

MdSymbol: A Math Symbol Font

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1 Introduction

MdSymbol is a font of mathematical symbols designed as a companion to Adobe Myriad Pro, but it might also fit well to other contemporary typefaces. To use this font in a \LaTeX

document, add the command

```
\usepackage[{options}]{mdsymbol}
```

to the preamble of your document. With default settings, it redefines most of the standard mathematical symbols and makes available many new ones (see Section 5). With the `onlysansmath` option, the symbols are only defined for two new math versions, `sans` and `sansbold`. This allows to easily use two distinct math fonts in one document. For details and the other available options see section 3.1.

Acknowledgements

The MdSymbol font is heavily based on FdSymbol¹, another math symbol font, designed by Michael Ummels. All supporting scripts (to e.g. convert the MetaFont sources to Type 1 fonts) were written by him. I got a lot of help in `comp.text.tex` so basically the main code implementing the `onlysansmath` functionality is written by Bruno Le Floch, Enrico Gregorio, Lars Madsen and Heiko Oberdiek; the ugly parts and bugs by me.

2 Interferences with other packages

The `mdsymbol` package is incompatible with the `amssymb` and `amsfonts` packages. It automatically loads the `amsmath` and `textcomp` packages. If you want to pass options to these packages, you can either load these packages before `mdsymbol` or you can include the options in the `\documentclass` command.

3 Options

3.1 Font selection

MdSymbol comes in four weights, which are (in increasing order) Light, Regular, Semibold and Bold. Of these, Light and Regular are suitable for normal math typesetting, while Semibold and Bold can be used for bold math typesetting. Using the options **normalweight** and **boldweight**, you can select which weights are used. For example, to use the Light weight as the normal weight in math, add `normalweight=Light` to the package options. Analogously, to use the Bold weight with `\boldmath` or `\boldsymbol`, add `boldweight=Bold` to the package options. By default, Regular and Semibold are used. Additionally, it is possible to use a suitable weight automatically depending on the font size. By selecting `autolight` or `autoregular` for `normalweight`, Light or Regular weight, respectively, is used for font sizes larger than

¹<http://www.ctan.org/pkg/fdsymbol/>

6pt and Regular or Semibold, respectively, for smaller sizes. Similarly, `autosemibold` for `boldweight` selects Semibold for bold symbols larger than 6pt and Bold below 6pt.

3.2 Math Symbols only in sans serif math

With the `onlysansmath` option, `mdsymbol` does not change already defined math symbols but declares two new math versions, `sans` and `sansbold`, and defines its symbols to be only used within these math versions. Use the command `\mathversion{sans}` or `\mathversion{sansbold}` to switch to this math version. Also single input character symbols (e.g. `+`, `-`, `(`, `)`) adapt to the math version except when used with a delimiter size increasing command like `\big`.² As a workaround, use the corresponding full command instead (`\big\lparen`).

3.3 Miscellaneous

`mdsymbol` uses and combines some symbols of the text font (section 5.7). The option `retainmissing` prevents this.

In order to use `MdSymbol` with different text fonts, it is possible to scale the fonts by an arbitrary factor. This can be achieved with the option `scale`. For example, to use the fonts at 90 % of their original size, you can add `scale=0.9` to the package options. Finally, it is possible to increase the height of delimiters slightly (by 20 % in text size and by 25 % in `\big` size). This can be achieved by activating the option `largedelims`. Use this option if you want to combine `MdSymbol` with a text font that has rather tall delimiters.

The following table summarises all options (keys) that can be used with the `mdsymbol` package. Values that correspond to the default behaviour of the package are marked by an asterisk.

Key	Values
<code>normalweight</code>	Light, Regular*, <code>autolight</code> , <code>autoregular</code>
<code>boldweight</code>	Semibold*, Bold, <code>autosemibold</code>
<code>onlysansmath</code>	true, false*
<code>retainmissing</code>	true, false*
<code>scale</code>	$\langle factor \rangle$
<code>largedelims</code>	true, false*

²Any help to solve this problem is highly welcome!

4 Version history

Version 0.1: First version

Version 0.1a: Always declare `sansmathptabular` and `sansmathboldptabular` if `onlysansmath` option is given

Version 0.2: Internal bugfixes

Version 0.2a:

- Bugfixes of bugfixes
- Issue error when using a symbol in non-sans math versions which has not been declared before loading `mdsymbol` with `onlysansmath` option

Version 0.3: Rename package to lower-case `mdsymbol` for CTAN upload

Version 0.4:

- Added overlining command
- Tuning of parameters and correction of some symbols

Version 0.5: Added symbols `\prodi` and `\coprodi`

5 Symbols

The `mdsymbol` package provides the following symbols.

5.1 Ordinary symbols

\dots	<code>\hdots</code>	\bullet	<code>\largeblackcircle</code>
\vdots	<code>\vdots</code>	\square	<code>\largesquare, \lgwhtsquare</code>
\cdots	<code>\udots, \adots</code>	\blacksquare	<code>\largeblacksquare, \lgblksquare</code>
\ddots	<code>\ddots</code>	\lozenge	<code>\smalllozenge, \smwhtlozenge</code>
\therefore	<code>\righttherefore</code>	\blacklozenge	<code>\smallblacklozenge, \smblklozenge</code>
\because	<code>\uptherefore, \therefore</code>	\lozenge	<code>\medlozenge, \lozenge, \mdlwhtlozenge, \mdwhtlozenge</code>
\square	<code>\lefttherefore</code>	\blacklozenge	<code>\medblacklozenge, \blacklozenge, \mdlgbklozenge, \mdbklozenge</code>
\neg	<code>\downtherefore, \because</code>	\lozenge	<code>\lozengeminus</code>
\backneg	<code>\squaredots</code>	\star	<code>\largewhitestar</code>
\invnot	<code>\neg, \lnot</code>	\bigstar	<code>\largeblackstar, \bigstar</code>
\turnedneg	<code>\backneg, \invnot, \invneg</code>	∞	<code>\infty</code>
\turnedbackneg	<code>\turnedneg, \turnednot</code>		
\largetriangleup	<code>\turnedbackneg</code>		
\largetriangledown	<code>\largetriangleup</code>		
\emptyset	<code>\largetriangledown</code>		
\varnothing	<code>\emptyset, \diameter, \varnothing</code>		
\reemptyset	<code>\reemptyset</code>		
\largecircle	<code>\largecircle, \lgwhtcircle</code>		

\angle	<code>\angle</code>	\clubsuit	<code>\clubsuit</code>
\sphericalangle	<code>\revangle</code>	\maltese	<code>\maltese</code>
\sphericalangle	<code>\measuredangle</code>	\starofdavid	<code>\starofdavid</code>
\sphericalangle	<code>\revmeasuredangle,</code> <code>\measuredangleleft</code>	\sphericalangle	<code>\sector</code>
\sphericalangle	<code>\sphericalangle</code>	\forall	<code>\forall</code>
\sphericalangle	<code>\sphericalangleup</code>	\exists	<code>\exists</code>
\sphericalangle	<code>\sphericalangleleft,</code> <code>\revsphericalangle,</code> <code>\gtlpar</code>	\nexists	<code>\nexists</code>
\sphericalangle	<code>\sphericalangledown</code>	\Finv	<code>\Finv</code>
\sphericalangle	<code>\rightangle</code>	\complement	<code>\complement</code>
\sphericalangle	<code>\measuredrightangle</code>	\flat	<code>\flat</code>
\sphericalangle	<code>\rightanglesquare,</code> <code>\rightanglesqr</code>	\natural	<code>\natural</code>
\sphericalangle	<code>\measuredrightangledot,</code> <code>\rightanglemdot</code>	\sharp	<code>\sharp</code>
\prime	<code>\prime</code>	\aleph	<code>\aleph</code>
\backprime	<code>\backprime</code>	\beth	<code>\beth</code>
\checkmark	<code>\checkmark</code>	\gimel	<code>\gimel</code>
\lightning	<code>\lightning,</code> <code>\downzigzagarrow</code>	\daleth	<code>\daleth</code>
\diamondsuit	<code>\diamondsuit</code>	\wp	<code>\wp</code>
\vardiamondsuit	<code>\vardiamondsuit</code>	∇	<code>\nabla</code>
\heartsuit	<code>\heartsuit</code>	\top	<code>\top</code>
\varheartsuit	<code>\varheartsuit</code>	\perp	<code>\perp</code>
\spadesuit	<code>\spadesuit</code>	$\mathord{/}$	<code>\mathord{/}</code> , <code>\mathslash</code>
		\backslash	<code>\backslash</code>
		$ $	<code> </code> , <code>\vert</code>
		$\ $	<code>\Vert</code>
		$\ $	<code>\Vvert</code>

5.2 Binary operators

\cdot	<code>\cdot</code>	\times	<code>\times</code>
\cdot	<code>\centerdot</code>	$\dot{-}$	<code>\dotminus</code>
\cdots	<code>\hdotdot</code>	$\dot{-}$	<code>\minusdot</code>
\vdots	<code>\vdotdot</code>	\div	<code>\div</code>
\cdots	<code>\udotdot</code>	$\dot{-}$	<code>\minusfdots</code>
\cdots	<code>\ddotdotdot</code>	$\dot{-}$	<code>\minusrdots</code>
$-$	<code>-, \minus</code>	\pm	<code>\pm</code>
\medslash	<code>\medslash, \smalldivslash</code>	\mp	<code>\mp</code>
\backslash	<code>\medbackslash,</code> <code>\smallsetminus</code>	$\dot{+}$	<code>\dotplus</code>
$+$	<code>+, \plus</code>	$\dot{+}$	<code>\plusdot</code>
		$\dot{\times}$	<code>\dottimes</code>

\times	<code>\timesbar</code>	\sqcap	<code>\sqcapdot</code>
$*$	<code>\divideontimes</code>	\sqcup	<code>\sqcupplus</code>
\int	<code>\intprod</code>	\sqcap	<code>\sqcapplus</code>
\int	<code>\intprodr</code>	\lrcorner	<code>\pullback</code>
\times	<code>\leftthreetimes</code>	\dashv	<code>\pushout</code>
\times	<code>\rightthreetimes</code>	\triangleright	<code>\smalltriangleright</code>
\times	<code>\dtimes, \btimes</code>	\triangleup	<code>\smalltriangleup</code>
\times	<code>\rtimes</code>	\triangleleft	<code>\smalltriangleleft</code>
\times	<code>\utimes, \ttimes</code>	∇	<code>\smalltriangledown</code>
\times	<code>\ltimes</code>	\blacktriangleright	<code>\smallblacktriangleright</code>
\times	<code>\lrtimes</code>	\blacktriangleup	<code>\smallblacktriangleup</code>
\times	<code>\upbowtie, \hourglass</code>	\blacktriangleleft	<code>\smallblacktriangleleft</code>
\succ	<code>\rightY</code>	\blacktriangledown	<code>\smallblacktriangledown</code>
\succ	<code>\upY</code>	\triangleright	<code>\medtriangleright,</code> <code>\triangleright</code>
\prec	<code>\leftY</code>	\triangle	<code>\medtriangleup, \triangle,</code> <code>\vartriangle</code>
\Uparrow	<code>\downY</code>	\triangleleft	<code>\medtriangleleft,</code> <code>\triangleleft</code>
\wedge	<code>\wedge, \land</code>	∇	<code>\medtriangledown,</code> <code>\triangledown</code>
\vee	<code>\vee, \lor</code>	\blacktriangleright	<code>\medblacktriangleright,</code> <code>\blacktriangleright</code>
\wedge	<code>\wedgedot</code>	\blacktriangleup	<code>\medblacktriangleup,</code> <code>\blacktriangle</code>
\vee	<code>\veedot</code>	\blacktriangleleft	<code>\medblacktriangleleft,</code> <code>\blacktriangleleft</code>
\wedge	<code>\doublewedge, \wedgeonwedge</code>	\blacktriangledown	<code>\medblacktriangledown,</code> <code>\blacktriangledown</code>
\vee	<code>\doublevee, \veeonwee</code>	\triangleup	<code>\bigtriangleup</code>
\wedge	<code>\curlywedge</code>	\triangledown	<code>\bigtriangledown</code>
\vee	<code>\curlyvee</code>	\circ	<code>\smallcircle, \circ,</code> <code>\smwhtcircle</code>
$\bar{\wedge}$	<code>\barwedge</code>	\bullet	<code>\smallblackcircle, \bullet,</code> <code>\smblkcircle</code>
$\underline{\vee}$	<code>\veebar</code>	\bigcirc	<code>\medcircle, \mdlgwhtcircle,</code> <code>\mdwhtcircle</code>
$\overline{\wedge}$	<code>\doublebarwedge</code>	\bullet	<code>\medblackcircle,</code> <code>\mdlgbkcircle,</code> <code>\mdblkcircle</code>
$\underline{\vee}$	<code>\veedoublebar</code>	\ominus	<code>\ominus</code>
\cup	<code>\cup</code>		
\cap	<code>\cap</code>		
\cup	<code>\doublecup, \Cup</code>		
\cap	<code>\doublecap, \Cap</code>		
\cup	<code>\cupdot</code>		
\cap	<code>\capdot</code>		
\cup	<code>\cupplus, \uplus</code>		
\cap	<code>\capplus</code>		
\cup	<code>\sqcup</code>		
\cap	<code>\sqcap</code>		
\cup	<code>\doublesqcup, \Sqcup</code>		
\cap	<code>\doublesqcap, \Sqcap</code>		
\cup	<code>\sqcupdot</code>		

⊖	<code>\overt, \circledvert</code>	◇	<code>\smbkldiamond</code>
⊘	<code>\oslash</code>	◇	<code>\meddiamond, \Diamond,</code>
⊙	<code>\obackslash, \obslash</code>		<code>\mdlghwtdiamond,</code>
⊕	<code>\oplus</code>		<code>\mdwhtdiamond</code>
⊗	<code>\otimes</code>	◆	<code>\medblackdiamond,</code>
⊚	<code>\odot</code>		<code>\mdlglblkdiamond,</code>
⊛	<code>\ocirc, \circledcirc</code>		<code>\mdblkdiamond</code>
⊜	<code>\oast, \circledast</code>	◇	<code>\diamondminus</code>
⊝	<code>\odash, \circleddash</code>	◇	<code>\diamondvert</code>
⊞	<code>\oequal, \circledequal</code>	◇	<code>\diamondslash</code>
◯	<code>\bigcirc</code>	◇	<code>\diamondbackslash,</code>
◻	<code>\smallsquare, \smwhtsquare</code>		<code>\diamondbslash</code>
■	<code>\smallblacksquare,</code>	◇	<code>\diamondplus</code>
	<code>\smbklsquare</code>	◇	<code>\diamondtimes</code>
◻	<code>\medsquare, \square, \Box,</code>	◇	<code>\diamondddot, \diamondcddot</code>
	<code>\mdlghwtsquare,</code>	◇	<code>\diamondddiamond</code>
	<code>\mdwhtsquare</code>	★	<code>\smallwhitestar,</code>
■	<code>\medblacksquare,</code>		<code>\smwhitestar</code>
	<code>\mdlglblksquare,</code>	★	<code>\smallblackstar, \star</code>
	<code>\mdblksquare</code>	★	<code>\medwhitestar</code>
⊖	<code>\boxminus</code>	★	<code>\medblackstar, \medstar</code>
⊗	<code>\boxvert, \boxbar</code>	*	<code>*, \ast</code>
⊘	<code>\boxslash, \boxdiag</code>	⊔	<code>\intercal</code>
⊙	<code>\boxbackslash, \boxbslash</code>	⌣	<code>\wreath, \wr</code>
⊕	<code>\boxplus</code>	⊔	<code>\amalg</code>
⊗	<code>\boxtimes</code>	◁	<code>\lhd</code>
⊚	<code>\boxdot</code>	▷	<code>\rhd</code>
⊛	<code>\boxbox</code>	⊔	<code>\unlhd</code>
◇	<code>\smalldiamond, \diamond,</code>	⊔	<code>\unrhd</code>
	<code>\smwhtdiamond</code>	/	<code>\divslash</code>
◆	<code>\smallblackdiamond,</code>	\	<code>\setminus</code>
	<code>\blackdiamond,</code>		

5.3 Relations

=	<code>=, \equal, \Relbar</code>	≈	<code>\simeq</code>
≡	<code>\equiv</code>	≈	<code>\backsimeq</code>
~	<code>\sim</code>	≈	<code>\eqsim</code>
~	<code>\backsim</code>	≡	<code>\cong</code>
≈	<code>\approx</code>	≡	<code>\backcong</code>
≈	<code>\triplesim, \approxident</code>	≡	<code>\dotcong</code>

