The texvc package*

Moritz Schubotz
moritz.schubotz@fiz-karlsruhe.de

2025/11/15

Abstract

This package provides all[1] LaTeX command available in MediaWiki. This includes several packages like amsmath, and adds some specific commands such as `\Reals`.

1 Provided Macros

1.1 Arrows

The first group of MediaWiki custom command (other_delimiters2) defines short hand notations for some arrows.

`\darr` Short hand notation for arrow $\downarrow$.

`\dArr` Short hand notation for arrow $\Downarrow$.

`\Darr` Short hand notation for arrow $\Downarrow$.

`\lang` Short hand notation for arrow $\langle$.

`\rang` Short hand notation for arrow $\rangle$.

`\uarr` Short hand notation for arrow $\uparrow$.

`\uArr` Short hand notation for arrow $\Uparrow$.

`\Uarr` Short hand notation for arrow $\Uparrow$.

1.2 Literals

The second group of MediaWiki custom commands (other_litereals3) defines short hand notations for some literals.

`\C` Short hand notation for literal $\mathbb{C}$. *This command is deprecated.*

`\H` Short hand notation for literal $\mathbb{H}$. *This command is deprecated.*

`\N` Short hand notation for literal $\mathbb{N}$.

`\Q` Short hand notation for literal $\mathbb{Q}$.

*This document corresponds to texvc v1.3, dated 2025/11/15.

[1] The command `\or` is only available if custom code is copied into your LaTeX-file. See page 10 for details.

`\R` Short hand notation for literal $\mathbb{R}$.

`\Z` Short hand notation for literal $\mathbb{Z}$.

`\alef` Short hand notation for literal $\aleph$.

`\alefsym` Short hand notation for literal $\aleph$.

`\Alpha` Short hand notation for literal A.

`\and` Short hand notation for literal $\wedge$. *This command is deprecated.*

`\ang` Short hand notation for literal $\angle$. *This command is deprecated.*

`\Beta` Short hand notation for literal B.

`\bull` Short hand notation for literal $\bullet$.

`\Chi` Short hand notation for literal X.

`\clubs` Short hand notation for literal $\clubsuit$.

`\cnums` Short hand notation for literal $\mathbb{C}$.

`\Complex` Short hand notation for literal $\mathbb{C}$.

`\Dagger` Short hand notation for literal $\ddagger$.

`\diamonds` Short hand notation for literal $\diamondsuit$.

`\Doteq` Short hand notation for literal $\doteqdot$.

`\doublecap` Short hand notation for literal $\Cap$.

`\doublecup` Short hand notation for literal $\Cup$.

`\empty` Short hand notation for literal $\emptyset$.

`\Epsilon` Short hand notation for literal E.

`\Eta` Short hand notation for literal H.

`\exist` Short hand notation for literal $\exists$.

`\ge` Short hand notation for literal $\geq$.

`\gggtr` Short hand notation for literal $\ggg$.

`\hAar` Short hand notation for literal $\Leftrightarrow$.

`\harr` Short hand notation for literal $\leftrightarrow$.

`\Harr` Short hand notation for literal $\Leftrightarrow$.

`\hearts` Short hand notation for literal $\heartsuit$.

`\image` Short hand notation for literal $\Im$.

`\infin` Short hand notation for literal ∞.

`\Iota` Short hand notation for literal I.

`\isin` Short hand notation for literal $\in$.

`\Kappa` Short hand notation for literal K.

`\larr` Short hand notation for literal $\leftarrow$.

`\Larr` Short hand notation for literal $\Leftarrow$.

`\lArr` Short hand notation for literal $\Leftarrow$.

`\le` Short hand notation for literal $\leq$.

`\lrarr` Short hand notation for literal $\leftrightarrow$.

`\Lrarr` Short hand notation for literal $\Leftrightarrow$.

`\lrArr` Short hand notation for literal $\Leftrightarrow$.

`\Mu` Short hand notation for literal M.

`\natnums` Short hand notation for literal $\mathbb{N}$.

`\ne` Short hand notation for literal $\neq$.

`\Nu` Short hand notation for literal N.

`\O` Short hand notation for literal $\emptyset$.

`\omicron` Short hand notation for literal o.

`\Omicron` Short hand notation for literal O.

`\or` Short hand notation for literal $\vee$. *This command is deprecated.*

`\part` Short hand notation for literal ∂. *This command is deprecated.*

`\plusmn` Short hand notation for literal $\pm$.

`\rarr` Short hand notation for literal $\rightarrow$.

`\Rarr` Short hand notation for literal $\Rightarrow$.

`\rArr` Short hand notation for literal $\Rightarrow$.

`\real` Short hand notation for literal $\mathfrak{R}$.

`\reals` Short hand notation for literal $\mathbb{R}$.

`\Reals` Short hand notation for literal $\mathbb{R}$.

`\restriction` Short hand notation for literal $\restriction$.

`\Rho` Short hand notation for literal P.

`\sdot` Short hand notation for literal $\cdot$.

`\sect` Short hand notation for literal §.

`\spades` Short hand notation for literal $\spadesuit$.

`\sub` Short hand notation for literal $\subset$.

`\sube` Short hand notation for literal $\subseteq$.

`\supe` Short hand notation for literal $\supseteq$.

`\Tau` Short hand notation for literal T.

`\thetasym` Short hand notation for literal ϑ.

`\varcoppa` Short hand notation for literal ϙ.

`\weierp` Short hand notation for literal ℘.

`\Zeta` Short hand notation for literal Z.

2 Deprecations

According to the decision of *Wikimedia Community User Group Math*[2] the following macros have been deprecated[3]:

1. `$`
2. `%`
3. `\and`
4. `\or`
5. `\part`
6. `\ang`
7. `\C`
8. `\H`
9. `\bold`
10. `\Bbb`

The commands 1,2,4,9,10 have never been part of this package, but were available from within Wikipedia.

