\LWROverlaysymbols+}{\unicode{x02294}}}%
324 }}
325 \CustomizeMathJax{\newcommand{\sqcapplus}{%
326 \mathbin{\LWROverlaysymbols+}{\unicode{x02293}}}%

```

```

327 }}
328
329 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}
330 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
331
332 \CustomizeMathJax{\newcommand{\varg}{g}}
333 \CustomizeMathJax{\newcommand{\vary}{y}}
334 \CustomizeMathJax{\newcommand{\varv}{v}}
335 \CustomizeMathJax{\newcommand{\varw}{w}}
336
337 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
338 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
339 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
340 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
341
342 \CustomizeMathJax{\newcommand{\upartial}{%
343 \mathord{\unicode{x02202}}}%
344 }}% not upright
345
346 \CustomizeMathJax{\let\varmathbb\mathbb}
347 \CustomizeMathJax{\let\vmathbb\mathbb}
348 \CustomizeMathJax{\let\vmathbb\mathbb}
349
350 \CustomizeMathJax{\let\smallprod\prod}
351 \CustomizeMathJax{\let\smallsum\sum}
352 \CustomizeMathJax{\let\smallcoprod\coprod}
353
354 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}
355 \CustomizeMathJax{\let\textsquare\openbox}

356 \CustomizeMathJax{\let\varepsilon\emptyset}
357 %
358 % for newpxmath:
359 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicode{x000A3}}}}
360 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicode{x000A2}}}}
361
362 \end{warpMathJax}

```

---

File 595 **lwarp-common-mathjax-nonunicode.sty**

§ 707 Package **common-mathjax-nonunicode**

*(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)*

lwarp-common-mathjax-nonunicode Common code used by newpxmath, newtxmath, newtxsf, kpfonts-otf for MATH-  
(Pkg) JAX. These are symbols not found in UNICODE.

Factored from lwarp-common-mathjax-newpctxmath.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}

```



```

5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\unicode{x021A6}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\unicode{x021A6}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\unicode{x021A4}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\unicode{x021A4}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}% from kpfonts-otf
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}% from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\unicode{x02907}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\unicode{x027FE}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\unicode{x02906}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}
19 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\unicode{x027FD}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom}% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmappedfrom}% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{%
24 \mathrel{\unicode{x025A1}}\!\!\unicode{x02192}}%
25 }}
26 \CustomizeMathJax{\newcommand{\boxleft}{%
27 \mathrel{\unicode{x02190}}\!\!\unicode{x025A1}}%
28 }}
29 \CustomizeMathJax{\newcommand{\boxdotright}{%
30 \mathrel{\unicode{x022A1}}\!\!\unicode{x02192}}%
31 }}
32 \CustomizeMathJax{\newcommand{\boxdotleft}{%
33 \mathrel{\unicode{x02190}}\!\!\unicode{x022A1}}%
34 }}
35
36 \CustomizeMathJax{\newcommand{\Diamondright}{%
37 \mathrel{\unicode{x025C7}}\!\!\unicode{x02192}}%
38 }}
39 \CustomizeMathJax{\newcommand{\Diamondleft}{%
40 \mathrel{\unicode{x02190}}\!\!\unicode{x025C7}}%
41 }}
42 \CustomizeMathJax{\newcommand{\Diamonddotright}{%
43 \mathrel{\unicode{x027D0}}\!\!\unicode{x02192}}%
44 }}
45 \CustomizeMathJax{\newcommand{\Diamonddotleft}{%
46 \mathrel{\unicode{x02190}}\!\!\unicode{x027D0}}%
47 }}
48
49 \CustomizeMathJax{\newcommand{\boxRight}{%
50 \mathrel{\unicode{x025A1}}\!\!\unicode{x021D2}}%
51 }}
52 \CustomizeMathJax{\newcommand{\boxLeft}{%
53 \mathrel{\unicode{x021D0}}\!\!\unicode{x025A1}}%
54 }}
55 \CustomizeMathJax{\newcommand{\boxdotRight}{%
56 \mathrel{\unicode{x022A1}}\!\!\unicode{x021D2}}%
57 }}
58 \CustomizeMathJax{\newcommand{\boxdotLeft}{%
59 \mathrel{\unicode{x021D0}}\!\!\unicode{x022A1}}%
60 }}
61
62 \CustomizeMathJax{\newcommand{\DiamondRight}{%
63 \mathrel{\unicode{x025C7}}\!\!\unicode{x021D2}}%
64 }}