\approx	<code>\approxeq</code>	\lesseqgtr	<code>\lesseqgtr</code>
\bumpeq	<code>\bumpeq</code>	\gtreqless	<code>\gtreqless</code>
\bumpeq	<code>\bumpeq</code>	\lesseqslantgtr	<code>\lesseqslantgtr, \lesq</code>
\Bumpeq	<code>\Bumpeq</code>	\gtreqslantless	<code>\gtreqslantless, \gesl</code>
\doteq	<code>\doteq</code>	\ll	<code>\ll</code>
\eqdot	<code>\eqdot</code>	\gg	<code>\gg</code>
\Doteq	<code>\Doteq</code>	\lll, \lllless	<code>\lll, \lllless</code>
\fallingdotseq	<code>\fallingdotseq</code>	\ggg, \gggtr	<code>\ggg, \gggtr</code>
\risingdotseq	<code>\risingdotseq</code>	\lessclosed	<code>\lessclosed,</code>
\coloneq, \coloneqq	<code>\coloneq, \coloneqq</code>	\vartriangleleft	<code>\vartriangleleft</code>
\eqcolon, \eqqcolon	<code>\eqcolon, \eqqcolon</code>	\vartriangleright	<code>\vartriangleright</code>
\smile, \smallsmile	<code>\smile, \smallsmile</code>	\triangleleft	<code>\triangleleft, \trianglelefteq</code>
\frown, \smallfrown	<code>\frown, \smallfrown</code>	\triangleright	<code>\triangleright, \trianglerighteq</code>
\smilefrown, \asymp	<code>\smilefrown, \asymp</code>	\triangleleft	<code>\triangleleft, \ltcc</code>
\frownsmile, \closure	<code>\frownsmile, \closure</code>	\triangleright	<code>\triangleright, \gtcc</code>
\smileeq	<code>\smileeq</code>	\triangleleft	<code>\triangleleft, \leqslcc, \lescc</code>
\frowneq, \arceq	<code>\frowneq, \arceq</code>	\triangleright	<code>\triangleright, \geqslcc, \gescc</code>
\eqcirc	<code>\eqcirc</code>	\sqsubset	<code>\sqsubset</code>
\circeq	<code>\circeq</code>	\sqsupset	<code>\sqsupset</code>
\wedgedeq, \hateq	<code>\wedgedeq, \hateq</code>	\sqsubseteq	<code>\sqsubseteq</code>
\veeeq	<code>\veeeq</code>	\sqsupseteq	<code>\sqsupseteq</code>
\stareq	<code>\stareq</code>	\sqsubseteqq	<code>\sqsubseteqq</code>
$\triangleleeq, \triangleleq$	<code>\triangleleeq, \triangleleq</code>	\sqsupseteqq	<code>\sqsupseteqq</code>
\in	<code>\in</code>	\Ssubset	<code>\Ssubset</code>
\owns, \ni	<code>\owns, \ni</code>	\Ssupset	<code>\Ssupset</code>
$<$	<code><, \less</code>	\subset	<code>\subset</code>
$>$	<code>>, \gtr</code>	\supset	<code>\supset</code>
\leq, \le	<code>\leq, \le</code>	\subseteq	<code>\subseteq</code>
\geq, \ge	<code>\geq, \ge</code>	\supseteq	<code>\supseteq</code>
\leqslant	<code>\leqslant</code>	\subseteqeq	<code>\subseteqeq</code>
\geqslant	<code>\geqslant</code>	\supseteqeq	<code>\supseteqeq</code>
\leqq	<code>\leqq</code>	\Subset	<code>\Subset</code>
\geqq	<code>\geqq</code>	\Supset	<code>\Supset</code>
\lesssim	<code>\lesssim</code>	\prec	<code>\prec</code>
\gtrsim	<code>\gtrsim</code>	\succ	<code>\succ</code>
\lessapprox	<code>\lessapprox</code>	\preceq	<code>\preceq</code>
\gtrapprox	<code>\gtrapprox</code>	\succeq	<code>\succeq</code>
\lessgtr	<code>\lessgtr</code>	\preccurlyeq	<code>\preccurlyeq</code>
\gtrless	<code>\gtrless</code>	\succcurlyeq	<code>\succcurlyeq</code>
\lesseqgtr	<code>\lesseqgtr</code>		
\gtreqless	<code>\gtreqless</code>		

\preceq	<code>\preceqq</code>	\nwarrow	<code>\Nwsearrow</code>
\succ	<code>\succeqq</code>	\rightarrow	<code>\twoheadrightarrow</code>
\approx	<code>\precsim</code>	\uparrow	<code>\twoheaduparrow</code>
\asymp	<code>\succsim</code>	\leftarrow	<code>\twoheadleftarrow</code>
\approx	<code>\precapprox</code>	\downarrow	<code>\twoheaddownarrow</code>
\approx	<code>\succapprox</code>	\nearrow	<code>\twoheadnearrow</code>
\lessdot	<code>\lessdot</code>	\nwarrow	<code>\twoheadnwarrow</code>
\gtrdot	<code>\gtrdot</code>	\swarrow	<code>\twoheadswarrow</code>
\leqdot	<code>\leqdot</code>	\searrow	<code>\twoheadsearrow</code>
\geqdot	<code>\geqdot</code>	\rightarrowtail	<code>\rightarrowtail</code>
\leqslantdot	<code>\leqslantdot, \lesdot</code>	\uparrowtail	<code>\uparrowtail</code>
\geqslantdot	<code>\geqslantdot, \gesdot</code>	\leftarrowtail	<code>\leftarrowtail</code>
\leqslantless	<code>\leqslantless</code>	\downarrowtail	<code>\downarrowtail</code>
\leqslantgtr	<code>\leqslantgtr</code>	\nearrowtail	<code>\nearrowtail</code>
\curlyeqprec	<code>\curlyeqprec</code>	\nwarrowtail	<code>\nwarrowtail</code>
\curlyeqsucc	<code>\curlyeqsucc</code>	\swarrowtail	<code>\swarrowtail</code>
\thicksim	<code>\thicksim</code>	\searrowtail	<code>\searrowtail</code>
\thickapprox	<code>\thickapprox</code>	\mapsto	<code>\rightmapsto, \mapsto</code>
\rightarrow	<code>\rightarrow, \to</code>	\Uparrow	<code>\upmapsto, \mapsup</code>
\uparrow	<code>\uparrow</code>	\Leftarrow	<code>\leftmapsto, \mapsfrom</code>
\leftarrow	<code>\leftarrow, \gets</code>	\Downarrow	<code>\downmapsto, \mapsdown</code>
\downarrow	<code>\downarrow</code>	\Rightarrow	<code>\Rightmapsto, \Mapsto</code>
\nearrow	<code>\nearrow</code>	\Uparrow	<code>\Upmapsto, \Mapsup</code>
\nwarrow	<code>\nwarrow</code>	\Leftarrow	<code>\Leftmapsto, \Mapsfrom</code>
\swarrow	<code>\swarrow</code>	\Downarrow	<code>\Downmapsto, \Mapsdown</code>
\searrow	<code>\searrow</code>	\rightarrow	<code>\hookrightarrow</code>
\Rightarrow	<code>\Rightarrow</code>	\uparrow	<code>\hookuparrow</code>
\Uparrow	<code>\Uparrow</code>	\leftarrow	<code>\varhookleftarrow</code>
\Leftarrow	<code>\Leftarrow</code>	\downarrow	<code>\varhookdownarrow</code>
\Downarrow	<code>\Downarrow</code>	\nearrow	<code>\varhooknearrow</code>
\Nearrow	<code>\Nearrow</code>	\nwarrow	<code>\hooknwarrow, \hknwarrow</code>
\Nwarrow	<code>\Nwarrow</code>	\swarrow	<code>\varhookswarrow</code>
\Swarrow	<code>\Swarrow</code>	\searrow	<code>\hooksearrow, \hksearrow</code>
\Searrow	<code>\Searrow</code>	\rightarrow	<code>\varhookrightarrow</code>
$\leftrightharpoonrightarrow$	<code>\leftrightharpoonrightarrow</code>	\uparrow	<code>\varhookuparrow</code>
\updownarrow	<code>\updownarrow</code>	\leftarrow	<code>\hookleftarrow</code>
\nearrow	<code>\neswarrow</code>	\downarrow	<code>\hookdownarrow</code>
\nwarrow	<code>\nwsearrow</code>	\nearrow	<code>\hooknearrow, \hknearrow</code>
\Leftrightarrow	<code>\Leftrightarrow</code>	\nwarrow	<code>\varhooknwarrow</code>
\Updownarrow	<code>\Updownarrow</code>	\swarrow	<code>\hookswarrow, \hkswarrow</code>
\Neswarrow	<code>\Neswarrow</code>	\searrow	<code>\varhooksearrow</code>

\rightarrow	<code>\rightharpoonup</code>	\downarrow	<code>\downbkarrow</code>
\uparrow	<code>\upharpoonleft</code>	\nearrow	<code>\nebkarrow</code>
\leftarrow	<code>\leftharpoonowdown</code>	\nwarrow	<code>\nwbkarrow</code>
\downarrow	<code>\downharpoonright</code>	\swarrow	<code>\swbkarrow</code>
\nearrow	<code>\neharpoonnw</code>	\searrow	<code>\sebkarrow</code>
\nwarrow	<code>\nwharpoonsw</code>	\rightarrow	<code>\rightspoon, \multimap</code>
\swarrow	<code>\swharpoonse</code>	\uparrow	<code>\upspoon, \circmid</code>
\searrow	<code>\seharpoonne</code>	\leftarrow	<code>\leftspoon, \multimapinv</code>
\rightarrow	<code>\rightharpoonowdown</code>	\downarrow	<code>\downspoon, \midcir</code>
\uparrow	<code>\upharpoonright,</code> <code>\restriction</code>	\rightarrow	<code>\rightblackspoon</code>
\leftarrow	<code>\leftharpoonowup</code>	\uparrow	<code>\upblackspoon</code>
\downarrow	<code>\downharpoonleft</code>	\leftarrow	<code>\leftblackspoon</code>
\nearrow	<code>\neharpoonse</code>	\downarrow	<code>\downblackspoon</code>
\nwarrow	<code>\nwharpoonne</code>	\leftrightarrow	<code>\leftrightspoon, \dualmap</code>
\swarrow	<code>\swharpoonnw</code>	$\bullet\rightarrow$	<code>\leftrightblackspoon</code>
\searrow	<code>\seharpoonsw</code>	$\circ\rightarrow$	<code>\blackwhitespoon, \imageof</code>
\rightarrow	<code>\leftrightharpoonowupdown</code>	\rightarrow	<code>\whiteblackspoon, \origof</code>
\uparrow	<code>\updownharpoonleftright</code>	\Rightarrow	<code>\rightpitchfork</code>
\nearrow	<code>\neswharpoonnwse</code>	\pitchfork	<code>\uppitchfork, \pitchfork</code>
\nwarrow	<code>\nwseharpoonnesw</code>	\leftarrow	<code>\leftpitchfork</code>
\rightarrow	<code>\leftrightharpoonowdownup</code>	Ψ	<code>\downpitchfork</code>
\downarrow	<code>\updownharpoonrightleft</code>	\Rightarrow	<code>\rightrightarrow</code>
\nearrow	<code>\neswharpoonsenw</code>	\Uparrow	<code>\upuparrows</code>
\nwarrow	<code>\nwseharpoonswne</code>	\Leftarrow	<code>\leftleftarrows</code>
\Rightarrow	<code>\rightleftharpoons</code>	\Downarrow	<code>\downdownarrows</code>
\Updownarrow	<code>\updownharpoons,</code> <code>\updownharpoonsleftright</code>	\nearrow	<code>\nenearrows</code>
\nearrow	<code>\neswharpoons</code>	\nwarrow	<code>\nwnwarrows</code>
\searrow	<code>\senwharpoons</code>	\swarrow	<code>\swswarrows</code>
\Leftarrow	<code>\leftrightharpoons</code>	\searrow	<code>\sesearrows</code>
\Downarrow	<code>\downupharpoons,</code> <code>\downupharpoonsleftright</code>	\Rightarrow	<code>\rightleftarrows</code>
\swarrow	<code>\swneharpoons</code>	\Updownarrow	<code>\updownarrows</code>
\searrow	<code>\nwseharpoons</code>	\nearrow	<code>\neswarrows</code>
\rightarrow	<code>\rightbkarrow,</code> <code>\dashrightarrow,</code> <code>\dasharrow</code>	\nwarrow	<code>\nwsearrows</code>
\uparrow	<code>\upbkarrow</code>	\swarrow	<code>\swnearrows</code>
\leftarrow	<code>\leftbkarrow,</code> <code>\dashleftarrow</code>	\searrow	<code>\senwarrows</code>
		\rightsquigarrow	<code>\rightwvearrow, \leadsto,</code> <code>\rightsquigarrow,</code> <code>\rightcurvedarrow</code>
		\uparrow	<code>\varupwvearrow</code>

\curvearrowleft	<code>\varleftwvearrow</code>	\curvearrowright	<code>\bdunderarcarrow</code>
\downarrow	<code>\downwvearrow</code>	\curvearrowright	<code>\bdrigharcarrow</code>
\rightarrow	<code>\varrightwvearrow</code>	\curvearrowright	<code>\bdnwarcarrow</code>
\uparrow	<code>\upwvearrow</code>	\curvearrowright	<code>\bdswarcarrow</code>
\leftarrow	<code>\leftwvearrow,</code>	\curvearrowright	<code>\bdsearcarrow</code>
	<code>\leftsquigarrow,</code>	\curvearrowright	<code>\bdnearcarrow</code>
	<code>\leftcurvedarrow</code>	\dashv	<code>\leftfootline</code>
\downarrow	<code>\vardownwvearrow</code>	\dashv	<code>\rightfootline</code>
\leftrightarrow	<code>\leftrightwvearrow,</code>	\circlearrowleft	<code>\acwcircularrowup</code>
	<code>\leftrightsquigarrow</code>	\circlearrowleft	<code>\acwcircularrowleft,</code>
\updownarrow	<code>\updownwvearrow</code>		<code>\circlearrowleft,</code>
\leftrightarrow	<code>\varleftrightwvearrow</code>		<code>\acwopencircularrow</code>
\updownarrow	<code>\varupdownwvearrow</code>	\circlearrowdown	<code>\acwcircularrowdown,</code>
\curvearrowright	<code>\cwoverarcarrow,</code>		<code>\acwgapcircularrow</code>
	<code>\curvearrowright</code>	\circlearrowright	<code>\acwcircularrowright</code>
\leftarrow	<code>\cwleftarcarrow</code>	\circlearrowdown	<code>\cwcircularrowdown,</code>
\curvearrowright	<code>\cwunderarcarrow</code>		<code>\cwgapcircularrow</code>
\rightarrow	<code>\cwrightarcarrow</code>	\circlearrowright	<code>\cwcircularrowright,</code>
\rightarrow	<code>\cwnwarcarrow,</code>		<code>\circlearrowright,</code>
	<code>\rightupcurvedarrow</code>		<code>\cwopencircularrow</code>
\curvearrowright	<code>\cswarcarrow,</code>	\circlearrowup	<code>\cwcircularrowup</code>
	<code>\upleftcurvedarrow</code>	\circlearrowleft	<code>\cwcircularrowleft</code>
\curvearrowright	<code>\cwsearcarrow,</code>	\Rightarrow	<code>\Rrightarrow</code>
	<code>\leftdowncurvedarrow</code>	\Uparrow	<code>\Uuparrow</code>
\curvearrowright	<code>\cwnearcarrow,</code>	\Leftarrow	<code>\Lleftarrow</code>
	<code>\downrightcurvedarrow</code>	\Downarrow	<code>\Ddownarrow</code>
\rightarrow	<code>\acwunderarcarrow</code>	\rightarrow	<code>\longrightarrow</code>
\rightarrow	<code>\acwrightarcarrow</code>	\leftarrow	<code>\longleftarrow</code>
\curvearrowright	<code>\acwoverarcarrow,</code>	\Rightarrow	<code>\Longrightarrow</code>
	<code>\curvearrowleft</code>	\Leftarrow	<code>\Longleftarrow</code>
\rightarrow	<code>\acwleftarcarrow</code>	\leftrightarrow	<code>\longlefttrightarrow</code>
\rightarrow	<code>\acwsearcarrow,</code>	\Leftrightarrow	<code>\Longlefttrightarrow</code>
	<code>\uprightcurvearrow</code>	\mapsto	<code>\longmapsto</code>
\curvearrowright	<code>\acwnearcarrow,</code>	\leftarrow	<code>\longmapsfrom</code>
	<code>\leftupcurvedarrow</code>	\Rightarrow	<code>\Longmapsto</code>
\curvearrowright	<code>\acwnwarcarrow,</code>	\Leftarrow	<code>\Longmapsfrom</code>
	<code>\downleftcurvedarrow</code>	\rightsquigarrow	<code>\longrightarrow,</code>
\curvearrowright	<code>\acswarcarrow,</code>		<code>\longleadsto,</code>
	<code>\rightdowncurvedarrow</code>		<code>\longrightsquigarrow</code>
\curvearrowright	<code>\bdoverarcarrow</code>	\rightsquigarrow	<code>\longleftwvearrow,</code>
\curvearrowright	<code>\bdleftarcarrow</code>		<code>\longleftsquigarrow</code>