[2] `https://meta.wikimedia.org/w/index.php?oldid=19705444`

[3] See `https://phabricator.wikimedia.org/T197842` for the discussion.

3 Dependencies

MediaWiki uses LaTeX macros from the following packages in addition to the standard LaTeX packages:

- amsmath
- amsfonts
- amssymb
- color
- babel
- teubner
- eurosym
- cancel
- bbold
- mhchem
- stix
- arcs

This LaTeX package requires those packages automatically, so that all commands that are usable on MediaWiki are also usable in LaTeX. For a list of the provided commands, see Section A. In addition, the MediaWiki help page for math (see `https://en.wikipedia.org/wiki/WP:Math`) provides additional details on their usage.

4 Implementation

\darr This macro does the following replacement.

```
\newcommand{\darr}{\downarrow}
```

\dArr This macro does the following replacement.

```
\newcommand{\dArr}{\Downarrow}
```

\Darr This macro does the following replacement.

```
\newcommand{\Darr}{\Downarrow}
```

\lang This macro does the following replacement.

```
\newcommand{\lang}{\langle}
```

\rang This macro does the following replacement.

```
\newcommand{\rang}{\rangle}
```

\uarr This macro does the following replacement.

```
\newcommand{\uarr}{\uparrow}
```

\uArr This macro does the following replacement.

```
\newcommand{\uArr}{\Uparrow}
```

\Uarr This macro does the following replacement.

```
\newcommand{\Uarr}{\Uparrow}
```

\C This macro does the following replacement.

```
%\newcommand{\C}{\mathbb{C}}
```

\H This macro does the following replacement.

```
\renewcommand{\H}{\mathbb{H}}
```

\N This macro does the following replacement.

```
\newcommand{\N}{\mathbb{N}}
```

\Q This macro does the following replacement.

```
\newcommand{\Q}{\mathbb{Q}}
```

\R This macro does the following replacement.

```
\newcommand{\R}{\mathbb{R}}
```

`\Z` This macro does the following replacement.

```
\newcommand{\Z}{\mathbb{Z}}
```

`\alef` This macro does the following replacement.

```
\newcommand{\alef}{\aleph}
```

`\alefsym` This macro does the following replacement.

```
\newcommand{\alefsym}{\aleph}
```

`\Alpha` This macro does the following replacement.

```
\newcommand{\Alpha}{\mathrm{A}}
```

`\and` This macro does the following replacement.

```
\renewcommand{\and}{\land}
```

`\ang` This macro does the following replacement.

```
\newcommand{\ang}{\angle}
```

`\Beta` This macro does the following replacement.

```
\newcommand{\Beta}{\mathrm{B}}
```

`\bull` This macro does the following replacement.

```
\newcommand{\bull}{\bullet}
```

`\Chi` This macro does the following replacement.

```
\newcommand{\Chi}{\mathrm{X}}
```

`\clubs` This macro does the following replacement.

```
\newcommand{\clubs}{\clubsuit}
```

`\cnums` This macro does the following replacement.

```
\newcommand{\cnums}{\mathbb{C}}
```

`\Complex` This macro does the following replacement.

```
\newcommand{\Complex}{\mathbb{C}}
```

`\Dagger` This macro does the following replacement.

```
\newcommand{\Dagger}{\ddagger}
```

\diamonds This macro does the following replacement.

```
\newcommand{\diamonds}{\diamondsuit}
```

\Doteq This macro does the following replacement.

```
\renewcommand{\Doteq}{\doteqdot}
```

\doublecap This macro does the following replacement.

```
\renewcommand{\doublecap}{\Cap}
```

\doublecup This macro does the following replacement.

```
\renewcommand{\doublecup}{\Cup}
```

\empty This macro does the following replacement.

```
\renewcommand{\empty}{\emptyset}
```

\Epsilon This macro does the following replacement.

```
\newcommand{\Epsilon}{\mathrm{E}}
```

\Eta This macro does the following replacement.

```
\newcommand{\Eta}{\mathrm{H}}
```

\exist This macro does the following replacement.

```
\newcommand{\exist}{\exists}
```

\ge This macro does the following replacement.

```
\renewcommand{\ge}{\geq}
```

\gggtr This macro does the following replacement.

```
\renewcommand{\gggtr}{\ggg}
```

\hAar This macro does the following replacement.

```
\newcommand{\hAar}{\Leftrightarrow}
```

\harr This macro does the following replacement.

```
\newcommand{\harr}{\leftrightarrow}
```

\Harr This macro does the following replacement.

```
\newcommand{\Harr}{\Leftrightarrow}
```

\hearts This macro does the following replacement.

```
\newcommand{\hearts}{\heartsuit}
```

\image This macro does the following replacement.

```
\newcommand{\image}{\Im}
```

\infin This macro does the following replacement.

```
\newcommand{\infin}{\infty}
```

\Iota This macro does the following replacement.

```
\newcommand{\Iota}{\mathrm{I}}
```

\isin This macro does the following replacement.

```
\newcommand{\isin}{\in}
```

\Kappa This macro does the following replacement.

```
\newcommand{\Kappa}{\mathrm{K}}
```

\larr This macro does the following replacement.

```
\newcommand{\larr}{\leftarrow}
```

\Larr This macro does the following replacement.

```
\newcommand{\Larr}{\Leftarrow}
```

\lArr This macro does the following replacement.

```
\newcommand{\lArr}{\Leftarrow}
```

\le This macro does the following replacement.

```
\renewcommand{\le}{\leq}
```

\lrarr This macro does the following replacement.

```
\newcommand{\lrarr}{\leftrightarrow}
```