```

```

65 \CustomizeMathJax{\newcommand{\DiamondLeft}{%
66 \mathrel{\unicode{x021D0}\!\unicode{x025C7}}%
67 }}
68 \CustomizeMathJax{\newcommand{\DiamonddotRight}{%
69 \mathrel{\unicode{x027D0}\!\unicode{x021D2}}%
70 }}
71 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{%
72 \mathrel{\unicode{x021D0}\!\unicode{x027D0}}%
73 }}
74 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\unicode{x027D0}}}}
75
76 \CustomizeMathJax{\newcommand{\circleright}{%
77 \mathrel{\unicode{x025CB}\!\unicode{x02192}}%
78 }}
79 \CustomizeMathJax{\newcommand{\circleleft}{%
80 \mathrel{\unicode{x02190}\!\unicode{x025CB}}%
81 }}
82 \CustomizeMathJax{\newcommand{\circledotright}{%
83 \mathrel{\unicode{x02299}\!\unicode{x02192}}%
84 }}
85 \CustomizeMathJax{\newcommand{\circledotleft}{%
86 \mathrel{\unicode{x02190}\!\unicode{x02299}}%
87 }}
88 \CustomizeMathJax{\let\circleddotright\circledotright}
89 \CustomizeMathJax{\let\circleddotleft\circledotleft}
90
91 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\unicode{x027DC}}}}
92 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\unicode{x029DF}}}}
93 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!\bullet}}}
94 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-}}}
95 \CustomizeMathJax{\newcommand{\multimapdotboth}{%
96 \mathrel{\!\bullet\!\!-\!\!-\!\!-\!\bullet}}%
97 }}
98 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicode{x022B6}}}}
99 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicode{x22B7}}}}
100
101 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
102 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CB}}{|}}}%
103 }}
104 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
105 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CF}}{|}}}%
106 }}
107 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
108 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CB}}{|}}}%
109 }}
110 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
111 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CF}}{|}}}%
112 }}
113
114 \CustomizeMathJax{\newcommand{\bignplus}{%
115 \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x22C2}}}}%
116 }}
117 \CustomizeMathJax{\let\bigcapplus\bignplus}
118 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
119
120 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
121 \mathop{\LWRoverlaysymbols{\unicode{xFF0B}}{\unicode{x2A05}}}}
122 }}
123 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf
124