⎯	<code>\longleftfootline,</code>	≡	<code>\vDdash</code>
	<code>\vlongdash</code>	≡	<code>\Ddashv</code>
⎯	<code>\longrightfootline,</code>	≠	<code>\nequal, \neq, \ne</code>
	<code>\longdashv</code>	≠	<code>\nequiv</code>
↵	<code>\Lsh</code>	↯	<code>\nsim</code>
↶	<code>\Rsh</code>	↯	<code>\nbacksim</code>
↷	<code>\Ldsh</code>	≠	<code>\napprox</code>
↸	<code>\Rdsh</code>	≠	<code>\ntriplesim, \napproxident</code>
↻	<code>\looparrowright</code>	≠	<code>\nsimeq, \nsime</code>
↺	<code>\looparrowleft</code>	≠	<code>\nbacksimeq</code>
⊢	<code>\rightvdash, \vdash</code>	≠	<code>\neqsim</code>
⊥	<code>\upvdash, \perp</code>	≠	<code>\ncong</code>
⊣	<code>\leftvdash, \dashv</code>	≠	<code>\nbackcong</code>
⊤	<code>\downvdash</code>	≠	<code>\napproxeq</code>
⊢	<code>\rightassert, \assert,</code>	≠	<code>\nbumpeq</code>
	<code>\shortrighttack</code>	≠	<code>\nbumpeqq</code>
⊥	<code>\upassert, \shortuptack</code>	≠	<code>\nBumpeq</code>
⊣	<code>\leftassert, \shortlefttack</code>	≠	<code>\ndoteq</code>
⊤	<code>\downassert, \shortdowntack</code>	≠	<code>\neqdot</code>
≡	<code>\rightvDash, \vDash</code>	≠	<code>\nDoteq</code>
⊥	<code>\upvDash, \Vbar</code>	≠	<code>\nfallingdotseq</code>
≡	<code>\leftvDash, \Dashv</code>	≠	<code>\nrisingdotseq</code>
⊤	<code>\downvDash, \barV</code>	↯	<code>\nsmile</code>
≡	<code>\rightmodels, \models</code>	↯	<code>\nfrown</code>
⊥	<code>\upmodels</code>	✱	<code>\nsmilefrown, \nasymp</code>
≡	<code>\leftmodels</code>	♀	<code>\nfrownsmile, \nclosure</code>
⊤	<code>\downmodels</code>	≠	<code>\nsmileeq</code>
≡	<code>\rightVDash, \VDash</code>	≠	<code>\nfrowneq, \narceq</code>
⊥	<code>\upVDash</code>	≠	<code>\neqcirc</code>
≡	<code>\leftVDash, \dashV</code>	≠	<code>\ncirceq</code>
⊤	<code>\downVDash</code>	≠	<code>\nwedgeq, \nhateq</code>
≡	<code>\rightAssert, \Assert</code>	≠	<code>\nveeeq</code>
⊥	<code>\upAssert, \vBar</code>	≠	<code>\nstareq</code>
≡	<code>\leftAssert</code>	≠	<code>\ntriangleeq</code>
⊤	<code>\downAssert, \Barv</code>	∈	<code>\nin, \notin</code>
≡	<code>\rightVDash, \VDash</code>	∋	<code>\nowns, \nni</code>
⊥	<code>\upVDash</code>	↯	<code>\nless</code>
≡	<code>\leftVDash, \DashV</code>	↯	<code>\ngtr</code>
⊤	<code>\downVDash</code>	≠	<code>\nleq</code>
≡	<code>\Vvdash</code>	≠	<code>\ngeq</code>
≡	<code>\dashVv</code>	≠	<code>\nleqslant</code>

\nlessgtr	<code>\ngeqslant</code>	\nsubseteq	<code>\nsubseteq</code>
\nlessgtr	<code>\nleqq</code>	\nsupseteq	<code>\nsupseteq</code>
\nlessgtr	<code>\ngeqq</code>	\nsubseteqq	<code>\nsubseteqq</code>
\nlessgtr	<code>\nlesssim</code>	\nsupseteqq	<code>\nsupseteqq</code>
\nlessgtr	<code>\ngtrsim</code>	\nSubset	<code>\nSubset</code>
\nlessgtr	<code>\nlessapprox</code>	\nSupset	<code>\nSupset</code>
\nlessgtr	<code>\ngtrapprox</code>	\nprec	<code>\nprec</code>
\nlessgtr	<code>\nlessgtr</code>	\nsucc	<code>\nsucc</code>
\nlessgtr	<code>\ngtrless</code>	\npreceq	<code>\npreceq</code>
\nlessgtr	<code>\nlesseqgtr</code>	\nsucceq	<code>\nsucceq</code>
\nlessgtr	<code>\ngtreqlless</code>	\npreccurlyeq	<code>\npreccurlyeq</code>
\nlessgtr	<code>\nlesseqqgtr</code>	\nsucccurlyeq	<code>\nsucccurlyeq</code>
\nlessgtr	<code>\ngtreqqless</code>	\npreceqq	<code>\npreceqq</code>
\nlessgtr	<code>\nlesseqslantgtr, \nlesg</code>	\nsucceqq	<code>\nsucceqq</code>
\nlessgtr	<code>\ngtreqslantless, \ngesl</code>	\nprecsim	<code>\nprecsim</code>
\nlessgtr	<code>\nll</code>	\nsuccsim	<code>\nsuccsim</code>
\nlessgtr	<code>\ngg</code>	\nprecapprox	<code>\nprecapprox</code>
\nlessgtr	<code>\nlll</code>	\nsuccapprox	<code>\nsuccapprox</code>
\nlessgtr	<code>\nggg</code>	\nlessdot	<code>\nlessdot</code>
\nlessgtr	<code>\nlessclosed,</code>	\ngtrdot	<code>\ngtrdot</code>
	<code>\ntriangleleft</code>	\nleqdot	<code>\nleqdot</code>
\nlessgtr	<code>\ngtrclosed,</code>	\ngeqdot	<code>\ngeqdot</code>
	<code>\ntriangleright</code>	\nleqslantdot, \nlesdot	<code>\nleqslantdot, \nlesdot</code>
\nlessgtr	<code>\nleqclosed,</code>	\ngeqslantdot, \ngesdot	<code>\ngeqslantdot, \ngesdot</code>
	<code>\ntrianglelefteq</code>	\neqslantless	<code>\neqslantless</code>
\nlessgtr	<code>\ngeqclosed,</code>	\neqslantgtr	<code>\neqslantgtr</code>
	<code>\ntrianglerighteq</code>	\ncurlyeqprec	<code>\ncurlyeqprec</code>
\nlessgtr	<code>\nlesscc, \nltcc</code>	\ncurlyeqsucc	<code>\ncurlyeqsucc</code>
\nlessgtr	<code>\ngtrcc, \ngtcc</code>	\simneqq	<code>\simneqq</code>
\nlessgtr	<code>\nleqslcc, \nlescc</code>	\backsimneqq	<code>\backsimneqq</code>
\nlessgtr	<code>\ngeqslcc, \ngescc</code>	\lneq	<code>\lneq</code>
\nlessgtr	<code>\nsqsubset</code>	\gneq	<code>\gneq</code>
\nlessgtr	<code>\nsqsupset</code>	\lneqq, \lvertneqq	<code>\lneqq, \lvertneqq</code>
\nlessgtr	<code>\nsqsubseteq</code>	\gneqq, \gvertneqq	<code>\gneqq, \gvertneqq</code>
\nlessgtr	<code>\nsqsupseteq</code>	\lnsim	<code>\lnsim</code>
\nlessgtr	<code>\nsqsubseteqq</code>	\gnsim	<code>\gnsim</code>
\nlessgtr	<code>\nsqsupseteqq</code>	\lnapprox	<code>\lnapprox</code>
\nlessgtr	<code>\nSqsubset</code>	\gnapprox	<code>\gnapprox</code>
\nlessgtr	<code>\nSqsupset</code>	\sqsubsetneq	<code>\sqsubsetneq</code>
\nlessgtr	<code>\nsubset</code>	\sqsupsetneq	<code>\sqsupsetneq</code>
\nlessgtr	<code>\nsupset</code>	\sqsubsetneqq	<code>\sqsubsetneqq</code>

\sqsupsetneqq	<code>\sqsupsetneqq</code>	\twoheadrightarrow	<code>\twoheadrightarrow</code>
\subsetneq , \varsubsetneq	<code>\subsetneq, \varsubsetneq</code>	\twoheadleftarrow	<code>\twoheadleftarrow</code>
\supsetneq , \varsupsetneq	<code>\supsetneq, \varsupsetneq</code>	\twoheadswarrow	<code>\twoheadswarrow</code>
\subsetneqq , \varsubsetneqq	<code>\subsetneqq, \varsubsetneqq</code>	\twoheadsearrow	<code>\twoheadsearrow</code>
\supsetneqq , \varsupsetneqq	<code>\supsetneqq, \varsupsetneqq</code>	\rightarrowtail	<code>\rightarrowtail</code>
\precneq	<code>\precneq</code>	\uparrowtail	<code>\uparrowtail</code>
\succneq	<code>\succneq</code>	\leftarrowtail	<code>\leftarrowtail</code>
\precneqq	<code>\precneqq</code>	\downdownarrows	<code>\downdownarrows</code>
\succneqq	<code>\succneqq</code>	\nearrowtail	<code>\nearrowtail</code>
\precnsim	<code>\precnsim</code>	\nwarrowtail	<code>\nwarrowtail</code>
\succnsim	<code>\succnsim</code>	\swarrowtail	<code>\swarrowtail</code>
\precnapprox	<code>\precnapprox</code>	\searrowtail	<code>\searrowtail</code>
\succnapprox	<code>\succnapprox</code>	\rightrightarrows , \mapsto	<code>\rightrightarrows, \mapsto</code>
\rightarrow , \nto	<code>\rightarrow, \nto</code>	\upmapsto , \mapsfrom	<code>\upmapsto, \mapsfrom</code>
\uparrow	<code>\uparrow</code>	\leftmapsto , \mapsfrom	<code>\leftmapsto, \mapsfrom</code>
\leftarrow , \ngets	<code>\leftarrow, \ngets</code>	\downdownarrows , \mapsto	<code>\downdownarrows, \mapsto</code>
\downarrow	<code>\downarrow</code>	\Rrightarrow , \Mapsto	<code>\Rrightarrow, \Mapsto</code>
\nearrow	<code>\nearrow</code>	\Uparrow , \Mapsup	<code>\Uparrow, \Mapsup</code>
\nwarrow	<code>\nwarrow</code>	\Lleftarrow , \Mapsfrom	<code>\Lleftarrow, \Mapsfrom</code>
\swarrow	<code>\swarrow</code>	\Downarrow , \Mapsdown	<code>\Downarrow, \Mapsdown</code>
\searrow	<code>\searrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\Rrightarrow	<code>\Rrightarrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\Uparrow	<code>\Uparrow</code>	\nrightarrow	<code>\nrightarrow</code>
\Lleftarrow	<code>\Lleftarrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\Downarrow	<code>\Downarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\nearrow	<code>\nearrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\nwarrow	<code>\nwarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\swarrow	<code>\swarrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\searrow	<code>\searrow</code>	\nrightarrow	<code>\nrightarrow</code>
\leftrightsquigarrow	<code>\leftrightsquigarrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\nrightarrow	<code>\nrightarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\updownarrow	<code>\updownarrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\nrightarrow	<code>\nrightarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\nwarrow	<code>\nwarrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\searrow	<code>\searrow</code>	\nrightarrow	<code>\nrightarrow</code>
\leftrightsquigarrow	<code>\leftrightsquigarrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\updownarrow	<code>\updownarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\nrightarrow	<code>\nrightarrow</code>	\hookrightarrow	<code>\hookrightarrow</code>
\nwarrow	<code>\nwarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\searrow	<code>\searrow</code>	\nrightarrow	<code>\nrightarrow</code>
\twoheadrightarrow	<code>\twoheadrightarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\twoheaduparrow	<code>\twoheaduparrow</code>	\nrightarrow	<code>\nrightarrow</code>
\twoheadleftarrow	<code>\twoheadleftarrow</code>	\nrightarrow	<code>\nrightarrow</code>
\twoheaddownarrow	<code>\twoheaddownarrow</code>	\nrightarrow	<code>\nrightarrow</code>

\times	<code>\nwsharpoons</code>	\rightarrow	<code>\rightspoon, \multimap</code>
\times	<code>\nsharpoonse</code>	\updownarrow	<code>\nupspoon, \ncirmid</code>
\times	<code>\nseharpoonne</code>	\leftarrow	<code>\leftspoon, \multimapinv</code>
\rightarrow	<code>\nrightharpoondown</code>	\downarrow	<code>\downspoon, \midcir</code>
\updownarrow	<code>\nupharpoonright,</code> <code>\restriction</code>	\rightarrow	<code>\rightblackspoon</code>
\leftarrow	<code>\lefttharpoonup</code>	\updownarrow	<code>\upblackspoon</code>
\downarrow	<code>\downtharpoonleft</code>	\leftarrow	<code>\leftblackspoon</code>
\times	<code>\nneharpoonse</code>	\rightarrow	<code>\leftrightspoon, \dualmap</code>
\times	<code>\nwsharpoonne</code>	\rightarrow	<code>\leftrightblackspoon</code>
\times	<code>\nsharpoonnw</code>	\rightarrow	<code>\blackwhitespoon,</code> <code>\nimageof</code>
\times	<code>\nseharpoonsw</code>	\rightarrow	<code>\whiteblackspoon, \norigof</code>
\rightarrow	<code>\lefttrightharpoonupdown</code>	\pitchfork	<code>\rightpitchfork</code>
\updownarrow	<code>\nupdownharpoonleftright</code>	\pitchfork	<code>\nuppitchfork, \npitchfork</code>
\times	<code>\neswharpoonnwse</code>	\leftarrow	<code>\leftpitchfork</code>
\times	<code>\nwseharpoonnesw</code>	\downarrow	<code>\downpitchfork</code>
\rightarrow	<code>\lefttrightharpoondownup</code>	\rightarrow	<code>\rightrightarrows</code>
\updownarrow	<code>\nupdownharpoonrightleft</code>	\Uparrow	<code>\nupuparrows</code>
\times	<code>\neswharpoonsenw</code>	\Leftarrow	<code>\leftleftarrows</code>
\times	<code>\nwseharpoonswne</code>	\Downarrow	<code>\downdownarrows</code>
\rightleftharpoons	<code>\rightleftharpoons</code>	\nearrow	<code>\nneearrows</code>
\updownarrow	<code>\nupdownharpoons, \nupdown-</code> <code>harpoonsleftright</code>	\nwarrow	<code>\nnwnwarrows</code>
\times	<code>\neswharpoons</code>	\swarrow	<code>\nswswarrows</code>
\times	<code>\nsenwharpoons</code>	\searrow	<code>\nsesearrows</code>
\rightleftharpoons	<code>\lefttrightharpoons</code>	\rightleftharpoons	<code>\rightleftarrows</code>
\updownarrow	<code>\downnupharpoons,</code> <code>\downnupharpoonsleft-</code> <code>right</code>	\updownarrow	<code>\nupdownarrows</code>
\times	<code>\nswneharpoons</code>	\rightleftharpoons	<code>\nneswarrows</code>
\times	<code>\nwseharpoons</code>	\nwarrow	<code>\nnwsearrows</code>
\rightarrow	<code>\nrighbkarrow, \ndasharrow,</code> <code>\ndashrightarrow</code>	\rightleftharpoons	<code>\nleftrightarrow</code>
\rightarrow	<code>\nupbkarrow</code>	\rightarrow	<code>\downuparrows</code>
\leftarrow	<code>\leftbkarrow,</code> <code>\ndashleftarrow</code>	\rightarrow	<code>\nswnearrows</code>
\downarrow	<code>\downbkarrow</code>	\rightarrow	<code>\nsenwarrows</code>
\rightarrow	<code>\nnebkarrow</code>	\rightarrow	<code>\rightwvewarrow, \nleadsto,</code> <code>\rightsquigarrow,</code> <code>\rightcurvedarrow</code>
\rightarrow	<code>\nnwbkarrow</code>	\rightarrow	<code>\nvarupwvewarrow</code>
\rightarrow	<code>\nswbkarrow</code>	\leftarrow	<code>\nvarleftwvewarrow</code>
\rightarrow	<code>\nsebkarrow</code>	\downarrow	<code>\downwvewarrow</code>
		\rightarrow	<code>\nvarrightwvewarrow</code>
		\rightarrow	<code>\nupwvewarrow</code>