\Lrarr This macro does the following replacement.

```
\newcommand{\Lrarr}{\Leftrightarrow}
```

\lrArr This macro does the following replacement.

```
\newcommand{\lrArr}{\Leftrightarrow}
```

\Mu This macro does the following replacement.

```
\newcommand{\Mu}{\mathrm{M}}
```

\natnums This macro does the following replacement.

```
\newcommand{\natnums}{\mathbb{N}}
```

\ne This macro does the following replacement.

```
\renewcommand{\ne}{\neq}
```

\Nu This macro does the following replacement.

```
\newcommand{\Nu}{\mathrm{N}}
```

\O This macro does the following replacement.

```
\renewcommand{\O}{\emptyset}
```

\omicron This macro does the following replacement.

```
\newcommand{\omicron}{\mathrm{o}}
```

\Omicron This macro does the following replacement.

```
\newcommand{\Omicron}{\mathrm{O}}
```

\or This is a problematic macro, since it redefines the plain TEX macro \or. For instance, the \thanks command uses a custom function to determine the footnotesymol, which relies on the availibilty of the \or command in math mode. Thus, the macro has to be defined after \maketitle was executed. However, there might be more commands that use \or used in mathmode. Thus we don't overwrite \or in this pacakge. To enable the overwriting copy the code below to an appropriate position in your LATEX-file. However, it might be easier to manually replace \or with \lor which is all what the macro above does.

```
%\let\@oldor\or
%\def\or{\ifmmode\lor\else\expandafter\@oldor\fi}
```

\part This macro does the following replacement.

```
\renewcommand{\part}{\partial}
```

\plusmn This macro does the following replacement.

```
\newcommand{\plusmn}{\pm}
```

\rarr This macro does the following replacement.

```
\newcommand{\rarr}{\rightarrow}
```

`\Rarr` This macro does the following replacement.

```
\newcommand{\Rarr}{\Rightarrow}
```

`\rArr` This macro does the following replacement.

```
\newcommand{\rArr}{\Rightarrow}
```

`\real` This macro does the following replacement.

```
\newcommand{\real}{\Re}
```

`\reals` This macro does the following replacement.

```
\newcommand{\reals}{\mathbb{R}}
```

`\Reals` This macro does the following replacement.

```
\newcommand{\Reals}{\mathbb{R}}
```

`\restriction` This macro does the following replacement.

```
\renewcommand{\restriction}{\upharpoonright}
```

`\Rho` This macro does the following replacement.

```
\newcommand{\Rho}{\mathrm{P}}
```

`\sdot` This macro does the following replacement.

```
\newcommand{\sdot}{\cdot}
```

`\sect` This macro does the following replacement.

```
\newcommand{\sect}{\S}
```

`\spades` This macro does the following replacement.

```
\newcommand{\spades}{\spadesuit}
```

`\sub` This macro does the following replacement.

```
\newcommand{\sub}{\subset}
```

`\sube` This macro does the following replacement.

```
\newcommand{\sube}{\subseteq}
```

`\supe` This macro does the following replacement.

```
\newcommand{\supe}{\supseteq}
```

`\Tau` This macro does the following replacement.

```
78 \newcommand{\Tau}{\mathrm{T}}
```

`\thetasym` This macro does the following replacement.

```
79 \newcommand{\thetasym}{\vartheta}
```

`\varcoppa` This macro does the following replacement.

```
80 \newcommand{\varcoppa}{\mbox{\coppa}}
```

`\weierp` This macro does the following replacement.

```
81 \newcommand{\weierp}{\wp}
```

`\Zeta` This macro does the following replacement.

```
82 \newcommand{\Zeta}{\mathrm{Z}}
```

Acknowledgements

This LaTeX package was co-funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) – Project number 460135501. It is actively maintained by the *Wikimedia Community User Group Math*[4] and the MaRDI project[5] which uses MediaWiki as the portal for mathematical research data.

Change History

Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

[4] `https://meta.wikimedia.org/wiki/Wikimedia_Community_User_Group_Math`
[5] `https://portal.mardi4nfdi.de/`

A List of all commands supported

Section A lists all commands allowed by MediaWiki. This includes the commands provided by this package but also selected commands provided by other packages (cf. Section 3).

It was generated automatically using a script that processes a JSON file that is part of the MediaWiki Math extension.

A.1 Group `big_literals`

\Big is rendered as (

\Bigg is rendered as (

\Biggl is rendered as (

\Biggr is rendered as (

\Bigl is rendered as (

\Bigr is rendered as (

\big is rendered as (

\bigg is rendered as (

\biggl is rendered as (

\biggr is rendered as (

\bigl is rendered as (

\bigr is rendered as (

A.2 Group `box_functions`

\hbox is rendered as x

\mbox is rendered as x

\text is rendered as x

\vbox is rendered as x

A.3 Group color_function

\color is rendered as *red*

\pagecolor is not rendered.