```

```

125 \CustomizeMathJax{\newcommand{\bigscupplus}{%
126 \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x2A06}}}}
127 }}
128 \CustomizeMathJax{\let\scupplus\bigscupplus}% from kpfonts-otf
129
130 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
131 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
132 \mathrel{\unicode{x0005C}}\!\!\unicode{x0005C}}}%
133 }}
134
135 \CustomizeMathJax{\newcommand{\EqqColon}{\mathrel{=\!\unicode{x2237}}}}
136 \CustomizeMathJax{\let\eqqColon\EqqColon}% for kpfonts-otf
137 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\unicode{x2237}}}}
138 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x2237}-}}}
139
140 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{: \approx}}}
141 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{: \sim}}}
142 \CustomizeMathJax{\newcommand{\Colonapprox}{%
143 \mathrel{\unicode{x2237}\!\approx}}%
144 }}
145 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x2237}\!\sim}}}
146
147 \CustomizeMathJax{\newcommand{\strictif}{%
148 \mathrel{\unicode{x0297D}}}%
149 }}% right fish tail
150 \CustomizeMathJax{\newcommand{\strictfi}{%
151 \mathrel{\unicode{x0297C}}}%
152 }}% left fish tail
153 \CustomizeMathJax{\newcommand{\strictiff}{%
154 \mathrel{\unicode{x0297C}}\!\!\unicode{x0297D}}}%
155 }}% left/right fish tails
156
157 \CustomizeMathJax{\newcommand{\circledwedge}{%
158 \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}}%
159 }}
160 \CustomizeMathJax{\newcommand{\circledvee}{%
161 \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{0x02228}}}}%
162 }}
163 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
164
165 \CustomizeMathJax{\newcommand{\openJoin}{%
166 \mathrel{\unicode{x2AA4}}}%
167 }}% overlapping ><
168 \CustomizeMathJax{\newcommand{\opentimes}{%
169 \mathrel{\unicode{x2AA4}}}%
170 }}% overlapping ><
171
172 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
173
174 \CustomizeMathJax{\newcommand{\lambdabar}{%
175 \mathord{\LWROverlaysymbols{\raise{.5ex}{-}}{\Lambda}}}%
176 }}
177
178 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
179
180 \CustomizeMathJax{\newcommand{\Wr}{%
181 \mathbin{\unicode{x02240}}\!\!\unicode{x02240}}}%
182 }}
183
184 \CustomizeMathJax{\newcommand{\dashleftarrow}{%

```

```

185 \mathrel{\unicode{x021E0}\!\unicode{x021E2}}%
186 }}
187 \CustomizeMathJax{\let\leftrighthdasharrow\dashlefttrightharrow}% for kpfonts-otf
188
189 \end{warpMathJax}

```

---

File 596 **lwarp-common-mathjax-overlaysymbols.sty**

§ 708 Package **common-mathjax-overlaysymbols**

lwarp-common-mathjax-overlaysymbols Common code used by a number of packages to overlay two symbols for MATHJAX.

(Pkg)

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]

\LWRoverlaysymbols

$\langle symbol \rangle \langle symbol \rangle$

Overlays one symbol over another.

```

2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWRoverlaysymbols}[2]{%
5 \mathord{%
6 \smash{%
7 \mathop{\#2\strut}%
8 \limits^{\smash{\lower3ex{\#1}}}%
9 }%
10 \strut%
11 }%
12 }}
13
14 \end{warpMathJax}

```

# Change History

## § 709 Chg Hist

For the most recent changes, see page [1376](#).