\leftarrow	<code>\leftwvearrow,</code>	\curvearrowright	<code>\nbdsearcarrow</code>
	<code>\leftsquigarrow,</code>	\curvearrowleft	<code>\nbdnearcarrow</code>
	<code>\leftcurvedarrow</code>	\dashrightarrow	<code>\leftfootline</code>
\Downarrow	<code>\nvardownwvearrow</code>	\dashleftarrow	<code>\rightfootline</code>
\leftrightarrow	<code>\leftrightwvearrow,</code>	\circlearrowup	<code>\nacwcircularrowup</code>
	<code>\leftrightsquigarrow</code>	\circlearrowleft	<code>\nacwcircularrowleft,</code>
\Updownarrow	<code>\nupdownwvearrow</code>		<code>\ncircularrowleft,</code>
\leftrightarrow	<code>\nvarleftrightwvearrow</code>	\circlearrowdown	<code>\nacwopencircularrow</code>
\S	<code>\nvarupdownwvearrow</code>	\circlearrowright	<code>\nacwcircularrowdown,</code>
\curvearrowright	<code>\ncwoverarcarrow,</code>		<code>\nacwgapcircularrow</code>
	<code>\ncurvearrowright</code>	\circlearrowright	<code>\nacwcircularrowright</code>
\curvearrowleft	<code>\ncwleftarcarrow</code>	\circlearrowdown	<code>\ncwcircularrowdown,</code>
\curvearrowright	<code>\ncwunderarcarrow</code>		<code>\ncwgapcircularrow</code>
\curvearrowright	<code>\ncwrightarcarrow</code>	\circlearrowright	<code>\ncwcircularrowright,</code>
\curvearrowright	<code>\ncwnwarcarrow,</code>		<code>\ncircularrowright,</code>
	<code>\nrighupcurvedarrow</code>		<code>\ncwopencircularrow</code>
\curvearrowright	<code>\ncswarcarrow,</code>	\circlearrowup	<code>\ncwcircularrowup</code>
	<code>\nupleftcurvedarrow</code>	\circlearrowleft	<code>\ncwcircularrowleft</code>
\curvearrowright	<code>\ncwsearcarrow,</code>	\Rightarrow	<code>\nRrightarrow</code>
	<code>\leftdowncurvedarrow</code>	\Uparrow	<code>\nUparrow</code>
\curvearrowright	<code>\ncwnearcarrow,</code>	\Leftarrow	<code>\nLleftarrow</code>
	<code>\ndownrightcurvedarrow</code>	\Downarrow	<code>\nDdownarrow</code>
\curvearrowright	<code>\nacwunderarcarrow</code>	\rightarrow	<code>\nlongrightarrow</code>
\curvearrowright	<code>\nacwrightarcarrow</code>	\leftarrow	<code>\nlongleftarrow</code>
\curvearrowright	<code>\nacwoverarcarrow,</code>	\Rightarrow	<code>\nLongrightarrow</code>
	<code>\ncurvearrowleft</code>	\Leftarrow	<code>\nLongleftarrow</code>
\curvearrowright	<code>\nacwleftarcarrow</code>	\leftrightarrow	<code>\nlongleftrightrightarrow</code>
\curvearrowright	<code>\nacwsearcarrow,</code>	\Leftrightarrow	<code>\nLongleftrightrightarrow</code>
	<code>\nuprightcurvearrow</code>	\mapsto	<code>\nlongmapsto</code>
\curvearrowright	<code>\nacwnearcarrow,</code>	\mapsto	<code>\nlongmapsfrom</code>
	<code>\nleftupcurvedarrow</code>	\Rightarrow	<code>\nLongmapsto</code>
\curvearrowright	<code>\nacwnwarcarrow,</code>	\Leftarrow	<code>\nLongmapsfrom</code>
	<code>\ndownleftcurvedarrow</code>	\rightsquigarrow	<code>\nlongrightwvearrow,</code>
\curvearrowright	<code>\nacswarcarrow,</code>		<code>\nlongleadsto,</code>
	<code>\nrighdowncurvedarrow</code>		<code>\nlongrightsquigarrow</code>
\curvearrowright	<code>\nbdoverarcarrow</code>	\rightsquigarrow	<code>\nlongleftwvearrow,</code>
\curvearrowright	<code>\nbdleftarcarrow</code>		<code>\nlongleftsquigarrow</code>
\curvearrowright	<code>\nbdunderarcarrow</code>	\dashrightarrow	<code>\nlongleftfootline,</code>
\curvearrowright	<code>\nbdrightarcarrow</code>		<code>\nvlongdash</code>
\curvearrowright	<code>\nbdnwarcarrow</code>	\dashleftarrow	<code>\nlongrightfootline,</code>
\curvearrowright	<code>\nbdswarcarrow</code>		<code>\nlongdashv</code>

#	\backslash nrightvdash, \backslash nvDash	#	\backslash nrightVDash, \backslash nVDash
±	\backslash nupvdash, \backslash nperp	±	\backslash nupVDash
#	\backslash nleftvdash, \backslash ndashv	#	\backslash nleftVDash, \backslash nDashV
⌞	\backslash ndownvdash	⌞	\backslash ndownVDash
#	\backslash nrightassert, \backslash nassert, \backslash nshortrighttack	#	\backslash nVvdash
±	\backslash nupassert, \backslash nshortuptack	#	\backslash ndashVv
#	\backslash nleftassert, \backslash nshortlefttack	#	\backslash nvDdash
⌞	\backslash ndownassert, \backslash nshortdowntack	#	\backslash nDdashv
#	\backslash nrightvDash, \backslash nvDash	:	\backslash mathratio
±	\backslash nupvDash, \backslash nVbar	::	\backslash Colon
#	\backslash nleftvDash, \backslash nDashv	-	\backslash relbar
⌞	\backslash ndownvDash, \backslash nbarV	∴	\backslash dotsminusdots
#	\backslash nrightmodels, \backslash nmodels	⋈	\backslash rJoin
±	\backslash nupmodels	⋈	\backslash lJoin
#	\backslash nleftmodels	⋈	\backslash bowtie, \backslash Join
⌞	\backslash ndownmodels	∝	\backslash propto, \backslash varpropto
#	\backslash nrightVdash, \backslash nVDash	∞	\backslash backpropto, \backslash propfrom
±	\backslash nupVdash	×	\backslash crossing
#	\backslash nleftVdash, \backslash ndashV	∅	\backslash between
⌞	\backslash ndownVdash		\backslash shortmid
#	\backslash nrightAssert, \backslash nAssert		\backslash mid, \backslash divides
±	\backslash nupAssert, \backslash nvBar	†	\backslash nshortmid
#	\backslash nleftAssert	†	\backslash nmid, \backslash ndivides
⌞	\backslash ndownAssert, \backslash nBarv		\backslash shortparallel
			\backslash parallel
		#	\backslash nshortparallel
		‡	\backslash nparallel

5.4 Punctuation symbols

·	\backslash cdotp	:	\backslash colon, \backslash mathcolon
---	--------------------	---	--






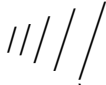






























5.5 Large operators

























+	\bigplus	⋈	\bigdoublewedge , \backslash conjquant
×	\bigtimes	⋈	\bigdoublevee , \backslash disjquant
∧	\bigwedge	⋈	\bigcurlywedge
∨	\bigvee	⋈	\bigcurlyvee
∧	\bigwedgedot		
∨	\bigveedot		

\bigcap	\bigcap	<code>\bigcap</code>	$\int \dots \int$	$\int \dots \int$	<code>\idotsint, \dotsint</code>
\bigcup	\bigcup	<code>\bigcup</code>	\int	\int	<code>\landupint,</code>
$\bigcap\!\cdot$	$\bigcap\!\cdot$	<code>\bigcapdot</code>			<code>\intclockwise</code>
$\bigcup\!\cdot$	$\bigcup\!\cdot$	<code>\bigcupdot</code>	\int	\int	<code>\landdownint, \awint,</code>
$\bigcap\!+$	$\bigcap\!+$	<code>\bigcapplus</code>			<code>\intctrackwise</code>
$\bigcup\!+$	$\bigcup\!+$	<code>\bigcupplus, \biguplus</code>	\int	\int	<code>\intbar</code>
\bigsqcap	\bigsqcap	<code>\bigsqcap</code>	\int	\int	<code>\intBar</code>
\bigsqcup	\bigsqcup	<code>\bigsqcup</code>	\int	\int	<code>\fint</code>
$\bigsqcap\!\cdot$	$\bigsqcap\!\cdot$	<code>\bigsqcapdot</code>	\oint	\oint	<code>\oint</code>
$\bigsqcup\!\cdot$	$\bigsqcup\!\cdot$	<code>\bigsqcupdot</code>	\oint	\oint	<code>\oiint</code>
$\bigsqcap\!+$	$\bigsqcap\!+$	<code>\bigsqcapplus</code>	\oint	\oint	<code>\oiint</code>
$\bigsqcup\!+$	$\bigsqcup\!+$	<code>\bigsqcupplus</code>	\oint	\oint	<code>\oiint</code>
\bigoplus	\bigoplus	<code>\bigoplus</code>	\oint	\oint	<code>\oiint</code>
\bigotimes	\bigotimes	<code>\bigotimes</code>	\oint	\oint	<code>\rcircrightint,</code>
\bigodot	\bigodot	<code>\bigodot</code>			<code>\ointctrackwise</code>
\bigcircast	\bigcircast	<code>\bigcircast</code>	\oint	\oint	<code>\lcircrightint,</code>
\prod	\prod	<code>\prod</code>			<code>\varointclockwise</code>
\coprod	\coprod	<code>\coprod</code>	\oint	\oint	<code>\rcircleleftint,</code>
\prod_i	\prod_i	<code>\prodi</code>			<code>\varointctrackwise</code>
\coprod_i	\coprod_i	<code>\coprodi</code>	\oint	\oint	<code>\lcircleleftint,</code>
\sum	\sum	<code>\sum</code>			<code>\ointclockwise</code>
$\sum_{\text{mod } 2}$	$\sum_{\text{mod } 2}$	<code>\osum, \modtwosum</code>	\int	\int	<code>\sumint</code>
\int	\int	<code>\int</code>	π	π	<code>\smallprod</code>
\iint	\iint	<code>\iint</code>	μ	μ	<code>\smallcoprod</code>
\iiint	\iiint	<code>\iiint</code>	π	π	<code>\smallprodi</code>
\iiiiint	\iiiiint	<code>\iiiiint</code>	ν	ν	<code>\smallcoprodi</code>
			\int	\int	<code>\smallint</code>
			$\sqrt{\quad}$	$\sqrt{\quad}$	<code>\surd</code>


5.6 Delimiters and accents

$((((($	<code>(, \lparen</code>	$[[[[[$	<code>[, \lbrack</code>
$)))))$	<code>), \rparen</code>	$]]]]]$	<code>], \rbrack</code>

	<code>\lfloor</code>		<code>\langedot</code>
	<code>\rfloor</code>		<code>\rangledot</code>
	<code>\lceil</code>		<code>/, \mathslash</code>
	<code>\rceil</code>		<code>\backslash</code>
	<code>\ulcorner</code>		<code> , \vert</code>
	<code>\urcorner</code>		<code>\lvert</code>
	<code>\llcorner</code>		<code>\rvert</code>
	<code>\lrcorner</code>		<code>\Vert, \lvert</code>
	<code>\ullcorner</code>		<code>\lVert</code>
	<code>\ulrcorner</code>		<code>\rVert</code>
	<code>\lsem, \lBrack</code>		<code>\Vvert</code>
	<code>\rsem, \rBrack</code>		<code>\lVvert</code>
	<code>\lbrace, \{</code>		<code>\rVvert</code>
	<code>\rbrace, \}</code>		<code>\arrowvert</code>
	<code>\langle</code>		<code>\Arrowvert</code>
	<code>\rangle</code>		<code>\lgroup</code>
	<code>\lAngle</code>		<code>\rgroup</code>
	<code>\rAngle</code>		<code>\lmoustache</code>

	<code>\rmoustache</code>		<code>\updownarrow</code>
	<code>\bracevert</code>		<code>\Uparrow</code>
	<code>\uparrow</code>		<code>\Downarrow</code>
	<code>\downarrow</code>		<code>\Updownarrow</code>
	<code>\overbrace</code>		<code>\overlinesegment</code>
	<code>\underbrace</code>		<code>\overleftharpoon</code>
	<code>\overgroup</code>		<code>\overrightharpoon</code>
	<code>\undergroup</code>		<code>\underlinesegment</code>
	<code>\sqrt</code>		<code>\vec</code>
	<code>\widehat</code>		<code>\middlebar</code>
	<code>\widetilde</code>		<code>\middleslash</code>
	<code>\wideparen</code>		<code>\strokethrough</code>

In addition to the `\overline` command, which produces a line with a height of three times the line width over its argument (and which might be too high due to that), `mdsymbol` also defines a command with a fixed height:

 `\overlining`

5.7 Faked symbols

The following symbols are taken from the text font.

\dagger	<code>\dagger</code>	\hbar	<code>\hbar</code>
\ddagger	<code>\ddagger</code>	\hslash	<code>\hslash</code>
\mathparagraph	<code>\mathparagraph</code>	\textcircled{R}	<code>\circledR</code>
\mathsection	<code>\mathsection</code>	\textcircled{S}	<code>\circledS</code>
\mathdollar	<code>\mathdollar</code>	λ	<code>\lambdabar</code>
\mathsterling	<code>\mathsterling</code>	λ	<code>\lambdaslash</code>
\yen	<code>\yen</code>		

5.8 Missing symbols

The following symbols from Computer Modern or the AMS fonts are missing in `MdSymbol`. If available, they should be taken from the text font.

<code>\mho</code>	<code>\backepsilon</code>	<code>\diagup</code>
<code>\eth</code>	<code>\mapstochar</code>	<code>\diagdown</code>
<code>\digamma</code>	<code>\lhook</code>	<code>\Bbbk</code>
<code>\varkappa</code>	<code>\rhook</code>	

6 Implementation

```

1 {*style}
2 \RequirePackage{xkeyval}
3 \newcommand*{mdsy@choicekey}[3]{%
4   \define@choicekey*{mdsymbol.sty}{#1}[\@tempa\@tempb]{#2}{#3}%
5 }

```

We use xkeyval's key mechanism to declare all options. The first options determines the size of delimiters.

```
6 \define@boolkey{mdsymbol.sty}[mdsy@]{largedelims}[true]{}
```

The following option determines whether faked symbols should be defined.

```
7 \define@boolkey{mdsymbol.sty}[mdsy@]{retainmissing}[true]{}
```

The next option allows to scale the fonts by an arbitrary factor.

```
8 \newcommand{\mdsy@scale}{1.0}
9 \define@key{mdsymbol.sty}{scale}{\renewcommand\mdsy@scale{#1}}

```

The next option controls whether only the sans and sansbold mathversions are modified.

```
10 \define@boolkey{mdsymbol.sty}[mdsy@]{onlysansmath}[true]{}
```

The following two options control which weights are used for which math version and font size.

```

11 \newcommand\mdsy@mweight@normal{Regular}
12 \newcommand\mdsy@mweight@small{Regular}
13 \newcommand\mdsy@bweight@normal{Semibold}
14 \newcommand\mdsy@bweight@small{Semibold}
15 \mdsy@choicekey{normalweight}{light,regular,autolight,autoregular}{%
16   \ifcase\@tempb\relax
17     \renewcommand\mdsy@mweight@normal{Light}%
18     \renewcommand\mdsy@mweight@small{Light}%
19   \or
20     \renewcommand\mdsy@mweight@normal{Regular}%
21     \renewcommand\mdsy@mweight@small{Regular}%
22   \or
23     \renewcommand\mdsy@mweight@normal{Light}%
24     \renewcommand\mdsy@mweight@small{Regular}%
25   \or
26     \renewcommand\mdsy@mweight@normal{Regular}%
27     \renewcommand\mdsy@mweight@small{Semibold}%
28   \fi

```

```

29 }
30 \mdsy@choicekey{boldweight}{semibold,bold,autosemibold}{%
31   \ifcase \@tempb\relax
32     \renewcommand\mdsy@bweight@normal{Semibold}%
33     \renewcommand\mdsy@bweight@small{Semibold}%
34   \or
35     \renewcommand\mdsy@bweight@normal{Bold}%
36     \renewcommand\mdsy@bweight@small{Bold}%
37   \or
38     \renewcommand\mdsy@bweight@normal{Semibold}%
39     \renewcommand\mdsy@bweight@small{Bold}%
40   \fi
41 }
42 \ExecuteOptionsX{largedelims=false,onlysansmath=false,retainmissing=false}
43 \ProcessOptionsX

```

Load external packages, but only if they are not already loaded in order to avoid warning messages about loading a package twice with different options.

```

44 \@ifpackageloaded{amsmath}{-}{\RequirePackage{amsmath}}
45 \@ifpackageloaded{textcomp}{-}{\RequirePackage{textcomp}}

```

Command to check whether tabular math version is available

```

46 \newcommand*\mdsy@if@tabular@math[1]{%
47   \ifundefined{mv@tabular}{-}{#1}%
48 }