A.4 Group declh_function

\bf is rendered as

\cal is rendered as

\it is rendered as

\rm is rendered as

A.5 Group definecolor_function

\definecolor is rendered as

A.6 Group fun_ar1

\acute is rendered as $\acute{x}$

\bar is rendered as $\bar{x}$

\bcancel is rendered as $\cancel{x}$

\bmod is rendered as $\bmod x$

\boldsymbol is rendered as $\boldsymbol{x}$

\breve is rendered as $\breve{x}$

\cancel is rendered as $\cancel{x}$

\check is rendered as $\check{x}$

\ddot is rendered as $\ddot{x}$

\dot is rendered as $\dot{x}$

\emph is rendered as x

\grave is rendered as $\grave{x}$

\hat is rendered as $\hat{x}$

\hphantom is rendered as

\mathcal is rendered as

\mathclose is rendered as x

\mathfrak is rendered as $\mathfrak{x}$

\mathit is rendered as x

\mathopen is rendered as x

\mathord is rendered as x

\mathpunct is rendered as x

\mathsf is rendered as x

\mathtt is rendered as x

\overleftarrow is rendered as $\overleftarrow{x}$

\overleftrightarrow is rendered as $\overleftrightarrow{x}$

\overline is rendered as $\overline{x}$

\overrightarrow is rendered as $\overrightarrow{x}$

\phantom is rendered as

\pmod is rendered as $\pmod{x}$

\sqrt is rendered as $\sqrt{x}$

\textbf is rendered as **x**

\textit is rendered as x

\textrm is rendered as x

\textsf is rendered as x

\texttt is rendered as x

\tilde is rendered as $\tilde{x}$

\underline is rendered as $\underline{x}$

\vec is rendered as $\vec{x}$

\vphantom is rendered as

\widehat is rendered as $\widehat{x}$

\widetilde is rendered as $\widetilde{x}$

\xcancel is rendered as $\xcancel{x}$

A.7 Group fun_ar1nb

\mathbb is rendered as $\mathbb{x}$

\mathbf is rendered as **x**

\mathbin is rendered as x

\mathop is rendered as x

\mathrel is rendered as x

\mathrm is rendered as x

\operatorname is rendered as x

`\overarc` is rendered as 5.0pt$\overset{\frown}{x}$

`\overbrace` is rendered as $\overbrace{x}$

`\underbrace` is rendered as $\underbrace{x}$

`\xleftarrow` is rendered as $\xleftarrow{x}$

`\xrightarrow` is rendered as$\xrightarrow{x}$

A.8 Group `fun_ar1opt`

`\sqrt` is rendered as $\sqrt{x}$

`\xleftarrow` is rendered as $\xleftarrow{x}$

`\xrightarrow` is rendered as$\xrightarrow{x}$

A.9 Group `fun_ar2`

`\binom` applied on xx is rendered as $\binom{x}{x}$

`\cancelto` applied on xx is rendered as $\cancelto{x}{x}$

`\cfrac` applied on xx is rendered as $\cfrac{x}{x}$

`\dbinom` applied on xx is rendered as $\dbinom{x}{x}$

`\dfrac` applied on xx is rendered as $\dfrac{x}{x}$

`\frac` applied on xx is rendered as $\frac{x}{x}$

`\overset` applied on xx is rendered as $\overset{x}{x}$

`\stackrel` applied on xx is rendered as $\stackrel{x}{x}$

`\tbinom` applied on xx is rendered as $\tbinom{x}{x}$

`\tfrac` applied on xx is rendered as $\tfrac{x}{x}$

`\underset` applied on xx is rendered as $\underset{x}{x}$

A.10 Group `fun_ar2nb`

`\sideset` applied on $\sideset{^{24}_{13}}{}\sum$ is rendered as $\sideset{^{2}_{1}}{^{4}_{3}}\sum$