|        |                                                               |      |                                                                                      |                               |
|--------|---------------------------------------------------------------|------|--------------------------------------------------------------------------------------|-------------------------------|
| v0.013 | \LWR@restoreorigformatting:<br>Added \nobreakspace. . . . .   | 546  | \LWR@htmlsectionfilename: Fix:<br>Links to home page. . . . .                        | 346                           |
| v0.10  | General: 2016/03/08 Initial version                           | 1    | v0.15                                                                                | General: 2016/04/06 . . . . . |
| v0.11  | General: 2016/03/11 . . . . .                                 | 1    | Added. . . . .                                                                       | 835                           |
|        | Added section: Operating-System<br>portability. . . . .       | 233  | Ampersand (&): Fixed handling<br>when passed as an argument. . . . .                 | 452                           |
|        | Added section: Selecting the<br>operating system. . . . .     | 119  | Docs: Added warning icons for<br>items needing special<br>attention. . . . .         | 207                           |
|        | Test Suite: MS-WINDOWS in<br>README.txt . . . . .             | 1    | Docs: Clarify print/HTML output. . . . .                                             | 119                           |
|        | Test Suite: limages and index in<br>README.txt . . . . .      | 1    | Docs: Moved the supported<br>features table to the<br>introduction. . . . .          | 69                            |
| v0.12  | General: 2016/03/14 . . . . .                                 | 1    | Files: lwrap_formal.css added. . . . .                                               | 1                             |
|        | Global: Uses \p@(type) in float<br>captions. . . . .          | 1    | Fix: steps counter . . . . .                                                         | 835                           |
|        | Test Suite: Sub-figures . . . . .                             | 1    | Fixed & handling. . . . .                                                            | 833                           |
|        | \LWR@newhtmlfile: Bugfix: toc<br>with numbered files. . . . . | 395  | Test Suite: test_suite_formal.css<br>file added. . . . .                             | 1                             |
| v0.13  | General: 2016/03/24 . . . . .                                 | 1    | v0.16                                                                                | General: 2016/04/11 . . . . . |
|        | Fix dollar-redefined bug for<br>newer package. . . . .        | 1208 | \titlingpage: Improved<br>print-output spacing. . . . .                              | 423                           |
|        | Removed package: subfig . . . . .                             | 1    | xfrac: Adjusted for the use of any<br>font: . . . . .                                | 1271                          |
|        | Test Suite: Ordinals, Subcaption . . . . .                    | 1    | Added XeLaTeX, LuaLaTeX<br>support. . . . .                                          | 208                           |
|        | \CaptionSeparator: Fix for newer<br>babel package. . . . .    | 524  | Docs: Font and UTF-8 support. . . . .                                                | 103                           |
|        | \LWR@LwrapStart: \up and \fup . . . . .                       | 414  | Docs: Moved location of<br>\usepackage{lwrap}. . . . .                               | 106                           |
| v0.14  | General: 2016/03/31 . . . . .                                 | 1    | Docs: Text not converting. . . . .                                                   | 199                           |
|        | floatrow: Added. . . . .                                      | 831  | Lwrap no longer selects<br>fonts. . . . .                                            | 103, 244                      |
|        | Docs: Commands for a<br>successful HTML conversion. . . . .   | 124  | Removed package: suffix . . . . .                                                    | 1                             |
|        | Docs: Commands into a<br>warpprint environment. . . . .       | 121  | Test Suite: Improved titlingpage. . . . .                                            | 423                           |
|        | Docs: Newclude limitations. . . . .                           | 177  | Test Suite: Lwrap no longer<br>selects fonts. . . . .                                | 1                             |
|        | Docs: Table: Cross-referencing<br>data structures. . . . .    | 505  | Test Suite: Supports XeLaTeX,<br>LuaLaTeX. . . . .                                   | 1                             |
|        | Docs: Table: Float data<br>structures. . . . .                | 520  | v0.17                                                                                | General: 2016/04/14 . . . . . |
|        | Docs: Trademarks section. . . . .                             | 204  | mdframed: Added. . . . .                                                             | 970                           |
|        | Docs: Troubleshooting<br>cross-references. . . . .            | 199  | Test Suite: Fix: Print-version<br>front-matter page numbers. . . . .                 | 1                             |
|        | Test Suite: Assigned cleveref<br>name for Test Float. . . . . | 1    | Test Suite: Mdframed . . . . .                                                       | 1                             |
|        | Test Suite: Floatrow . . . . .                                | 1    | \LWR@htmlsectionfilename: Fix:<br>Links when entire doc is one<br>HTML page. . . . . | 346                           |
|        |                                                               |      | v0.18                                                                                | General: 2016/05/19 . . . . . |
|        |                                                               |      |                                                                                      | 1                             |