```

Add an additional switch into the mathversion command to indicate sans or sansbold math. Putting this into the `\ifmathversionsans` command does not work with the delimiter definition below.

```

49 \ifmdsy@onlysansmath
50   \DeclareMathVersion{sans}
51   \DeclareMathVersion{sansbold}
52   \DeclareMathVersion{sanstabular}
53   \DeclareMathVersion{sansboldtabular}
54
55   \newif\if@mdsy@sans@
56
57   \let\mathversion@old\mathversion
58   \def\sans@version{sans}
59   \def\sans@version@bold{sansbold}
60   \def\sans@version@tab{sanstabular}
61   \def\sans@version@bold@tab{sansboldtabular}
62   \renewcommand{\mathversion}[1]{%
63     \mathversion@old{#1}%
64     \@mdsy@sans@false%
65     \ifx\math@version\sans@version%
66       \@mdsy@sans@true%

```

```

67 \fi%
68 \ifx\math@version\sans@version@bold%
69 \@msy@sans@true%
70 \fi%
71 \ifx\math@version\sans@version@tab%
72 \@msy@sans@true%
73 \fi%
74 \ifx\math@version\sans@version@bold@tab%
75 \@msy@sans@true%
76 \fi%
77 }
78 \fi
79 \def\ifmathversionsans{%
80 \if@msy@sans@
81 \expandafter\@firstoftwo
82 \else
83 \expandafter\@secondoftwo
84 \fi
85 }

```

The following shorthands simplify the definition of commands which have different output depending on the mathversion in the case of `onlysansmath`. Without that option, they just normally define the commands.

```

86 \RequirePackage{etoolbox}
87
88 \newcommand\msy@setslot[1]{\@tempcnta #1\relax}
89 \newcommand\msy@nextslot{\advance\@tempcnta 1\relax}
90 \newcommand\msy@prevslot{\advance\@tempcnta-1\relax}
91
92 \newcommand\msy@@DeclareSymbol[4]{\expandafter\DeclareMathSymbol\expandafter{\csname
93
94 \ifmsy@onlysansmath
95 \newcommand\msy@OrigSymbol@not@def{%
96 \PackageError{m-symbol}{Symbol is only available in sans-like math-
97 versions}{%
98 Define symbol before loading m-symbol with the onlysansmath op-
99 tion}
100 }
101 \newcommand\msy@DeclareSymbol[3]{%
102 \ifcsdef{#1}{%
103 \csletcs{#1@old}{#1}%
104 }{\cslet{#1@old}{\msy@OrigSymbol@not@def}}
105 \expandafter\msy@@DeclareSymbol\expandafter{\the\@tempcnta}{#1@sans}{#3}{#2}%
106 \csundef{#1}%
107 \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}}
108 \msy@nextslot

```

```

107 }
108 \newcommand\mdsy@DeclareDelimiter[4]{%
109   \ifcsdef{#1}{%
110     \csletcs{#1@old}{#1}%
111   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%
112   \expandafter\DeclareMathDelimiter\expandafter{\csname #1@sans\endcsname}{#2}{#3}{#4}%
113   \csundef{#1}%
114   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}}%
115 }
116 \newcommand\mdsy@DeclareOperator[3]{%
117   \ifcsdef{#1}{%
118     \csletcs{#1@old}{#1}%
119   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%
120   \csdef{#1@sans}{\DOTSB#3\limits@}%
121   \csundef{#1}%
122   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}}%
123 }
124 \newcommand\mdsy@DeclareIntegral[3]{%
125   \ifcsdef{#1}{%
126     \csletcs{#1@old}{#1}%
127   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%
128   \csdef{#1@sans}{\DOTSI#3\limits@}%
129   \csundef{#1}%
130   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}}%
131 }
132 \newcommand\mdsy@DeclareMathSymbol[4]{%
133   \ifcsdef{#1}{%
134     \csletcs{#1@old}{#1}%
135   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%
136   \expandafter\DeclareMathSymbol\expandafter{\csname #1@sans\endcsname}{#2}{#3}{#4}%
137   \csundef{#1}%
138   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}}%
139 }
140 \newcommand\mdsy@DeclareMathDelimiter[6]{%
141   \ifcsdef{#1}{%
142     \csletcs{#1@old}{#1}%
143   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%
144   \expandafter\DeclareMathDelimiter\expandafter{\csname #1@sans\endcsname}{#2}{#3}{#4}{#5}{#6}%
145   \csundef{#1}%
146   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}}%
147 }
148 \newcommand\mdsy@DeclareMathAccent[4]{%
149   \ifcsdef{#1}{%
150     \csletcs{#1@old}{#1}%
151   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%

```



```

152   \expandafter\DeclareMathAccent\expandafter{\csname #1@sans\endcsname}{#2}{#3}{#4}
153   \csundef{#1}%
154   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}
155 }
156 \newcommand\mdsy@DeclareMathRadical[5]{%
157   \ifcsdef{#1}{%
158     \csletcs{#1@old}{#1}%
159   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%
160   \expandafter\DeclareMathRadical\expandafter{\csname #1@sans\endcsname}{#2}{#3}{#4}
161   \csundef{#1}%
162   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}
163 }
164 \newcommand{\mdsy@DeclareActiveMathSymbol}[4]{%
165   \ifnum\mathcode'#1="8000 %
166     \errmessage{'#1' is already active}%
167   \fi
168   \expandafter\mathchardef\csname#1@old\endcsname=\mathcode'#1 %
169   \expandafter\DeclareMathSymbol\csname#1@new\endcsname{#2}{#3}{#4}
170   \begingroup
171   \lccode'\~='#1 %
172   \lowercase{\endgroup
173     \def~%
174   }\ifmathversionsans{\csname#1@new\endcsname}{\csname#1@old\endcsname}}%
175   \mathcode'#1="8000 %
176 }
177 \newcommand{\mdsy@DeclareActiveMathDelimiter}[4]{%
178   % don't know how to implement an active math delimiter; so de-
179   clare
180   % it as an active math symbol instead
181   \mdsy@DeclareActiveMathSymbol{#1}{#2}{#3}{#4}
182 }
183 \newcommand{\mdsy@renewcommand}[2]{%
184   \ifcsdef{#1}{%
185     \csletcs{#1@old}{#1}%
186   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%
187   \expandafter\newcommand\csname #1@sans\endcsname{#2}%
188   \csundef{#1}%
189   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}
190 }
191 \newcommand{\mdsy@DeclareRobustCommandArg}[3]{%
192   \ifcsdef{#1}{%
193     \csletcs{#1@old}{#1}%
194   }\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}%
195   \expandafter\DeclareRobustCommand\csname #1@sans\endcsname[#2]{#3}%
196   \csundef{#1}%

```

```

196   \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}}
197   }
198   \newcommand{\mdsy@DeclareRobustCommand}[2]{%
199     \ifcsdef{#1}{%
200       \csletcs{#1@old}{#1}%
201     }{\cslet{#1@old}{\mdsy@OrigSymbol@not@def}}}%
202     \expandafter\DeclareRobustCommand\csname #1@sans\endcsname{#2}%
203     \csundef{#1}%
204     \csdef{#1}{\ifmathversionsans{\csname #1@sans\endcsname}{\csname#1@old\endcsname}}
205   }
206 \else
207   \let\ifmathversionsans\undefined
208   \newcommand{\mdsy@DeclareSymbol}[3]{%
209     \csundef{#1}%
210     \expandafter\mdsy@@DeclareSymbol\expandafter{\the\@tempcnta}{#1}{#3}{#2}%
211     \mdsy@nextslot
212   }
213   \newcommand{\mdsy@DeclareDelimiter}[4]{%
214     \csundef{#1}%
215     \expandafter\DeclareMathDelimiter\expandafter{\csname#1\endcsname}{#2}{#3}{#4}{#3}
216   }
217   \newcommand{\mdsy@DeclareOperator}[3]{%
218     \csdef{#1}{\DOTSB#3\slimits@}%
219   }
220   \newcommand{\mdsy@DeclareIntegral}[3]{%
221     \csdef{#1}{\DOTSI#3\ilimits@}%
222   }
223   \newcommand{\mdsy@DeclareMathSymbol}[4]{%
224     \expandafter\DeclareMathSymbol\expandafter{\csname#1\endcsname}{#2}{#3}{#4}%
225   }
226   \newcommand{\mdsy@DeclareMathDelimiter}[6]{%
227     \expandafter\DeclareMathDelimiter\expandafter{\csname#1\endcsname}{#2}{#3}{#4}{#5}
228   }
229   \newcommand{\mdsy@DeclareMathAccent}[4]{%
230     \expandafter\DeclareMathAccent\expandafter{\csname#1\endcsname}{#2}{#3}{#4}%
231   }
232   \newcommand{\mdsy@DeclareMathRadical}[5]{%
233     \expandafter\DeclareMathRadical\expandafter{\csname#1\endcsname}{#2}{#3}{#4}{#5}%
234   }
235   \newcommand{\mdsy@DeclareActiveMathSymbol}[4]{%
236     \DeclareMathSymbol{#1}{#2}{#3}{#4}%
237   }
238   \newcommand{\mdsy@DeclareActiveMathDelimiter}[4]{%
239     \DeclareMathDelimiter{#1}{#2}{#3}{#4}{#3}{#4}%
240   }

```

```

241 \newcommand{\mdsy@renewcommand}[2]{%
242   \expandafter\providecommand\csname #1\endcsname{#2}%
243 }
244 \newcommand{\mdsy@DeclareRobustCommand}[2]{%
245   \expandafter\DeclareRobustCommand\csname#1\endcsname{#2}%
246 }
247 \newcommand{\mdsy@DeclareRobustCommandArg}[3]{%
248   \expandafter\DeclareRobustCommand\csname#1\endcsname[#2]{#3}%
249 }
250 \fi
251
252 \newcommand\mdsy@DeclareAlias[3]{\mdsy@prevslot\mdsy@DeclareSymbol{#1}{#2}{#3}}
253
254 \newcommand\mdsy@DeclareOpen[3]{\mdsy@DeclareDelimiter{#1}{\mathopen}{#2}{#3}}
255 \newcommand\mdsy@DeclareClose[3]{\mdsy@DeclareDelimiter{#1}{\mathclose}{#2}{#3}}

```

If the option `largedelims` has been selected, we readjust the scaling factors of big delimiters, so that `\Big`, `\bigg` and `\Bigg` do not change their size.

```

256 \ifmdsy@largedelims
257   \mdsy@renewcommand{\Big}{\bBigg@{1.25}}
258   \mdsy@renewcommand{\bigg}{\bBigg@{1.66}}
259   \mdsy@renewcommand{\Bigg}{\bBigg@{2.08}}
260 \fi

```

Some symbols missing from `MdSymbol` can be obtained from other fonts or by combining several other symbols.

```

261 \ifmdsy@retainmissing
262 \else
263   \mdsy@DeclareRobustCommand{\dagger}{\mdsy@text{\textdagger}}
264   \mdsy@DeclareRobustCommand{\ddagger}{\mdsy@text{\textdaggerdbl}}
265   \mdsy@DeclareRobustCommand{\mathparagraph}{\mdsy@text{\textparagraph}}
266   \mdsy@DeclareRobustCommand{\mathsection}{\mdsy@text{\textsection}}
267   \mdsy@DeclareRobustCommand{\mathdollar}{\mdsy@text{\textdollar}}
268   \mdsy@DeclareRobustCommand{\mathsterling}{\mdsy@text{\textsterling}}
269   \mdsy@DeclareRobustCommand{\yen}{\mdsy@text{\textyen}}
270   \mdsy@DeclareRobustCommand{\circledR}{\mdsy@text{\textcircled{%
271     \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectfont R}}}
272   \mdsy@DeclareRobustCommand{\circledS}{\mdsy@text{\textcircled{%
273     \check@mathfonts\fontsize\sf@size\z@\math@fontsfalse\selectfont S}}}
274   \mdsy@DeclareRobustCommand{\Re}{\mathfrak{R}}
275   \mdsy@DeclareRobustCommand{\Im}{\mathfrak{I}}
276   \mdsy@DeclareRobustCommand{\dotcong}{\mathrel{\dot{\cong}}}
277   \mdsy@DeclareRobustCommand{\thicksim}{\mathrel{\text{\boldmath$\m@th\sim$}}}
278   \mdsy@DeclareRobustCommand{\thickapprox}{\mathrel{\text{\boldmath$\m@th\approx$}}}
279   \mdsy@DeclareRobustCommand{\hslash}{\middleslash h}
280   \mdsy@DeclareRobustCommand{\centerdot}{\mathbin{\rule{0.15em}{0.15em}}}

```

```

281 \mdsy@DeclareRobustCommand{\lambdabar}{\middlebar\lambda}
282 \mdsy@DeclareRobustCommand{\lambdaslash}{\middleslash\lambda}
283 \@ifpackageloaded{MyriadPro}{\%
284   \mdsy@DeclareRobustCommand{\hbar}{\middlebar h}%
285 }
286 \fi

```

Unneeded partial symbols.

```

287 \ifmdsy@onlysansmath
288 \else
289   \let\mapstochar\undefined
290   \let\lhook\undefined
291   \let\rhook\undefined
292 \fi

```

Font definitions.

```

293 \DeclareFontFamily{U}{MdSymbolA}{}
294 \DeclareFontFamily{U}{MdSymbolB}{}
295 \DeclareFontFamily{U}{MdSymbolC}{}
296 \DeclareFontFamily{U}{MdSymbolD}{}
297 \DeclareFontFamily{U}{MdSymbolE}{}
298 \DeclareFontFamily{U}{MdSymbolF}{}
299
300 \RequirePackage{fltpoint}
301 \fpDecimalSign{.}
302 \newcommand*{\mdsy@calc@bsize}[2]{\fpDiv{#1}{#2}{\mdsy@scale}}
303
304 \mdsy@calc@bsize{\mdsy@s@medium}{6}
305 \mdsy@calc@bsize{\mdsy@s@bold}{6}
306
307 \DeclareFontShape{U}{MdSymbolA}{m}{n}{
308   <          -\mdsy@s@medium> s * [\mdsy@scale] MdSymbolA-\mdsy@mweight@small
309   <\mdsy@s@medium-          > s * [\mdsy@scale] MdSymbolA-\mdsy@mweight@normal
310 }{}
311 \DeclareFontShape{U}{MdSymbolA}{b}{n}{
312   <          - \mdsy@s@bold> s * [\mdsy@scale] MdSymbolA-\mdsy@bweight@small
313   <\mdsy@s@bold -          > s * [\mdsy@scale] MdSymbolA-\mdsy@bweight@normal
314 }{}
315 \DeclareFontShape{U}{MdSymbolB}{m}{n}{
316   <          -\mdsy@s@medium> s * [\mdsy@scale] MdSymbolB-\mdsy@mweight@small
317   <\mdsy@s@medium-          > s * [\mdsy@scale] MdSymbolB-\mdsy@mweight@normal
318 }{}
319 \DeclareFontShape{U}{MdSymbolB}{b}{n}{
320   <          - \mdsy@s@bold> s * [\mdsy@scale] MdSymbolB-\mdsy@bweight@small
321   <\mdsy@s@bold -          > s * [\mdsy@scale] MdSymbolB-\mdsy@bweight@normal
322 }{}
323 \DeclareFontShape{U}{MdSymbolC}{m}{n}{

```

```

324 < -\mdsy@s@medium> s * [\mdsy@scale] MdSymbolC-\mdsy@mweight@small
325 <\mdsy@s@medium- > s * [\mdsy@scale] MdSymbolC-\mdsy@mweight@normal
326 }{}
327 \DeclareFontShape{U}{MdSymbolC}{b}{n}{
328 < - \mdsy@s@bold> s * [\mdsy@scale] MdSymbolC-\mdsy@bweight@small
329 <\mdsy@s@bold - > s * [\mdsy@scale] MdSymbolC-\mdsy@bweight@normal
330 }{}
331 \DeclareFontShape{U}{MdSymbolD}{m}{n}{
332 < -\mdsy@s@medium> s * [\mdsy@scale] MdSymbolD-\mdsy@mweight@small
333 <\mdsy@s@medium- > s * [\mdsy@scale] MdSymbolD-\mdsy@mweight@normal
334 }{}
335 \DeclareFontShape{U}{MdSymbolD}{b}{n}{
336 < - \mdsy@s@bold> s * [\mdsy@scale] MdSymbolD-\mdsy@bweight@small
337 <\mdsy@s@bold - > s * [\mdsy@scale] MdSymbolD-\mdsy@bweight@normal
338 }{}
339 \DeclareFontShape{U}{MdSymbolE}{m}{n}{
340 < -\mdsy@s@medium> s * [\mdsy@scale] MdSymbolE-\mdsy@mweight@small
341 <\mdsy@s@medium- > s * [\mdsy@scale] MdSymbolE-\mdsy@mweight@normal
342 }{}
343 \DeclareFontShape{U}{MdSymbolE}{b}{n}{
344 < - \mdsy@s@bold> s * [\mdsy@scale] MdSymbolE-\mdsy@bweight@small
345 <\mdsy@s@bold - > s * [\mdsy@scale] MdSymbolE-\mdsy@bweight@normal
346 }{}
347 \DeclareFontShape{U}{MdSymbolF}{m}{n}{
348 < -\mdsy@s@medium> s * [\mdsy@scale] MdSymbolF-\mdsy@mweight@small
349 <\mdsy@s@medium- > s * [\mdsy@scale] MdSymbolF-\mdsy@mweight@normal
350 }{}
351 \DeclareFontShape{U}{MdSymbolF}{b}{n}{
352 < - \mdsy@s@bold> s * [\mdsy@scale] MdSymbolF-\mdsy@bweight@small
353 <\mdsy@s@bold - > s * [\mdsy@scale] MdSymbolF-\mdsy@bweight@normal
354 }{}
355
356 \newcommand\IfUndefSymbolFont [3]{\@ifundefined{sym#1}{#2}{#3}}
357 \newcommand{\mdsy@DeclareSymbolFont} [3]{%
358 \IfUndefSymbolFont{#1}{%
359 \DeclareSymbolFont{#1}{#2}{#3}{m}{n}
360 }{%
361 \ifmdsy@onlysansmath%
362 \SetSymbolFont{#1}{sans}{#2}{#3}{m}{n}%
363 \SetSymbolFont{#1}{sanstabular}{#2}{#3}{m}{n}%
364 \else%
365 \SetSymbolFont{#1}{normal}{#2}{#3}{m}{n}%
366 \mdsy@if@tabular@math{\SetSymbolFont{#1}{tabular}{#2}{#3}{m}{n}}%
367 \fi%
368 }