A.11 Group `fun_infix`

`\atop` applied on x, y is rendered as $x \atop y$

`\choose` applied on x, y is rendered as $\binom{x}{y}$

`\over` applied on x, y is rendered as $\frac{x}{y}$

A.12 Group `fun_mhchem`

`\ce` is rendered as x

A.13 Group `hline_function`

`\hline` applied in a table is rendered as $\underline{x_{11} \quad x_{12}}$

A.14 Group `latex_function_names`

`\Pr` is rendered as Pr

`\arccos` is rendered as arccos

`\arcsin` is rendered as arcsin

`\arctan` is rendered as arctan

`\arg` is rendered as arg

`\cos` is rendered as cos

`\cosh` is rendered as cosh

`\cot` is rendered as cot

`\coth` is rendered as coth

`\csc` is rendered as csc

`\deg` is rendered as deg

`\det` is rendered as det

`\dim` is rendered as dim

`\exp` is rendered as exp

`\gcd` is rendered as gcd

`\hom` is rendered as hom

`\inf` is rendered as inf

`\ker` is rendered as ker

`\lg` is rendered as lg

`\lim` is rendered as lim

`\liminf` is rendered as lim inf

`\limsup` is rendered as lim sup

`\ln` is rendered as ln

`\log` is rendered as log

`\max` is rendered as max

`\min` is rendered as min

`\sec` is rendered as sec

`\sin` is rendered as sin

`\sinh` is rendered as sinh

`\sup` is rendered as sup

`\tan` is rendered as tan

`\tanh` is rendered as tanh

A.15 Group `left_function`

`\left` is rendered as (

A.16 Group `mediawiki_function_names`

`\arccot` is rendered as arccot y

`\arccsc` is rendered as arccsc y

`\arcsec` is rendered as arcsec y

`\sen` is rendered as sen y

`\sgn` is rendered as sgn y

A.17 Group `mhchem_bond`

`\bond` is rendered as $-$

A.18 Group `mhchem_macro_1p`

`\ce` is rendered as x

`\mathbf` is rendered as **x**

A.19 Group `mhchem_macro_2p`

`\frac` applied on xx is rendered as $\frac{x}{x}$

`\overset` applied on xx is rendered as $\overset{x}{x}$

`\underset` applied on xx is rendered as $\underset{x}{x}$

A.20 Group `mhchem_macro_2pc`

`\color` is rendered as red

A.21 Group `mhchem_macro_2pu`

`\underbrace` is rendered as $\underbrace{x}$

A.22 Group `mhchem_single_macro`

`\Alpha` is rendered as A

`\Beta` is rendered as B

`\Chi` is rendered as X

`\Delta` is rendered as Δ

`\Epsilon` is rendered as E

`\Eta` is rendered as H

`\Gamma` is rendered as Γ

`\Iota` is rendered as I

`\Kappa` is rendered as K

`\Lambda` is rendered as Λ

`\Mu` is rendered as M

`\Nu` is rendered as N

`\Omega` is rendered as Ω

`\Omicron` is rendered as

`\Phi` is rendered as Φ

`\Pi` is rendered as Π

`\Psi` is rendered as Ψ

`\Rho` is rendered as P

`\Sigma` is rendered as Σ

`\Tau` is rendered as T

`\Theta` is rendered as Θ

`\Upsilon` is rendered as Υ

`\Zeta` is rendered as Z

`\alpha` is rendered as α

`\approx` is rendered as $\approx$

`\beta` is rendered as β

`\chi` is rendered as χ

`\circ` is rendered as $\circ$

`\delta` is rendered as δ

`\epsilon` is rendered as ε

`\eta` is rendered as η

`\gamma` is rendered as γ

\iota is rendered as ι

\kappa is rendered as κ

\lambda is rendered as λ

\mu is rendered as μ

\nu is rendered as ν

\omega is rendered as ω

\omicron is rendered as

\phi is rendered as φ

\pi is rendered as π

\pm is rendered as ±

\psi is rendered as ψ

\rho is rendered as ρ

\sigma is rendered as σ

\tau is rendered as τ

\theta is rendered as ϑ

\upsilon is rendered as υ

\varepsilon is rendered as ε

\varkappa is rendered as ϰ

\varphi is rendered as φ

\varpi is rendered as ϖ

\varrho is rendered as ϱ

\varsigma is rendered as ς

\vartheta is rendered as ϑ

\zeta is rendered as ζ

A.23 Group `nullary_macro`

\And is rendered as ς

\Bbbk is rendered as 𝕜

\Box is rendered as □

\Bumpeq is rendered as ≎

\Cap is rendered as ⋒

\Cup is rendered as ⋓

\Delta is rendered as Δ

\Diamond is rendered as ◇

\Finv is rendered as ∄

\Game is rendered as ⅁

\Gamma is rendered as Γ

\Im is rendered as ℑ

\Lambda is rendered as Λ

\Leftarrow is rendered as ⇐

\Leftrightarrow is rendered as ⇔

\Lleftarrow is rendered as ⇚

\Longleftarrow is rendered as ⟸

\Longleftrightarrow is rendered as ⟺

\Longrightarrow is rendered as ⟹

\Lsh is rendered as ↰

\Omega is rendered as Ω

\P is rendered as ¶

\Phi is rendered as Φ

\Pi is rendered as Π

\Psi is rendered as Ψ

\Re is rendered as ℜ

\Rightarrow is rendered as ⇒

\Rrightarrow is rendered as ⇛

\Rsh is rendered as ↱

\S is rendered as §

\Sigma is rendered as Σ

\Subset is rendered as ⋐

\Supset is rendered as ⋑

\Theta is rendered as Θ

\Upsilon is rendered as ϒ

\Vdash is rendered as ⊩

\Vvdash is rendered as ⊪

\Xi is rendered as Ξ

\aleph is rendered as ℵ

\alpha is rendered as α

\amalg is rendered as ⨿

\angle is rendered as $\angle$

\approx is rendered as $\approx$

\approxeq is rendered as $\approxeq$

\ast is rendered as $*$

\asymp is rendered as $\asymp$

\backepsilon is rendered as $\ni$

\backprime is rendered as $\backprime$

\backsim is rendered as $\backsim$

\backsimeq is rendered as $\backsimeq$

\barwedge is rendered as $\barwedge$

\because is rendered as $\because$

\beta is rendered as β

\beth is rendered as $\beth$

\between is rendered as $\between$

\bigcap is rendered as $\bigcap$

\bigcirc is rendered as $\bigcirc$

\bigcup is rendered as $\bigcup$

\bigodot is rendered as $\bigodot$