|                                                                             |          |                                                                                |      |
|-----------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------|------|
| graphics: Add: svg file extension.                                          | 873      | titles: null \pagestyle and<br>\thispagestyle for HTML.                        | 1209 |
| graphics: Fix: \linewidth,<br>\textwidth, \textheight<br>inside a minipage. | 873      | \HomeHTMLfilename: Docs: Escape<br>filename underscores.                       | 345  |
| graphics: Improved HTML output<br>linebreaks.                               | 873      | \hspace: Fix: \hspace length<br>computations.                                  | 624  |
| graphics: em, ex, %, px<br>dimensions preserved.                            | 873      | \HTMLfilename: Docs: Escape<br>filename underscores.                           | 345  |
| File: lwrap.css: Improved toc<br>outline display.                           | 1        | \LateximageFontSizeName: Add:<br>User-adjustable<br>math/lateximage font size. | 577  |
| Files: lwrap.css and<br>lwrap_formal.css: Improved<br>responsive design.    | 1        | \LWR@doequation: MATHJAX<br>support.                                           | 568  |
| Microtype disabled during HTML<br>generation                                | 244      | \LWR@doubledollar: MATHJAX<br>support.                                         | 560  |
| PDF Unicode input characters.                                               | 226      | \LWR@filestart: lwrap_mathjax.txt<br>loaded.                                   | 410  |
| Test Suite: Verse package                                                   | 1        | \LWR@LwrapStart: Enabled \\<br>equal<br>to \newline.                           | 413  |
| \hspace: \hspace supported.                                                 | 624      | \LWR@minipagestartpars:<br>Suppresses paragraph tags<br>between minipages.     | 623  |
| lateximage: pdfcrop: --hires<br>added.                                      | 580      | \LWR@subsingledollar: MATHJAX<br>support.                                      | 559  |
| Reorganize \HomeHTMLfilename<br>logic.                                      | 580      | \minipagefullwidth: Added: No<br>width tag for the next minipage<br>in HTML.   | 601  |
| Suppress extra space.                                                       | 580      | \warpHTMLonly: Added.                                                          | 241  |
| \LWR@mymshorttoc: Reorganize<br>\HomeHTMLfilename logic.                    | 528      | \warpprintonly: Replaces<br>\rowprintedonly.                                   | 241  |
| \LWR@newhtmlfile: sideroc after<br>title, improving responsive<br>design.   | 394      | \xfracHTMLfontsize: Added.                                                     | 1271 |
| \LWR@requesttoc: Reorganize<br>\HomeHTMLfilename logic.                     | 416      | v0.20                                                                          |      |
| \LWR@subhyperref: Improved HTML<br>output linebreaks.                       | 516      | General: 2017/02/09                                                            | 1    |
| \LWR@subhyperrefclass: Improved<br>HTML output linebreaks.                  | 517      | afterpage: Added.                                                              | 653  |
| \LWR@subinlineimage: Suppress<br>extra space.                               | 519      | alltt: Added.                                                                  | 658  |
| minipage: Fix: \linewidth,<br>\textwidth, \textheight<br>inside a minipage. | 602      | bookmark: Added.                                                               | 699  |
| verse: Supports verse, memoir<br>packages.                                  | 1248     | caption and subcaption<br>supported.                                           | 1    |
| v0.19                                                                       |          | cleveref and referencing patches:<br>Applied \AfterEndPreamble.                | 753  |
| General: 2016/06/08                                                         | 1        | draftwatermark: Added.                                                         | 773  |
| css for table note item.                                                    | 1206     | eso-pic: Added.                                                                | 794  |
| MATHJAX support added.                                                      | 565, 572 | everypage: Added.                                                              | 798  |
| multirow: Added optional args.                                              | 1003     | extramarks: Added.                                                             | 799  |
| xcolor: Supports colored \rule.                                             | 1263     | fancyhdr: Added.                                                               | 806  |
| Adapts to tikz version.                                                     | 1208     | float: Improved float caption type<br>handling.                                | 828  |
| Avoids MATHJAX.                                                             | 552      | graphics: Fix: Expands filename.                                               | 873  |
| cleveref: Loaded<br>\AtEndPreamble.                                         | 598      | graphics: Fix: \linewidth in a<br>floatrow.                                    | 873  |
| Docs: Math options.                                                         | 106      | hyperref: Additional user<br>macros.                                           | 885  |
| Docs: Table: Cross-referencing<br>data structures, updated.                 | 505      | keyfloat: Added.                                                               | 908  |
| File: lwrap.css:<br>tnoteitemheader added.                                  | 1        | letterspace: User-interface<br>emulated.                                       | 922  |
| File: lwrap_mathjax.txt added.                                              | 1        | listings: Added.                                                               | 932  |
| Introduction: MATHJAX support<br>mentioned.                                 | 66       | ltcaption: Added.                                                              | 943  |
| Options: mathsvg and mathjax                                                | 236      | lwrap-newproject: Added.                                                       | 269  |
|                                                                             |          | microtype: User-interface<br>emulated.                                         | 986  |