```

```

369 \ifmdsy@onlysansmath%
370   \SetSymbolFont{#1}{sansbold}{#2}{#3}{b}{n}%
371   \SetSymbolFont{#1}{sansboldtabular}{#2}{#3}{b}{n}%
372 \else%
373   \SetSymbolFont{#1}{bold}{#2}{#3}{b}{n}%
374   \misy@if@tabular@math{\SetSymbolFont{#1}{boldtabular}{#2}{#3}{b}{n}}%
375 \fi%
376 }
377
378 \misy@DeclareSymbolFont{symbols}{U}{MdSymbolA}
379 \misy@DeclareSymbolFont{relations}{U}{MdSymbolB}
380 \misy@DeclareSymbolFont{arrows}{U}{MdSymbolC}
381 \misy@DeclareSymbolFont{narrows}{U}{MdSymbolD}
382 \misy@DeclareSymbolFont{largesymbols}{U}{MdSymbolE}
383 \misy@DeclareSymbolFont{delimiters}{U}{MdSymbolF}
384

```

A command for taking math symbols from the text font.

```

385 \def\misy@bold{bold}
386 \newcommand*\misy@text[1]{%
387   \ifx\misy@bold\math@version
388     \text{\sffamily\bfseries#1}%
389   \else
390     \text{\sffamily\mdseries#1}%
391   \fi
392 }

```

MdSymbolA: binary operators and ordinary symbols

```

393 \misy@setslot{0}
394 \misy@DeclareSymbol{cdot}{symbols}{\mathbin}
395 \misy@DeclareAlias{cdotp}{symbols}{\mathpunct}
396 \misy@DeclareSymbol{hdotdot}{symbols}{\mathbin}
397 \misy@DeclareSymbol{vdotdot}{symbols}{\mathbin}
398 \misy@DeclareAlias{colon}{symbols}{\mathpunct}
399 \misy@DeclareAlias{mathcolon}{symbols}{\mathpunct}
400 \misy@DeclareAlias{mathratio}{symbols}{\mathrel}
401 \misy@DeclareSymbol{udotdot}{symbols}{\mathbin}
402 \misy@DeclareSymbol{ddotdot}{symbols}{\mathbin}
403 \misy@DeclareSymbol{hdots}{symbols}{\mathord}
404 \misy@DeclareAlias{cdots}{symbols}{\mathinner}
405 \misy@DeclareAlias{cdots}{symbols}{\mathinner}
406 \misy@DeclareSymbol{@vdots}{symbols}{\mathord}
407 \misy@DeclareRobustCommand{vdots}{\ifmmode\vdots\else\hbox{\$}\@vdots$\}\fi}
408 \misy@DeclareSymbol{udots}{symbols}{\mathord}
409 \misy@DeclareAlias{adots}{symbols}{\mathord}
410 \misy@DeclareSymbol{ddots}{symbols}{\mathord}
411 \misy@DeclareSymbol{righttherefore}{symbols}{\mathord}

```

```

412 \mdsy@DeclareSymbol{uptherefore}{symbols}{\mathord}
413 \mdsy@DeclareAlias{therefore}{symbols}{\mathord}
414 \mdsy@DeclareSymbol{lefttherefore}{symbols}{\mathord}
415 \mdsy@DeclareSymbol{downtherefore}{symbols}{\mathord}
416 \mdsy@DeclareAlias{because}{symbols}{\mathord}
417 \mdsy@DeclareSymbol{squaredots}{symbols}{\mathord}
418 \mdsy@DeclareAlias{Colon}{symbols}{\mathrel}
419 \mdsy@DeclareSymbol{minus}{symbols}{\mathbin}
420 \mdsy@DeclareSymbol{medslash}{symbols}{\mathbin}
421 \mdsy@DeclareAlias{smalldivslash}{symbols}{\mathbin}
422 \mdsy@DeclareSymbol{medbackslash}{symbols}{\mathbin}
423 \mdsy@DeclareAlias{smallsetminus}{symbols}{\mathbin}
424 \mdsy@DeclareSymbol{plus}{symbols}{\mathbin}
425 \mdsy@DeclareSymbol{times}{symbols}{\mathbin}
426 \mdsy@DeclareSymbol{dotminus}{symbols}{\mathbin}
427 \mdsy@DeclareSymbol{minusdot}{symbols}{\mathbin}
428 \mdsy@DeclareSymbol{div}{symbols}{\mathbin}
429 \mdsy@DeclareSymbol{minusfdots}{symbols}{\mathbin}
430 \mdsy@DeclareSymbol{minusrdots}{symbols}{\mathbin}
431 \mdsy@DeclareSymbol{dotsminusdots}{symbols}{\mathrel}
432 \mdsy@DeclareSymbol{pm}{symbols}{\mathbin}
433 \mdsy@DeclareSymbol{mp}{symbols}{\mathbin}
434 \mdsy@DeclareSymbol{dotplus}{symbols}{\mathbin}
435 \mdsy@DeclareSymbol{plusdot}{symbols}{\mathbin}
436 \mdsy@DeclareSymbol{dottimes}{symbols}{\mathbin}
437 \mdsy@DeclareSymbol{timesbar}{symbols}{\mathbin}
438 \mdsy@DeclareSymbol{divideontimes}{symbols}{\mathbin}
439 \mdsy@DeclareSymbol{neg}{symbols}{\mathord}
440 \mdsy@DeclareAlias{lnot}{symbols}{\mathord}
441 \mdsy@DeclareAlias{minushookdown}{symbols}{\mathbin}
442 \mdsy@DeclareSymbol{backneg}{symbols}{\mathord}
443 \mdsy@DeclareAlias{hookdownminus}{symbols}{\mathbin}
444 \mdsy@DeclareAlias{invneg}{symbols}{\mathord}
445 \mdsy@DeclareAlias{invnot}{symbols}{\mathord}
446 \mdsy@DeclareSymbol{intprod}{symbols}{\mathbin}
447 \mdsy@DeclareAlias{minushookup}{symbols}{\mathbin}
448 \mdsy@DeclareAlias{turnedneg}{symbols}{\mathord}
449 \mdsy@DeclareAlias{turnednot}{symbols}{\mathord}
450 \mdsy@DeclareSymbol{intprodr}{symbols}{\mathbin}
451 \mdsy@DeclareAlias{hookupminus}{symbols}{\mathbin}
452 \mdsy@DeclareAlias{turnedbackneg}{symbols}{\mathord}
453 \mdsy@DeclareSymbol{leftthreetimes}{symbols}{\mathbin}
454 \mdsy@DeclareSymbol{rightthreetimes}{symbols}{\mathbin}
455 \mdsy@DeclareSymbol{dtimes}{symbols}{\mathbin}
456 \mdsy@DeclareAlias{btimes}{symbols}{\mathbin}

```

```

457 \mdsy@DeclareSymbol{rtimes}{symbols}{\mathbin}
458 \mdsy@DeclareAlias{rJoin}{symbols}{\mathrel}
459 \mdsy@DeclareSymbol{utimes}{symbols}{\mathbin}
460 \mdsy@DeclareAlias{ttimes}{symbols}{\mathbin}
461 \mdsy@DeclareSymbol{ltimes}{symbols}{\mathbin}
462 \mdsy@DeclareAlias{lJoin}{symbols}{\mathrel}
463 \mdsy@DeclareSymbol{bowtie}{symbols}{\mathrel}
464 \mdsy@DeclareAlias{Join}{symbols}{\mathrel}
465 \mdsy@DeclareAlias{lrtimes}{symbols}{\mathbin}
466 \mdsy@DeclareSymbol{upbowtie}{symbols}{\mathbin}
467 \mdsy@DeclareAlias{hourglass}{symbols}{\mathbin}
468 \mdsy@DeclareSymbol{rightY}{symbols}{\mathbin}
469 \mdsy@DeclareSymbol{upY}{symbols}{\mathbin}
470 \mdsy@DeclareSymbol{leftY}{symbols}{\mathbin}
471 \mdsy@DeclareSymbol{downY}{symbols}{\mathbin}
472 \mdsy@DeclareSymbol{wedge}{symbols}{\mathbin}
473 \mdsy@DeclareAlias{land}{symbols}{\mathbin}
474 \mdsy@DeclareSymbol{vee}{symbols}{\mathbin}
475 \mdsy@DeclareAlias{lor}{symbols}{\mathbin}
476 \mdsy@DeclareSymbol{wedgedot}{symbols}{\mathbin}
477 \mdsy@DeclareSymbol{veedot}{symbols}{\mathbin}
478 \mdsy@DeclareSymbol{doublewedge}{symbols}{\mathbin}
479 \mdsy@DeclareAlias{wedgeonwedge}{symbols}{\mathbin}
480 \mdsy@DeclareSymbol{doublevee}{symbols}{\mathbin}
481 \mdsy@DeclareAlias{veeonvee}{symbols}{\mathbin}
482 \mdsy@DeclareSymbol{curlywedge}{symbols}{\mathbin}
483 \mdsy@DeclareSymbol{curlyvee}{symbols}{\mathbin}
484 \mdsy@DeclareSymbol{barwedge}{symbols}{\mathbin}
485 \mdsy@DeclareSymbol{veebar}{symbols}{\mathbin}
486 \mdsy@DeclareSymbol{doublebarwedge}{symbols}{\mathbin}
487 \mdsy@DeclareSymbol{veedoublebar}{symbols}{\mathbin}
488 \mdsy@DeclareSymbol{cup}{symbols}{\mathbin}
489 \mdsy@DeclareSymbol{cap}{symbols}{\mathbin}
490 \mdsy@DeclareSymbol{doublecup}{symbols}{\mathbin}
491 \mdsy@DeclareAlias{Cup}{symbols}{\mathbin}
492 \mdsy@DeclareSymbol{doublecap}{symbols}{\mathbin}
493 \mdsy@DeclareAlias{Cap}{symbols}{\mathbin}
494 \mdsy@DeclareSymbol{cupdot}{symbols}{\mathbin}
495 \mdsy@DeclareSymbol{capdot}{symbols}{\mathbin}
496 \mdsy@DeclareSymbol{cupplus}{symbols}{\mathbin}
497 \mdsy@DeclareAlias{uplus}{symbols}{\mathbin}
498 \mdsy@DeclareSymbol{capplus}{symbols}{\mathbin}
499 \mdsy@DeclareSymbol{sqcup}{symbols}{\mathbin}
500 \mdsy@DeclareSymbol{sqcap}{symbols}{\mathbin}
501 \mdsy@DeclareSymbol{doublesqcup}{symbols}{\mathbin}

```



```

502 \mdsy@DeclareAlias{Sqcup}{symbols}{\mathbin}
503 \mdsy@DeclareSymbol{doublesqcap}{symbols}{\mathbin}
504 \mdsy@DeclareAlias{Sqcap}{symbols}{\mathbin}
505 \mdsy@DeclareSymbol{sqcupdot}{symbols}{\mathbin}
506 \mdsy@DeclareSymbol{sqcapdot}{symbols}{\mathbin}
507 \mdsy@DeclareSymbol{sqcupplus}{symbols}{\mathbin}
508 \mdsy@DeclareSymbol{sqcapplus}{symbols}{\mathbin}
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MdSymbolB: relations

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885 \mdsy@DeclareAlias{narceq}{relations}{\mathrel}
886 \mdsy@DeclareSymbol{neqcirc}{relations}{\mathrel}
887 \mdsy@DeclareSymbol{ncirc}{relations}{\mathrel}
888 \mdsy@DeclareSymbol{nwedgeq}{relations}{\mathrel}
889 \mdsy@DeclareAlias{nhateq}{relations}{\mathrel}
890 \mdsy@DeclareSymbol{nveeeq}{relations}{\mathrel}
891 \mdsy@DeclareSymbol{nstareq}{relations}{\mathrel}
892 \mdsy@DeclareSymbol{ntriangleeq}{relations}{\mathrel}
893 \mdsy@DeclareSymbol{nin}{relations}{\mathrel}
894 \mdsy@DeclareAlias{notin}{relations}{\mathrel}
895 \mdsy@DeclareSymbol{nowns}{relations}{\mathrel}
896 \mdsy@DeclareAlias{nni}{relations}{\mathrel}
897 \mdsy@DeclareSymbol{nless}{relations}{\mathrel}
898 \mdsy@DeclareSymbol{ngtr}{relations}{\mathrel}
899 \mdsy@DeclareSymbol{nleq}{relations}{\mathrel}
900 \mdsy@DeclareSymbol{ngeq}{relations}{\mathrel}
901 \mdsy@DeclareSymbol{nleqslant}{relations}{\mathrel}
902 \mdsy@DeclareSymbol{ngeqslant}{relations}{\mathrel}
903 \mdsy@DeclareSymbol{nleqq}{relations}{\mathrel}
904 \mdsy@DeclareSymbol{ngeqq}{relations}{\mathrel}
905 \mdsy@DeclareSymbol{nlesssim}{relations}{\mathrel}

```

```

906 \mdsy@DeclareSymbol{ngtrsim}{relations}{\mathrel}
907 \mdsy@DeclareSymbol{nlessapprox}{relations}{\mathrel}
908 \mdsy@DeclareSymbol{ngtrapprox}{relations}{\mathrel}
909 \mdsy@DeclareSymbol{nlessgtr}{relations}{\mathrel}
910 \mdsy@DeclareSymbol{ngtrless}{relations}{\mathrel}
911 \mdsy@DeclareSymbol{nlesseqgtr}{relations}{\mathrel}
912 \mdsy@DeclareSymbol{ngtreqlless}{relations}{\mathrel}
913 \mdsy@DeclareSymbol{nlesseqqgtr}{relations}{\mathrel}
914 \mdsy@DeclareSymbol{ngtreqqless}{relations}{\mathrel}
915 \mdsy@DeclareSymbol{nlesseqslantgtr}{relations}{\mathrel}
916 \mdsy@DeclareAlias{nlesg}{relations}{\mathrel}
917 \mdsy@DeclareAlias{nlesseqgtrslant}{relations}{\mathrel}
918 \mdsy@DeclareSymbol{ngtreqlslantless}{relations}{\mathrel}
919 \mdsy@DeclareAlias{ngesl}{relations}{\mathrel}
920 \mdsy@DeclareAlias{ngtreqllessslant}{relations}{\mathrel}
921 \mdsy@DeclareSymbol{nll}{relations}{\mathrel}
922 \mdsy@DeclareSymbol{ngg}{relations}{\mathrel}
923 \mdsy@DeclareSymbol{nlll}{relations}{\mathrel}
924 \mdsy@DeclareSymbol{nggg}{relations}{\mathrel}
925 \mdsy@DeclareSymbol{nlessclosed}{relations}{\mathrel}
926 \mdsy@DeclareAlias{ntriangleleft}{relations}{\mathrel}
927 \mdsy@DeclareSymbol{ngtrclosed}{relations}{\mathrel}
928 \mdsy@DeclareAlias{ntriangleright}{relations}{\mathrel}
929 \mdsy@DeclareSymbol{nleqclosed}{relations}{\mathrel}
930 \mdsy@DeclareAlias{ntrianglelefteq}{relations}{\mathrel}
931 \mdsy@DeclareSymbol{ngeqclosed}{relations}{\mathrel}
932 \mdsy@DeclareAlias{ntrianglerighteq}{relations}{\mathrel}
933 \mdsy@DeclareSymbol{nlesscc}{relations}{\mathrel}
934 \mdsy@DeclareAlias{nltcc}{relations}{\mathrel}
935 \mdsy@DeclareSymbol{ngtrcc}{relations}{\mathrel}
936 \mdsy@DeclareAlias{ngtcc}{relations}{\mathrel}
937 \mdsy@DeclareSymbol{nleqslcc}{relations}{\mathrel}
938 \mdsy@DeclareAlias{nlescc}{relations}{\mathrel}
939 \mdsy@DeclareSymbol{ngeqslcc}{relations}{\mathrel}
940 \mdsy@DeclareAlias{ngescc}{relations}{\mathrel}
941 \mdsy@DeclareSymbol{nsqsubset}{relations}{\mathrel}
942 \mdsy@DeclareSymbol{nsqsupset}{relations}{\mathrel}
943 \mdsy@DeclareSymbol{nsqsubsetq}{relations}{\mathrel}
944 \mdsy@DeclareSymbol{nsqsupseteq}{relations}{\mathrel}
945 \mdsy@DeclareSymbol{nsqsubseteqq}{relations}{\mathrel}
946 \mdsy@DeclareSymbol{nsqsupseteqq}{relations}{\mathrel}
947 \mdsy@DeclareSymbol{nSqsubset}{relations}{\mathrel}
948 \mdsy@DeclareSymbol{nSqsupset}{relations}{\mathrel}
949 \mdsy@DeclareSymbol{nsubset}{relations}{\mathrel}
950 \mdsy@DeclareSymbol{nsupset}{relations}{\mathrel}