\bigoplus is rendered as $\bigoplus$

\bigotimes is rendered as $\bigotimes$

\bigsqcup is rendered as $\bigsqcup$

\bigstar is rendered as $\bigstar$

\bigtriangledown is rendered as $\bigtriangledown$

\bigtriangleup is rendered as $\bigtriangleup$

\biguplus is rendered as $\biguplus$

\bigvee is rendered as $\bigvee$

\bigwedge is rendered as $\bigwedge$

\blacklozenge is rendered as $\blacklozenge$

\blacksquare is rendered as $\blacksquare$

\blacktriangle is rendered as $\blacktriangle$

\blacktriangledown is rendered as $\blacktriangledown$

\blacktriangleleft is rendered as $\blacktriangleleft$

\blacktriangleright is rendered as $\blacktriangleright$

\bot is rendered as $\bot$

\bowtie is rendered as $\bowtie$

\boxdot is rendered as $\boxdot$

\boxminus is rendered as $\boxminus$

\boxplus is rendered as $\boxplus$

\boxtimes is rendered as $\boxtimes$

\bullet is rendered as $\bullet$

\bumpeq is rendered as $\bumpeq$

\cap is rendered as $\cap$

\cdot is rendered as $\cdot$

\cdots is rendered as $\cdots$

\centerdot is rendered as $\centerdot$

\checkmark is rendered as $\checkmark$

\chi is rendered as χ

\circ is rendered as $\circ$

\circeq is rendered as $\circeq$

\circlearrowleft is rendered as $\circlearrowleft$

\circlearrowright is rendered as $\circlearrowright$

\circledS is rendered as $\circledS$

\circledast is rendered as $\circledast$

\circledcirc is rendered as $\circledcirc$

\circleddash is rendered as $\circleddash$

\clubsuit is rendered as $\clubsuit$

\colon is rendered as $\colon$

\complement is rendered as $\complement$

\cong is rendered as $\cong$

\coprod is rendered as $\coprod$

\cup is rendered as $\cup$

\curlyeqprec is rendered as $\curlyeqprec$

\curlyeqsucc is rendered as $\curlyeqsucc$

\curlyvee is rendered as $\curlyvee$

\curlywedge is rendered as $\curlywedge$

\curvearrowleft is rendered as $\curvearrowleft$

\curvearrowright is rendered as $\curvearrowright$

\dagger is rendered as $\dagger$

\daleth is rendered as $\daleth$

\dashv is rendered as $\dashv$

\ddagger is rendered as $\ddagger$

\ddots is rendered as $\ddots$

\delta is rendered as δ

\diagdown is rendered as $\diagdown$

\diagup is rendered as $\diagup$

\diamond is rendered as $\diamond$

\diamondsuit is rendered as $\diamondsuit$

\digamma is rendered as $\digamma$

\displaystyle is rendered as

\div is rendered as $\div$

\divideontimes is rendered as $\divideontimes$

\doteq is rendered as $\doteq$

\doteqdot is rendered as $\doteqdot$

\dotplus is rendered as $\dotplus$

\dots is rendered as $\dots$

\dotsb is rendered as $\dotsb$

\dotsc is rendered as $\dotsc$

\dotsi is rendered as $\dotsi$

\dotsm is rendered as $\dotsm$

\dotso is rendered as $\dotso$

\doublebarwedge is rendered as $\doublebarwedge$

\downdownarrows is rendered as $\downdownarrows$

\downharpoonleft is rendered as $\downharpoonleft$

\downharpoonright is rendered as $\downharpoonright$

\ell is rendered as ℓ

\emptyset is rendered as $\emptyset$

\epsilon is rendered as ϵ

\eqcirc is rendered as $\eqcirc$

\eqsim is rendered as $\eqsim$

\eqslantgtr is rendered as $\eqslantgtr$

\eqslantless is rendered as $\eqslantless$

\equiv is rendered as $\equiv$

\eta is rendered as η

\eth is rendered as $\eth$

\exists is rendered as $\exists$

\fallingdotseq is rendered as $\fallingdotseq$

\flat is rendered as $\flat$

\forall is rendered as $\forall$

\frown is rendered as $\frown$

\gamma is rendered as γ

\geq is rendered as $\geq$

\geqq is rendered as $\geqq$

\geqslant is rendered as $\geqslant$

\gets is rendered as $\gets$

\gg is rendered as $\gg$

\ggg is rendered as $\ggg$

\gimel is rendered as $\gimel$

\gnapprox is rendered as $\gnapprox$

\gneq is rendered as $\gneq$

\gneqq is rendered as $\gneqq$

\gnsim is rendered as $\gnsim$

\gtrapprox is rendered as $\gtrapprox$

\gtrdot is rendered as $\gtrdot$

\gtreqless is rendered as $\gtreqless$

\gtreqqless is rendered as $\gtreqqless$

\gtrless is rendered as $\gtrless$

\gtrsim is rendered as $\gtrsim$

\gvertneqq is rendered as $\gvertneqq$

\hbar is rendered as $\hbar$

\heartsuit is rendered as $\heartsuit$

\hookleftarrow is rendered as $\hookleftarrow$

\hookrightarrow is rendered as $\hookrightarrow$

\hslash is rendered as $\hslash$

\iff is rendered as $\iff$

\iiiint is rendered as $\iiiint$

\iiint is rendered as $\iiint$

\iint is rendered as $\iint$

\imath is rendered as $\imath$

\implies is rendered as $\implies$

\in is rendered as $\in$

\infty is rendered as ∞

\injlim is rendered as $\injlim$

\int is rendered as $\int$

\intBar is rendered as $\fint$

\intbar is rendered as $\fint$

\intercal is rendered as $\intercal$

\iota is rendered as ι

\jmath is rendered as $\jmath$

\kappa is rendered as κ

\lVert is rendered as $\lVert$

\lambda is rendered as λ

\land is rendered as $\land$

\ldots is rendered as $\ldots$

\leftarrow is rendered as $\leftarrow$

\leftarrowtail is rendered as $\leftarrowtail$

\leftharpoondown is rendered as $\leftharpoondown$

\leftharpoonup is rendered as $\leftharpoonup$

\leftleftarrows is rendered as $\leftleftarrows$

\leftrightarrow is rendered as $\leftrightarrow$

\leftrightarrows is rendered as $\leftrightarrows$