|                                                                              |      |                                                                                                          |     |
|------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------|-----|
| needspace: Added. . . . .                                                    | 1014 | \InLineClass: Renamed from "inlineclass". . . . .                                                        | 361 |
| nowidow: Added. . . . .                                                      | 1030 | \LWR@closeparagraph: \unskip extra spaces. . . . .                                                       | 365 |
| placeins: Added. . . . .                                                     | 1067 | No break tags in the start/end of a tabular. . . . .                                                     | 365 |
| ragged2e: Added. . . . .                                                     | 1075 | \LWR@endofline: Fix: \\ . . . . .                                                                        | 623 |
| setspace: Improved support. . . . .                                          | 1098 | \LWR@filestart: Adds meta description. . . . .                                                           | 410 |
| symptex: Added. . . . .                                                      | 1177 | \LWR@htmldivclass: Added optional style. . . . .                                                         | 360 |
| textpos: Added. . . . .                                                      | 1198 | \LWR@htmlElementclass: Added optional style. . . . .                                                     | 359 |
| titles: Added. . . . .                                                       | 1209 | \LWR@htmlsectionfilename: HTMLFilename: removed additional trailing '-', and may be empty. . . . .       | 346 |
| titlesec: Added. . . . .                                                     | 1212 | Sections called "Index" or "index" have an underscore prepended to their filenames if no prefix. . . . . | 346 |
| titletoc: Added. . . . .                                                     | 1214 | \LWR@hyperindexrefsbstwo: Print mode provided in case hyperref not used. . . . .                         | 543 |
| titling: Improved compatibility. . . . .                                     | 1216 | \LWR@longtabledatacaptiontag: Fix: Pars in captions. . . . .                                             | 489 |
| tocloft: Added. . . . .                                                      | 1224 | LWR@nestspan: Fix: Minipages inside a span. . . . .                                                      | 356 |
| wallpaper: Added. . . . .                                                    | 1253 | \LWR@section: Combined higher-level sections together into files. . . . .                                | 401 |
| wrapfig: Added. . . . .                                                      | 1256 | \LWR@setOSWindows: Auto-detects operating system. . . . .                                                | 234 |
| xetexko: Added. . . . .                                                      | 1269 | \LWR@subhtmlElementclass: Factored code. . . . .                                                         | 359 |
| Added @, <, > columns. . . . .                                               | 445  | \pageref: Added. . . . .                                                                                 | 514 |
| Added single-expansion data arrays. . . . .                                  | 341  | \SetHTMLFileNumber: Add: Control file numbers. . . . .                                                   | 345 |
| Code factored into independent lwarp_html files. . . . .                     | 640  | \tracinglwarp: Added. . . . .                                                                            | 257 |
| Docs: Examples for generating HTML file names. . . . .                       | 117  | verbatim: Added. . . . .                                                                                 | 433 |
| Docs: Improved index. . . . .                                                | 1    | v0.21                                                                                                    |     |