```

```

951 \mdsy@DeclareSymbol{nsubseteq}{relations}{\mathrel}
952 \mdsy@DeclareSymbol{nsupseteq}{relations}{\mathrel}
953 \mdsy@DeclareSymbol{nsubseteqq}{relations}{\mathrel}
954 \mdsy@DeclareSymbol{nsupseteqq}{relations}{\mathrel}
955 \mdsy@DeclareSymbol{nSubset}{relations}{\mathrel}
956 \mdsy@DeclareSymbol{nSupset}{relations}{\mathrel}
957 \mdsy@DeclareSymbol{nprec}{relations}{\mathrel}
958 \mdsy@DeclareSymbol{nsucc}{relations}{\mathrel}
959 \mdsy@DeclareSymbol{npreceq}{relations}{\mathrel}
960 \mdsy@DeclareSymbol{nsucceq}{relations}{\mathrel}
961 \mdsy@DeclareSymbol{npreccurlyeq}{relations}{\mathrel}
962 \mdsy@DeclareSymbol{nsucccurlyeq}{relations}{\mathrel}
963 \mdsy@DeclareSymbol{npreceqq}{relations}{\mathrel}
964 \mdsy@DeclareSymbol{nsucceqq}{relations}{\mathrel}
965 \mdsy@DeclareSymbol{nprecsim}{relations}{\mathrel}
966 \mdsy@DeclareSymbol{nsuccsim}{relations}{\mathrel}
967 \mdsy@DeclareSymbol{nprecapprox}{relations}{\mathrel}
968 \mdsy@DeclareSymbol{nsuccapprox}{relations}{\mathrel}
969 \mdsy@DeclareSymbol{nlessdot}{relations}{\mathrel}
970 \mdsy@DeclareSymbol{ngtrdot}{relations}{\mathrel}
971 \mdsy@DeclareSymbol{nleqdot}{relations}{\mathrel}
972 \mdsy@DeclareSymbol{ngeqdot}{relations}{\mathrel}
973 \mdsy@DeclareSymbol{nleqslantdot}{relations}{\mathrel}
974 \mdsy@DeclareAlias{nlesdot}{relations}{\mathrel}
975 \mdsy@DeclareSymbol{ngeqslantdot}{relations}{\mathrel}
976 \mdsy@DeclareAlias{ngesdot}{relations}{\mathrel}
977 \mdsy@DeclareSymbol{neqslantless}{relations}{\mathrel}
978 \mdsy@DeclareSymbol{neqslantgtr}{relations}{\mathrel}
979 \mdsy@DeclareSymbol{ncurlyeqprec}{relations}{\mathrel}
980 \mdsy@DeclareSymbol{ncurlyeqsucc}{relations}{\mathrel}
981 \mdsy@DeclareSymbol{simneqq}{relations}{\mathrel}
982 \mdsy@DeclareSymbol{backsimneqq}{relations}{\mathrel}
983 \mdsy@DeclareSymbol{lneq}{relations}{\mathrel}
984 \mdsy@DeclareSymbol{gneq}{relations}{\mathrel}
985 \mdsy@DeclareSymbol{lneqq}{relations}{\mathrel}
986 \mdsy@DeclareAlias{lvertneqq}{relations}{\mathrel}
987 \mdsy@DeclareSymbol{gneqq}{relations}{\mathrel}
988 \mdsy@DeclareAlias{gvertneqq}{relations}{\mathrel}
989 \mdsy@DeclareSymbol{lnsim}{relations}{\mathrel}
990 \mdsy@DeclareSymbol{gnsim}{relations}{\mathrel}
991 \mdsy@DeclareSymbol{lnaprox}{relations}{\mathrel}
992 \mdsy@DeclareSymbol{gnapprox}{relations}{\mathrel}
993 \mdsy@DeclareSymbol{sqsubsetneq}{relations}{\mathrel}
994 \mdsy@DeclareSymbol{sqsupsetneq}{relations}{\mathrel}
995 \mdsy@DeclareSymbol{sqsubsetneqq}{relations}{\mathrel}

```

```

996 \mdsy@DeclareSymbol{sqsupsetneqq}{relations}{\mathrel}
997 \mdsy@DeclareSymbol{subsetneq}{relations}{\mathrel}
998 \mdsy@DeclareAlias{varsubsetneq}{relations}{\mathrel}
999 \mdsy@DeclareSymbol{supsetneq}{relations}{\mathrel}
1000 \mdsy@DeclareAlias{varsupsetneq}{relations}{\mathrel}
1001 \mdsy@DeclareSymbol{subsetneqq}{relations}{\mathrel}
1002 \mdsy@DeclareAlias{varsubsetneqq}{relations}{\mathrel}
1003 \mdsy@DeclareSymbol{supsetneqq}{relations}{\mathrel}
1004 \mdsy@DeclareAlias{varsupsetneqq}{relations}{\mathrel}
1005 \mdsy@DeclareSymbol{precneq}{relations}{\mathrel}
1006 \mdsy@DeclareSymbol{succneq}{relations}{\mathrel}
1007 \mdsy@DeclareSymbol{precneqq}{relations}{\mathrel}
1008 \mdsy@DeclareSymbol{succneqq}{relations}{\mathrel}
1009 \mdsy@DeclareSymbol{precnsim}{relations}{\mathrel}
1010 \mdsy@DeclareSymbol{succnsim}{relations}{\mathrel}
1011 \mdsy@DeclareSymbol{precnapprox}{relations}{\mathrel}
1012 \mdsy@DeclareSymbol{succnapprox}{relations}{\mathrel}

```

MdSymbolC: arrows and turnstile symbols

```

1013 \mdsy@setslot{0}
1014 \mdsy@DeclareSymbol{rightarrow}{arrows}{\mathrel}
1015 \mdsy@DeclareAlias{to}{arrows}{\mathrel}
1016 % \mdsy@DeclareSymbol{uparrow}{arrows}{\mathrel}
1017 \mdsy@nextslot %uparrow defined below
1018 \mdsy@DeclareSymbol{leftarrow}{arrows}{\mathrel}
1019 \mdsy@DeclareAlias{gets}{arrows}{\mathrel}
1020 % \mdsy@DeclareSymbol{downarrow}{arrows}{\mathrel}
1021 \mdsy@nextslot %downarrow defined below
1022 \mdsy@DeclareSymbol{nearrow}{arrows}{\mathrel}
1023 \mdsy@DeclareSymbol{nwarrow}{arrows}{\mathrel}
1024 \mdsy@DeclareSymbol{swarrow}{arrows}{\mathrel}
1025 \mdsy@DeclareSymbol{searrow}{arrows}{\mathrel}
1026 \mdsy@DeclareSymbol{Rightarrow}{arrows}{\mathrel}
1027 % \mdsy@DeclareSymbol{Uparrow}{arrows}{\mathrel}
1028 \mdsy@nextslot %Uparrow defined below
1029 \mdsy@DeclareSymbol{Leftarrow}{arrows}{\mathrel}
1030 % \mdsy@DeclareSymbol{Downarrow}{arrows}{\mathrel}
1031 \mdsy@nextslot %Downarrow defined below
1032 \mdsy@DeclareSymbol{Nearrow}{arrows}{\mathrel}
1033 \mdsy@DeclareSymbol{Nwarrow}{arrows}{\mathrel}
1034 \mdsy@DeclareSymbol{Swarrow}{arrows}{\mathrel}
1035 \mdsy@DeclareSymbol{Searrow}{arrows}{\mathrel}
1036 \mdsy@DeclareSymbol{leftrightarrow}{arrows}{\mathrel}
1037 % \mdsy@DeclareSymbol{updownarrow}{arrows}{\mathrel}
1038 \mdsy@nextslot %updownarrow defined below
1039 \mdsy@DeclareSymbol{neswarrow}{arrows}{\mathrel}

```

```

1040 \mdsy@DeclareSymbol{nwsearrow}{arrows}{\mathrel}
1041 \mdsy@DeclareSymbol{Leftrightarrow}{arrows}{\mathrel}
1042 % \mdsy@DeclareSymbol{Updownarrow}{arrows}{\mathrel}
1043 \mdsy@nextslot %Updownarrow defined below
1044 \mdsy@DeclareSymbol{Neswarrow}{arrows}{\mathrel}
1045 \mdsy@DeclareSymbol{Nwsearrow}{arrows}{\mathrel}
1046 \mdsy@DeclareSymbol{twoheadrightarrow}{arrows}{\mathrel}
1047 \mdsy@DeclareSymbol{twoheaduparrow}{arrows}{\mathrel}
1048 \mdsy@DeclareSymbol{twoheadleftarrow}{arrows}{\mathrel}
1049 \mdsy@DeclareSymbol{twoheaddownarrow}{arrows}{\mathrel}
1050 \mdsy@DeclareSymbol{twoheadnearrow}{arrows}{\mathrel}
1051 \mdsy@DeclareSymbol{twoheadnwarrow}{arrows}{\mathrel}
1052 \mdsy@DeclareSymbol{twoheadswarrow}{arrows}{\mathrel}
1053 \mdsy@DeclareSymbol{twoheadsearrow}{arrows}{\mathrel}
1054 \mdsy@DeclareSymbol{rightarrowtail}{arrows}{\mathrel}
1055 \mdsy@DeclareSymbol{uparrowtail}{arrows}{\mathrel}
1056 \mdsy@DeclareSymbol{leftarrowtail}{arrows}{\mathrel}
1057 \mdsy@DeclareSymbol{downarrowtail}{arrows}{\mathrel}
1058 \mdsy@DeclareSymbol{nearrowtail}{arrows}{\mathrel}
1059 \mdsy@DeclareSymbol{nwarrowtail}{arrows}{\mathrel}
1060 \mdsy@DeclareSymbol{swarrowtail}{arrows}{\mathrel}
1061 \mdsy@DeclareSymbol{searrowtail}{arrows}{\mathrel}
1062 \mdsy@DeclareSymbol{rightmapsto}{arrows}{\mathrel}
1063 \mdsy@DeclareAlias{mapsto}{arrows}{\mathrel}
1064 \mdsy@DeclareSymbol{upmapsto}{arrows}{\mathrel}
1065 \mdsy@DeclareAlias{mapsup}{arrows}{\mathrel}
1066 \mdsy@DeclareSymbol{leftmapsto}{arrows}{\mathrel}
1067 \mdsy@DeclareAlias{mapsfrom}{arrows}{\mathrel}
1068 \mdsy@DeclareSymbol{downmapsto}{arrows}{\mathrel}
1069 \mdsy@DeclareAlias{mapsdown}{arrows}{\mathrel}
1070 \mdsy@DeclareSymbol{Rightmapsto}{arrows}{\mathrel}
1071 \mdsy@DeclareAlias{Mapsto}{arrows}{\mathrel}
1072 \mdsy@DeclareSymbol{Upmapsto}{arrows}{\mathrel}
1073 \mdsy@DeclareAlias{Mapsup}{arrows}{\mathrel}
1074 \mdsy@DeclareSymbol{Leftmapsto}{arrows}{\mathrel}
1075 \mdsy@DeclareAlias{Mapsfrom}{arrows}{\mathrel}
1076 \mdsy@DeclareSymbol{Downmapsto}{arrows}{\mathrel}
1077 \mdsy@DeclareAlias{Mapsdown}{arrows}{\mathrel}
1078 \mdsy@DeclareSymbol{hookrightarrow}{arrows}{\mathrel}
1079 \mdsy@DeclareAlias{lhookrightarrow}{arrows}{\mathrel}
1080 \mdsy@DeclareSymbol{hookuparrow}{arrows}{\mathrel}
1081 \mdsy@DeclareAlias{lhookuparrow}{arrows}{\mathrel}
1082 \mdsy@DeclareSymbol{varhookleftarrow}{arrows}{\mathrel}
1083 \mdsy@DeclareAlias{lhookleftarrow}{arrows}{\mathrel}
1084 \mdsy@DeclareSymbol{varhookdownarrow}{arrows}{\mathrel}

```

```

1085 \mdsy@DeclareAlias{lhookdownarrow}{arrows}{\mathrel}
1086 \mdsy@DeclareSymbol{varhooknearrow}{arrows}{\mathrel}
1087 \mdsy@DeclareAlias{lhooknearrow}{arrows}{\mathrel}
1088 \mdsy@DeclareSymbol{hooknwarrow}{arrows}{\mathrel}
1089 \mdsy@DeclareAlias{hknwarrow}{arrows}{\mathrel}
1090 \mdsy@DeclareAlias{lhooknwarrow}{arrows}{\mathrel}
1091 \mdsy@DeclareSymbol{varhookswarrow}{arrows}{\mathrel}
1092 \mdsy@DeclareAlias{lhookswarrow}{arrows}{\mathrel}
1093 \mdsy@DeclareSymbol{hooksearrow}{arrows}{\mathrel}
1094 \mdsy@DeclareAlias{hksearrow}{arrows}{\mathrel}
1095 \mdsy@DeclareAlias{lhooksearrow}{arrows}{\mathrel}
1096 \mdsy@DeclareSymbol{varhookrightarrow}{arrows}{\mathrel}
1097 \mdsy@DeclareAlias{rhookrightarrow}{arrows}{\mathrel}
1098 \mdsy@DeclareSymbol{varhookuparrow}{arrows}{\mathrel}
1099 \mdsy@DeclareAlias{rhookuparrow}{arrows}{\mathrel}
1100 \mdsy@DeclareSymbol{hookleftarrow}{arrows}{\mathrel}
1101 \mdsy@DeclareAlias{rhookleftarrow}{arrows}{\mathrel}
1102 \mdsy@DeclareSymbol{hookdownarrow}{arrows}{\mathrel}
1103 \mdsy@DeclareAlias{rhookdownarrow}{arrows}{\mathrel}
1104 \mdsy@DeclareSymbol{hooknearrow}{arrows}{\mathrel}
1105 \mdsy@DeclareAlias{hknearrow}{arrows}{\mathrel}
1106 \mdsy@DeclareAlias{rhooknearrow}{arrows}{\mathrel}
1107 \mdsy@DeclareSymbol{varhooknwarrow}{arrows}{\mathrel}
1108 \mdsy@DeclareAlias{rhooknwarrow}{arrows}{\mathrel}
1109 \mdsy@DeclareSymbol{hookswarrow}{arrows}{\mathrel}
1110 \mdsy@DeclareAlias{hkswarrow}{arrows}{\mathrel}
1111 \mdsy@DeclareAlias{rhookswarrow}{arrows}{\mathrel}
1112 \mdsy@DeclareSymbol{varhooksearrow}{arrows}{\mathrel}
1113 \mdsy@DeclareAlias{rhooksearrow}{arrows}{\mathrel}
1114 \mdsy@DeclareSymbol{rightharpoonup}{arrows}{\mathrel}
1115 \mdsy@DeclareSymbol{upharpoonleft}{arrows}{\mathrel}
1116 \mdsy@DeclareSymbol{leftharpoondown}{arrows}{\mathrel}
1117 \mdsy@DeclareSymbol{downharpoonright}{arrows}{\mathrel}
1118 \mdsy@DeclareSymbol{neharpoonnw}{arrows}{\mathrel}
1119 \mdsy@DeclareSymbol{nwharpoonsw}{arrows}{\mathrel}
1120 \mdsy@DeclareSymbol{swharpoonse}{arrows}{\mathrel}
1121 \mdsy@DeclareSymbol{seharpoonne}{arrows}{\mathrel}
1122 \mdsy@DeclareSymbol{rightharpoondown}{arrows}{\mathrel}
1123 \mdsy@DeclareSymbol{upharpoonright}{arrows}{\mathrel}
1124 \mdsy@DeclareAlias{restriction}{arrows}{\mathrel}
1125 \mdsy@DeclareSymbol{leftharpoonup}{arrows}{\mathrel}
1126 \mdsy@DeclareSymbol{downharpoonleft}{arrows}{\mathrel}
1127 \mdsy@DeclareSymbol{neharpoonse}{arrows}{\mathrel}
1128 \mdsy@DeclareSymbol{nwharpoonne}{arrows}{\mathrel}
1129 \mdsy@DeclareSymbol{swharpoonnw}{arrows}{\mathrel}