\leftrightharpoons is rendered as $\leftrightharpoons$

\leftrightsquigarrow is rendered as $\leftrightsquigarrow$

\leftthreetimes is rendered as $\leftthreetimes$

\leq is rendered as $\leq$

\leqq is rendered as $\leqq$

\leqslant is rendered as $\leqslant$

\lessapprox is rendered as $\lessapprox$

\lessdot is rendered as $\lessdot$

\lesseqgtr is rendered as $\lesseqgtr$

\lesseqqgtr is rendered as $\lesseqqgtr$

\lessgtr is rendered as $\lessgtr$

\lesssim is rendered as $\lesssim$

\limits is rendered for example as $\bigcap\limits_{a}^{b}$

\ll is rendered as $\ll$

\lll is rendered as $\lll$

\lnapprox is rendered as $\lnapprox$

\lneq is rendered as $\lneq$

\lneqq is rendered as $\lneqq$

\lnot is rendered as $\lnot$

\lnsim is rendered as $\lnsim$

\longleftarrow is rendered as $\longleftarrow$

\longleftrightarrow is rendered as $\longleftrightarrow$

\longmapsto is rendered as $\longmapsto$

\longrightarrow is rendered as $\longrightarrow$

\looparrowleft is rendered as $\looparrowleft$

\looparrowright is rendered as $\looparrowright$

\lor is rendered as $\lor$

\lozenge is rendered as $\lozenge$

\ltimes is rendered as $\ltimes$

\lvertneqq is rendered as $\lvertneqq$

\mapsto is rendered as $\mapsto$

\measuredangle is rendered as $\measuredangle$

\mho is rendered as $\mho$

\mid is rendered as $\mid$

\mod is rendered as $\mod$

\models is rendered as $\models$

\mp is rendered as $\mp$

\mu is rendered as μ

\multimap is rendered as $\multimap$

\nLeftarrow is rendered as $\nLeftarrow$

\nLeftrightarrow is rendered as $\nLeftrightarrow$

\nRightarrow is rendered as $\nRightarrow$

\nVDash is rendered as $\nVDash$

\nVdash is rendered as $\nVdash$

\nabla is rendered as ∇

\natural is rendered as $\natural$

\ncong is rendered as $\ncong$

\nearrow is rendered as $\nearrow$

\neg is rendered as $\neg$

\neq is rendered as $\neq$

\nexists is rendered as $\nexists$

\ngeq is rendered as $\ngeq$

\ngeqq is rendered as $\ngeqq$

\ngeqslant is rendered as $\ngeqslant$

\ngtr is rendered as $\ngtr$

\ni is rendered as $\ni$

\nleftarrow is rendered as $\nleftarrow$

\nleftrightarrow is rendered as $\nleftrightarrow$

\nleq is rendered as $\nleq$

\nleqq is rendered as $\nleqq$

\nleqslant is rendered as $\nleqslant$

\nless is rendered as $\nless$

\nmid is rendered as $\nmid$

\nolimits is rendered for example as $\cap_a^b$

\not is rendered as $\not$

\notin is rendered as $\notin$

\nparallel is rendered as $\nparallel$

\nprec is rendered as $\nprec$

\npreceq is rendered as $\npreceq$

\nrightarrow is rendered as $\nrightarrow$

\nshortmid is rendered as $\nshortmid$

\nshortparallel is rendered as $\nshortparallel$

\nsim is rendered as $\nsim$

\nsubseteq is rendered as $\nsubseteq$

\nsubseteqq is rendered as $\nsubseteqq$

\nsucc is rendered as $\nsucc$

\nsucceq is rendered as $\nsucceq$

\nsupseteq is rendered as $\nsupseteq$

\nsupseteqq is rendered as $\nsupseteqq$

\ntriangleleft is rendered as $\ntriangleleft$

\ntrianglelefteq is rendered as $\ntrianglelefteq$

\ntriangleright is rendered as $\ntriangleright$

\ntrianglerighteq is rendered as $\ntrianglerighteq$

\nu is rendered as ν

\nvDash is rendered as $\nvDash$

\nvdash is rendered as $\nvdash$

\nwarrow is rendered as $\nwarrow$

\odot is rendered as $\odot$

\oiiint is rendered as $\oiiint$

\oiint is rendered as $\oiint$

\oint is rendered as $\oint$

\ointctrclockwise is rendered as $\ointctrclockwise$

\omega is rendered as ω

\ominus is rendered as $\ominus$

\oplus is rendered as $\oplus$

\oslash is rendered as $\oslash$

\otimes is rendered as $\otimes$

\parallel is rendered as $\parallel$

\partial is rendered as ∂

\perp is rendered as $\perp$

\phi is rendered as ϕ

\pi is rendered as π

\pitchfork is rendered as $\pitchfork$

\pm is rendered as $\pm$

\prec is rendered as $\prec$

\precapprox is rendered as $\precapprox$

\preccurlyeq is rendered as $\preccurlyeq$

\preceq is rendered as $\preceq$

\precnapprox is rendered as $\precnapprox$

\precneqq is rendered as $\precneqq$

\precnsim is rendered as $\precnsim$

\precsim is rendered as $\precsim$

\prime is rendered as $\prime$

\prod is rendered as $\prod$

\projlim is rendered as proj lim

\propto is rendered as $\propto$

\psi is rendered as ψ

\qquad is rendered as

\quad is rendered as

\rVert is rendered as $\|$

\rho is rendered as ρ

\rightarrow is rendered as $\rightarrow$

\rightarrowtail is rendered as $\rightarrowtail$

\rightharpoondown is rendered as $\rightharpoondown$

\rightharpoonup is rendered as $\rightharpoonup$

\rightleftarrows is rendered as $\rightleftarrows$

\rightrightarrows is rendered as $\rightrightarrows$

\rightsquigarrow is rendered as $\rightsquigarrow$

\rightthreetimes is rendered as $\rightthreetimes$

\risingdotseq is rendered as $\risingdotseq$

\rtimes is rendered as $\rtimes$

\scriptscriptstyle is rendered as

\scriptstyle is rendered as

\searrow is rendered as $\searrow$

\setminus is rendered as $\setminus$

\sharp is rendered as $\sharp$

\shortmid is rendered as $\shortmid$

\shortparallel is rendered as ∥

\sigma is rendered as σ

\sim is rendered as $\sim$

\simeq is rendered as $\simeq$