| Enhanced titling support. . . . .                                            | 422  | General: 2017/02/23 . . . . .                                                                            | 1   |
| File: lwarp.css: Minor fixes for validation. . . . .                         | 1    | fontenc: Added. . . . .                                                                                  | 842 |
| File: lwarpmk used to compile print, HTML, indexes, and lateximages. . . . . | 1    | <i>lwarpmk</i> : Fix: <i>lwarpmk</i> again for WINDOWS. . . . .                                          | 320 |
| Fix: \linewidth in a floatrow. . . . .                                       | 834  | <i>lwarpmk</i> : Fix: <i>lwarpmk</i> <i>limages</i> for WINDOWS. . . . .                                 | 320 |
| Moved sidebar and example code to test suite. . . . .                        | 1    | <i>lwarpmk</i> : Fix: <i>lwarpmk</i> uses lateximages text file instead of shell script. . . . .         | 320 |
| Page geometry set to 6in wide with large margins. . . . .                    | 245  | Add: Errors for misplaced packages. . . . .                                                              | 209 |
| Parallel versions of aux files for print/HTML. . . . .                       | 1    | Docs: Added internet class. . . . .                                                                      | 75  |
| Removed reliance on make, grep, gawk. . . . .                                | 1    | Docs: Added TeX2page, GladTeX. . . . .                                                                   | 75  |
| Tabular: \unskip extra spaces. . . . .                                       | 445  | Docs: Installing on WINDOWS. . . . .                                                                     | 81  |
| Test Suite: HTML meta descriptions. . . . .                                  | 1    | File: lwarp_tutorial.txt added. . . . .                                                                  | 85  |
| BlockClass: Added optional style. . . . .                                    | 361  | \LWR@filestart: Skip title if not given. . . . .                                                         | 410 |
| Renamed from "blockclass". . . . .                                           | 361  | \LWR@LwarpStart: Changed lateximages to a .txt file. . . . .                                             | 413 |
| \BlockClassSingle: Renamed from "LWR@htmldivclassline". . . . .              | 361  |                                                                                                          |     |
| \cpagerefFor: User-redefinable word for page references. . . . .             | 754  |                                                                                                          |     |
| \dotfill: Inserts an ellipsis. . . . .                                       | 622  |                                                                                                          |     |
| \hfill: Inserts a \quad. . . . .                                             | 622  |                                                                                                          |     |
| \HomeHTMLFilename: No longer escape underscores. . . . .                     | 345  |                                                                                                          |     |
| \hrulefill: Inserts a short rule. . . . .                                    | 622  |                                                                                                          |     |
| \hspace: Add: Supports HTML thin breakable space. . . . .                    | 624  |                                                                                                          |     |
| \HTMLDescription: Added \NewHTMLdescription. (Renamed in v0.30.) . . . . .   | 372  |                                                                                                          |     |
| \HTMLFilename: No longer escape underscores. . . . .                         | 345  |                                                                                                          |     |