\smallfrown is rendered as $\smallfrown$

\smallsetminus is rendered as $\smallsetminus$

\smallsmile is rendered as $\smallsmile$

\smile is rendered as $\smile$

\spadesuit is rendered as $\spadesuit$

\sphericalangle is rendered as $\sphericalangle$

\sqcap is rendered as $\sqcap$

\sqcup is rendered as $\sqcup$

\sqsubset is rendered as $\sqsubset$

\sqsubseteq is rendered as $\sqsubseteq$

\sqsupset is rendered as $\sqsupset$

\sqsupseteq is rendered as $\sqsupseteq$

\square is rendered as $\square$

\star is rendered as $\star$

\subset is rendered as $\subset$

\subseteq is rendered as $\subseteq$

\subseteqq is rendered as $\subseteqq$

\subsetneq is rendered as $\subsetneq$

\subsetneqq is rendered as $\subsetneqq$

\succ is rendered as $\succ$

\succapprox is rendered as $\succapprox$

\succcurlyeq is rendered as $\succcurlyeq$

\succeq is rendered as $\succeq$

\succnapprox is rendered as $\succnapprox$

\succneqq is rendered as $\succneqq$

\succnsim is rendered as $\succnsim$

\succsim is rendered as $\succsim$

\sum is rendered as $\sum$

\supset is rendered as $\supset$

\supseteq is rendered as $\supseteq$

\supseteqq is rendered as $\supseteqq$

\supsetneq is rendered as $\supsetneq$

\supsetneqq is rendered as $\supsetneqq$

\surd is rendered as $\surd$

\swarrow is rendered as $\swarrow$

\tau is rendered as τ

\textstyle is rendered as

\therefore is rendered as $\therefore$

\theta is rendered as θ

\thickapprox is rendered as $\thickapprox$

\thicksim is rendered as $\thicksim$

\times is rendered as $\times$

\to is rendered as $\to$

\top is rendered as $\top$

\triangle is rendered as $\triangle$

\triangledown is rendered as $\triangledown$

\triangleleft is rendered as $\triangleleft$

\trianglelefteq is rendered as $\trianglelefteq$

\triangleq is rendered as $\triangleq$

\triangleright is rendered as $\triangleright$

\trianglerighteq is rendered as $\trianglerighteq$

\upharpoonleft is rendered as $\upharpoonleft$

\upharpoonright is rendered as $\upharpoonright$

\uplus is rendered as $\uplus$

\upsilon is rendered as υ

\upuparrows is rendered as $\upuparrows$

\vDash is rendered as $\vDash$

\varDelta is rendered as $\varDelta$

\varGamma is rendered as $\varGamma$

\varLambda is rendered as $\varLambda$

\varOmega is rendered as $\varOmega$

\varPhi is rendered as $\varPhi$

\varPi is rendered as $\varPi$

\varSigma is rendered as $\varSigma$

\varTheta is rendered as $\varTheta$

\varUpsilon is rendered as $\varUpsilon$

\varXi is rendered as $\varXi$

\varepsilon is rendered as ε

\varinjlim is rendered as $\varinjlim$

\varkappa is rendered as $\varkappa$

\varliminf is rendered as $\varliminf$

\varlimsup is rendered as $\varlimsup$

\varnothing is rendered as $\varnothing$

\varointclockwise is rendered as $\varointclockwise$

\varphi is rendered as φ

\varpi is rendered as ϖ

\varprojlim is rendered as $\varprojlim$

\varpropto is rendered as $\varpropto$

\varrho is rendered as ϱ

\varsigma is rendered as ς

\varsubsetneq is rendered as $\varsubsetneq$

\varsubsetneqq is rendered as $\varsubsetneqq$

\varsupsetneq is rendered as $\varsupsetneq$

\varsupsetneqq is rendered as $\varsupsetneqq$

\vartheta is rendered as ϑ

\vartriangle is rendered as $\vartriangle$

\vartriangleleft is rendered as $\vartriangleleft$

\vartriangleright is rendered as $\vartriangleright$

\vdash is rendered as $\vdash$

\vdots is rendered as $\vdots$

\vee is rendered as $\vee$

\veebar is rendered as $\veebar$

\vline is rendered as $\vline$

\wedge is rendered as $\wedge$

\wp is rendered as $\wp$

\wr is rendered as ≀

\xi is rendered as ξ

\zeta is rendered as ζ

A.24 Group nullary_macro_in_mbox

\AA is rendered as ∀

\Coppa is rendered as λ

\Digamma is rendered as Ͱ

\Koppa is rendered as λ

\Sampi is rendered as ν

\Stigma is rendered as μ

\coppa is rendered as ι

\euro is rendered as *e*

\geneuro is rendered as €

\geneuronarrow is rendered as €

\geneurowide is rendered as €

\koppa is rendered as θ

\officialeuro is rendered as *e*

\sampi is rendered as σ

\stigma is rendered as Σ

\textvisiblespace is rendered as

\varstigma is rendered as ϒ

A.25 Group other_delimiters1

\Downarrow is rendered as ⇓

\Uparrow is rendered as ⇑

\Updownarrow is rendered as ⇕

\Vert is rendered as ‖

\backslash is rendered as \

\downarrow is rendered as ↓

\langle is rendered as ⟨

\lbrace is rendered as {

\lbrack is rendered as [

\lceil is rendered as ⌈

\lfloor is rendered as ⌊

\llcorner is rendered as ⌞

\lrcorner is rendered as ⌟

\rangle is rendered as ⟩

\rbrace is rendered as }

\rbrack is rendered as]

\rceil is rendered as ⌉

\rfloor is rendered as ⌋

\rightleftharpoons is rendered as ⇌

\twoheadleftarrow is rendered as ↞

\twoheadrightarrow is rendered as ↠

\ulcorner is rendered as ⌜

\uparrow is rendered as ↑

\updownarrow is rendered as ↕

\urcorner is rendered as ⌝

\vert is rendered as |

A.26 Group other_delimiters2

\Darr is rendered as ⇓

\Uarr is rendered as ⇑

\dArr is rendered as ⇓

\darr is rendered as ↓

\lang is rendered as ⟨

\rang is rendered as ⟩

\uArr is rendered as ⇑

\uarr is rendered as ↑

A.27 Group right_function

\right is rendered as)