|                                                                                                                                           |      |                                                                                                                                                                      |        |
|-------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <code>\LWR@newhtmlfile</code> : Skip title if not given. . . . .                                                                          | 394  | <code>framed</code> : Added. . . . .                                                                                                                                 | 849    |
| <code>\marginpar</code> : Fixed source listing. . . . .                                                                                   | 379  | <code>lips</code> : Added. . . . .                                                                                                                                   | 931    |
| <code>\marginparBlock</code> : Fixed source listing. . . . .                                                                              | 380  | <code>mdframed</code> : Help avoid hyphenation. . . . .                                                                                                              | 972    |
| v0.22                                                                                                                                     |      | <code>ntheorem</code> : Added. . . . .                                                                                                                               | 1031   |
| General: 2017/03/02 . . . . .                                                                                                             | 1    | <code>showidx</code> : Added. . . . .                                                                                                                                | 1100   |
| <code>abstract</code> : Added. . . . .                                                                                                    | 642  | <code>theorem</code> : Added. . . . .                                                                                                                                | 1199   |
| <code>changePage</code> : Added. . . . .                                                                                                  | 714  | Basic L <sup>A</sup> T <sub>E</sub> X theorems: improved css. . . . .                                                                                                | 434    |
| <code>dcolumn</code> : Added. . . . .                                                                                                     | 767  | Docs: Adds credits for patched code. . . . .                                                                                                                         | 1      |
| <code>ftnright</code> : Added. . . . .                                                                                                    | 852  | Docs: Testing <code>lwarp</code> . . . . .                                                                                                                           | 195    |
| <code>geometry</code> : Nullified commands. . . . .                                                                                       | 861  | Fix: Allows XE <sup>L</sup> A <sub>T</sub> E <sub>X</sub> and Lua <sup>L</sup> A <sub>T</sub> E <sub>X</sub> to preload graphics and <code>graphicx</code> . . . . . | 215    |
| <code>layout</code> : Added. . . . .                                                                                                      | 918  | <code>\addcontentsline</code> : Handles theorems. . . . .                                                                                                            | 527    |
| <code>lscap</code> : Added. . . . .                                                                                                       | 942  | <code>\LWR@loadnever</code> : Added the ability to prevent conflicting packages. . . . .                                                                             | 211    |
| <code>mcaption</code> : Added. . . . .                                                                                                    | 970  | v0.26                                                                                                                                                                |        |
| <code>nameref</code> : Added. . . . .                                                                                                     | 1011 | General: 2017/03/31 . . . . .                                                                                                                                        | 1      |
| <code>nextPage</code> : Added. . . . .                                                                                                    | 1017 | <code>lwarp.css</code> : Improved responsive <code>marginpar</code> and <code>marginblock</code> . . . . .                                                           | 276    |
| <code>parskip</code> : Added. . . . .                                                                                                     | 1052 | <code>cutwin</code> : Added. . . . .                                                                                                                                 | 765    |
| <code>showkeys</code> : Added. . . . .                                                                                                    | 1100 | <code>endnotes</code> : Added. . . . .                                                                                                                               | 780    |
| <code>sidecap</code> : Added. . . . .                                                                                                     | 1102 | <code>floatflt</code> : Added. . . . .                                                                                                                               | 830    |
| <code>tabularx</code> : Added. . . . .                                                                                                    | 1179 | <code>footmisc</code> : Added. . . . .                                                                                                                               | 843    |
| <code>varioref</code> : Supported. . . . .                                                                                                | 133  | <code>footnotehyper</code> : Added. . . . .                                                                                                                          | 846    |
| <code>verse</code> : Added. . . . .                                                                                                       | 1247 | <code>footnote</code> : Added. . . . .                                                                                                                               | 844    |
| <code>\LWR@parsebangcolumn</code> : Added <code>tabular ! column</code> . . . . .                                                         | 457  | <code>marginfix</code> : Added. . . . .                                                                                                                              | 955    |
| <code>\LWR@parsetablecols</code> : Unknown table column types become <code>l</code> . Added <code>tabular D, !, X</code> columns. . . . . | 466  | <code>marginnote</code> : Added. . . . .                                                                                                                             | 955    |
| <code>\LWR@printmcoldata</code> : Added <code>tabular D, !, and X</code> columns. . . . .                                                 | 484  | <code>mparhack</code> : Added. . . . .                                                                                                                               | 998    |
| v0.23                                                                                                                                     |      | <code>pagenote</code> : Supported as-is. . . . .                                                                                                                     | 1045   |
| General: 2017/03/02 . . . . .                                                                                                             | 1    | <code>sidenotes</code> : Added. . . . .                                                                                                                              | 1103   |
| <code>\LWR@parsetablecols</code> : Fix for vert bar column type. . . . .                                                                  | 466  | Docs: Improved MiK <sub>T</sub> E <sub>X</sub> install instructions. . . . .                                                                                         | 80, 81 |
| <code>\LWR@printmcoldata</code> : Fix for vert bar column type. . . . .                                                                   | 484  | Dollar span avoided in a <code>lateximage</code> . . . . .                                                                                                           | 552    |
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# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries starting with page 207 are often duplicates of entries with lower page numbers, as the same warning may occur within the user manual and again within the source code.

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