```

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1130 \mdsy@DeclareSymbol{seharpoonsw}{arrows}{\mathrel}
1131 \mdsy@DeclareSymbol{leftrightharpoonupdown}{arrows}{\mathrel}
1132 \mdsy@DeclareSymbol{updownharpoonleftright}{arrows}{\mathrel}
1133 \mdsy@DeclareSymbol{neswharpoonnwse}{arrows}{\mathrel}
1134 \mdsy@DeclareSymbol{nwseharpoonnesw}{arrows}{\mathrel}
1135 \mdsy@DeclareSymbol{leftrightharpoondownup}{arrows}{\mathrel}
1136 \mdsy@DeclareSymbol{updownharpoonrightleft}{arrows}{\mathrel}
1137 \mdsy@DeclareSymbol{neswharpoonsenw}{arrows}{\mathrel}
1138 \mdsy@DeclareSymbol{nwseharpoonswne}{arrows}{\mathrel}
1139 \mdsy@DeclareSymbol{rightleftharpoons}{arrows}{\mathrel}
1140 \mdsy@DeclareSymbol{updownharpoons}{arrows}{\mathrel}
1141 \mdsy@DeclareAlias{updownharpoonsleftright}{arrows}{\mathrel}
1142 \mdsy@DeclareSymbol{neswharpoons}{arrows}{\mathrel}
1143 \mdsy@DeclareSymbol{senwharpoons}{arrows}{\mathrel}
1144 \mdsy@DeclareSymbol{leftrightharpoons}{arrows}{\mathrel}
1145 \mdsy@DeclareSymbol{downupharpoons}{arrows}{\mathrel}
1146 \mdsy@DeclareAlias{downupharpoonsleftright}{arrows}{\mathrel}
1147 \mdsy@DeclareSymbol{swneharpoons}{arrows}{\mathrel}
1148 \mdsy@DeclareSymbol{nwseharpoons}{arrows}{\mathrel}
1149 \mdsy@DeclareSymbol{rightbkarrow}{arrows}{\mathrel}
1150 \mdsy@DeclareAlias{dasharrow}{arrows}{\mathrel}
1151 \mdsy@DeclareAlias{dashrightarrow}{arrows}{\mathrel}
1152 \mdsy@DeclareSymbol{upbkarrow}{arrows}{\mathrel}
1153 \mdsy@DeclareSymbol{leftbkarrow}{arrows}{\mathrel}
1154 \mdsy@DeclareAlias{dashleftarrow}{arrows}{\mathrel}
1155 \mdsy@DeclareSymbol{downbkarrow}{arrows}{\mathrel}
1156 \mdsy@DeclareSymbol{nebkarrow}{arrows}{\mathrel}
1157 \mdsy@DeclareSymbol{nwbkarrow}{arrows}{\mathrel}
1158 \mdsy@DeclareSymbol{swbkarrow}{arrows}{\mathrel}
1159 \mdsy@DeclareSymbol{sebkarrow}{arrows}{\mathrel}
1160 \mdsy@DeclareSymbol{rightspoon}{arrows}{\mathrel}
1161 \mdsy@DeclareAlias{multimap}{arrows}{\mathrel}
1162 \mdsy@DeclareSymbol{upspoon}{arrows}{\mathrel}
1163 \mdsy@DeclareAlias{cirmid}{arrows}{\mathrel}
1164 \mdsy@DeclareSymbol{leftspoon}{arrows}{\mathrel}
1165 \mdsy@DeclareAlias{multimapinv}{arrows}{\mathrel}
1166 \mdsy@DeclareSymbol{downspoon}{arrows}{\mathrel}
1167 \mdsy@DeclareAlias{midcir}{arrows}{\mathrel}
1168 \mdsy@DeclareSymbol{rightblackspoon}{arrows}{\mathrel}
1169 \mdsy@DeclareSymbol{upblackspoon}{arrows}{\mathrel}
1170 \mdsy@DeclareSymbol{leftblackspoon}{arrows}{\mathrel}
1171 \mdsy@DeclareSymbol{downblackspoon}{arrows}{\mathrel}
1172 \mdsy@DeclareSymbol{leftrightspoon}{arrows}{\mathrel}
1173 \mdsy@DeclareAlias{dualmap}{arrows}{\mathrel}
1174 \mdsy@DeclareSymbol{leftrightblackspoon}{arrows}{\mathrel}

```

```

1175 \mdsy@DeclareSymbol{blackwhitespoon}{arrows}{\mathrel}
1176 \mdsy@DeclareAlias{imageof}{arrows}{\mathrel}
1177 \mdsy@DeclareSymbol{whiteblackspoon}{arrows}{\mathrel}
1178 \mdsy@DeclareAlias{origof}{arrows}{\mathrel}
1179 \mdsy@DeclareSymbol{rightpitchfork}{arrows}{\mathrel}
1180 \mdsy@DeclareSymbol{uppitchfork}{arrows}{\mathrel}
1181 \mdsy@DeclareAlias{pitchfork}{arrows}{\mathrel}
1182 \mdsy@DeclareSymbol{leftpitchfork}{arrows}{\mathrel}
1183 \mdsy@DeclareSymbol{downpitchfork}{arrows}{\mathrel}
1184 \mdsy@DeclareSymbol{rightrightarrows}{arrows}{\mathrel}
1185 \mdsy@DeclareSymbol{upuparrows}{arrows}{\mathrel}
1186 \mdsy@DeclareSymbol{leftleftarrows}{arrows}{\mathrel}
1187 \mdsy@DeclareSymbol{downdownarrows}{arrows}{\mathrel}
1188 \mdsy@DeclareSymbol{neneearrows}{arrows}{\mathrel}
1189 \mdsy@DeclareSymbol{nwnearrows}{arrows}{\mathrel}
1190 \mdsy@DeclareSymbol{swswarrows}{arrows}{\mathrel}
1191 \mdsy@DeclareSymbol{sesearrows}{arrows}{\mathrel}
1192 \mdsy@DeclareSymbol{rightleftarrows}{arrows}{\mathrel}
1193 \mdsy@DeclareSymbol{updownarrows}{arrows}{\mathrel}
1194 \mdsy@DeclareSymbol{neswarrows}{arrows}{\mathrel}
1195 \mdsy@DeclareSymbol{nwsearrows}{arrows}{\mathrel}
1196 \mdsy@DeclareSymbol{leftrightarrows}{arrows}{\mathrel}
1197 \mdsy@DeclareSymbol{downuparrows}{arrows}{\mathrel}
1198 \mdsy@DeclareSymbol{swnearrows}{arrows}{\mathrel}
1199 \mdsy@DeclareSymbol{senwarrows}{arrows}{\mathrel}
1200 \mdsy@DeclareSymbol{rightwavearrow}{arrows}{\mathrel}
1201 \mdsy@DeclareAlias{leadsto}{arrows}{\mathrel}
1202 \mdsy@DeclareAlias{rightsquigarrow}{arrows}{\mathrel}
1203 \mdsy@DeclareAlias{rightcurvedarrow}{arrows}{\mathrel}
1204 \mdsy@DeclareAlias{rightlsquigarrow}{arrows}{\mathrel}
1205 \mdsy@DeclareSymbol{varupwavearrow}{arrows}{\mathrel}
1206 \mdsy@DeclareAlias{uplsquigarrow}{arrows}{\mathrel}
1207 \mdsy@DeclareSymbol{varleftwavearrow}{arrows}{\mathrel}
1208 \mdsy@DeclareAlias{leftlsquigarrow}{arrows}{\mathrel}
1209 \mdsy@DeclareSymbol{downwavearrow}{arrows}{\mathrel}
1210 \mdsy@DeclareAlias{downlsquigarrow}{arrows}{\mathrel}
1211 \mdsy@DeclareSymbol{varrightwavearrow}{arrows}{\mathrel}
1212 \mdsy@DeclareAlias{rightrsquigarrow}{arrows}{\mathrel}
1213 \mdsy@DeclareSymbol{upwavearrow}{arrows}{\mathrel}
1214 \mdsy@DeclareAlias{uprsquigarrow}{arrows}{\mathrel}
1215 \mdsy@DeclareSymbol{leftwavearrow}{arrows}{\mathrel}
1216 \mdsy@DeclareAlias{leftsquigarrow}{arrows}{\mathrel}
1217 \mdsy@DeclareAlias{leftcurvedarrow}{arrows}{\mathrel}
1218 \mdsy@DeclareAlias{leftrsquigarrow}{arrows}{\mathrel}
1219 \mdsy@DeclareSymbol{vardownwavearrow}{arrows}{\mathrel}

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1220 \mdsy@DeclareAlias{downrsquigarrow}{arrows}{\mathrel}
1221 \mdsy@DeclareSymbol{leftrightwavearrow}{arrows}{\mathrel}
1222 \mdsy@DeclareAlias{leftrightsquigarrow}{arrows}{\mathrel}
1223 \mdsy@DeclareSymbol{updownwavearrow}{arrows}{\mathrel}
1224 \mdsy@DeclareAlias{updownsquigarrow}{arrows}{\mathrel}
1225 \mdsy@DeclareSymbol{varleftrightwavearrow}{arrows}{\mathrel}
1226 \mdsy@DeclareAlias{rightleftsquigarrow}{arrows}{\mathrel}
1227 \mdsy@DeclareSymbol{varupdownwavearrow}{arrows}{\mathrel}
1228 \mdsy@DeclareAlias{downupsquigarrow}{arrows}{\mathrel}
1229 \mdsy@DeclareSymbol{cwoverarcarrow}{arrows}{\mathrel}
1230 \mdsy@DeclareAlias{curvearrowright}{arrows}{\mathrel}
1231 \mdsy@DeclareAlias{rightlcurvearrow}{arrows}{\mathrel}
1232 \mdsy@DeclareSymbol{cwleftarcarrow}{arrows}{\mathrel}
1233 \mdsy@DeclareAlias{uplcurvearrow}{arrows}{\mathrel}
1234 \mdsy@DeclareSymbol{cwunderarcarrow}{arrows}{\mathrel}
1235 \mdsy@DeclareAlias{leftlcurvearrow}{arrows}{\mathrel}
1236 \mdsy@DeclareSymbol{cwrightarcarrow}{arrows}{\mathrel}
1237 \mdsy@DeclareAlias{downlcurvearrow}{arrows}{\mathrel}
1238 \mdsy@DeclareSymbol{cwnwarcarrow}{arrows}{\mathrel}
1239 \mdsy@DeclareAlias{rightupcurvedarrow}{arrows}{\mathrel}
1240 \mdsy@DeclareAlias{nelcurvearrow}{arrows}{\mathrel}
1241 \mdsy@DeclareSymbol{cswarcarrow}{arrows}{\mathrel}
1242 \mdsy@DeclareAlias{upleftcurvedarrow}{arrows}{\mathrel}
1243 \mdsy@DeclareAlias{nwlccurvearrow}{arrows}{\mathrel}
1244 \mdsy@DeclareSymbol{cwsearcarrow}{arrows}{\mathrel}
1245 \mdsy@DeclareAlias{leftdowncurvedarrow}{arrows}{\mathrel}
1246 \mdsy@DeclareAlias{swlccurvearrow}{arrows}{\mathrel}
1247 \mdsy@DeclareSymbol{cwnearcarrow}{arrows}{\mathrel}
1248 \mdsy@DeclareAlias{downrightcurvedarrow}{arrows}{\mathrel}
1249 \mdsy@DeclareAlias{selcurvearrow}{arrows}{\mathrel}
1250 \mdsy@DeclareSymbol{acwunderarcarrow}{arrows}{\mathrel}
1251 \mdsy@DeclareAlias{rightrcurvearrow}{arrows}{\mathrel}
1252 \mdsy@DeclareSymbol{acwrightarcarrow}{arrows}{\mathrel}
1253 \mdsy@DeclareAlias{uprcurvearrow}{arrows}{\mathrel}
1254 \mdsy@DeclareSymbol{acwoverarcarrow}{arrows}{\mathrel}
1255 \mdsy@DeclareAlias{curvearrowleft}{arrows}{\mathrel}
1256 \mdsy@DeclareAlias{leftrcurvearrow}{arrows}{\mathrel}
1257 \mdsy@DeclareSymbol{acwleftarcarrow}{arrows}{\mathrel}
1258 \mdsy@DeclareAlias{downrcurvearrow}{arrows}{\mathrel}
1259 \mdsy@DeclareSymbol{acwsearcarrow}{arrows}{\mathrel}
1260 \mdsy@DeclareAlias{uprightcurvedarrow}{arrows}{\mathrel}
1261 \mdsy@DeclareAlias{nercurvearrow}{arrows}{\mathrel}
1262 \mdsy@DeclareSymbol{acwnearcarrow}{arrows}{\mathrel}
1263 \mdsy@DeclareAlias{leftupcurvedarrow}{arrows}{\mathrel}
1264 \mdsy@DeclareAlias{nwrcurvearrow}{arrows}{\mathrel}

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1265 \mdsy@DeclareSymbol{acwnwarcarrow}{arrows}{\mathrel}
1266 \mdsy@DeclareAlias{downleftcurvedarrow}{arrows}{\mathrel}
1267 \mdsy@DeclareAlias{swrcurvearrow}{arrows}{\mathrel}
1268 \mdsy@DeclareSymbol{acwswarcarrow}{arrows}{\mathrel}
1269 \mdsy@DeclareAlias{rightdowncurvedarrow}{arrows}{\mathrel}
1270 \mdsy@DeclareAlias{sercurvearrow}{arrows}{\mathrel}
1271 \mdsy@DeclareSymbol{bdoverarcarrow}{arrows}{\mathrel}
1272 \mdsy@DeclareAlias{leftrightcurvearrow}{arrows}{\mathrel}
1273 \mdsy@DeclareSymbol{bdleftarcarrow}{arrows}{\mathrel}
1274 \mdsy@DeclareAlias{updowncurvearrow}{arrows}{\mathrel}
1275 \mdsy@DeclareSymbol{bdunderarcarrow}{arrows}{\mathrel}
1276 \mdsy@DeclareAlias{rightleftcurvearrow}{arrows}{\mathrel}
1277 \mdsy@DeclareSymbol{bdrightarcarrow}{arrows}{\mathrel}
1278 \mdsy@DeclareAlias{downupcurvearrow}{arrows}{\mathrel}
1279 \mdsy@DeclareSymbol{bdnwarcarrow}{arrows}{\mathrel}
1280 \mdsy@DeclareAlias{neswcurvearrow}{arrows}{\mathrel}
1281 \mdsy@DeclareSymbol{bdswarcarrow}{arrows}{\mathrel}
1282 \mdsy@DeclareAlias{nwsecurvearrow}{arrows}{\mathrel}
1283 \mdsy@DeclareSymbol{bdsearcarrow}{arrows}{\mathrel}
1284 \mdsy@DeclareAlias{swnecurvearrow}{arrows}{\mathrel}
1285 \mdsy@DeclareSymbol{bdnearcarrow}{arrows}{\mathrel}
1286 \mdsy@DeclareAlias{senwcurvearrow}{arrows}{\mathrel}
1287 \mdsy@DeclareSymbol{leftfootline}{arrows}{\mathrel}
1288 \mdsy@DeclareSymbol{rightfootline}{arrows}{\mathrel}
1289 \mdsy@DeclareSymbol{acwcirclearrowup}{arrows}{\mathrel}
1290 \mdsy@DeclareSymbol{acwcirclearrowleft}{arrows}{\mathrel}
1291 \mdsy@DeclareAlias{circlearrowleft}{arrows}{\mathrel}
1292 \mdsy@DeclareAlias{acwopencirclearrow}{arrows}{\mathrel}
1293 \mdsy@DeclareSymbol{acwcirclearrowdown}{arrows}{\mathrel}
1294 \mdsy@DeclareAlias{acwgapcirclearrow}{arrows}{\mathrel}
1295 \mdsy@DeclareSymbol{acwcirclearrowright}{arrows}{\mathrel}
1296 \mdsy@DeclareSymbol{cwcirclearrowdown}{arrows}{\mathrel}
1297 \mdsy@DeclareAlias{cwgapcirclearrow}{arrows}{\mathrel}
1298 \mdsy@DeclareSymbol{cwcirclearrowright}{arrows}{\mathrel}
1299 \mdsy@DeclareAlias{circlearrowright}{arrows}{\mathrel}
1300 \mdsy@DeclareAlias{cwopencirclearrow}{arrows}{\mathrel}
1301 \mdsy@DeclareSymbol{cwcirclearrowup}{arrows}{\mathrel}
1302 \mdsy@DeclareSymbol{cwcirclearrowleft}{arrows}{\mathrel}
1303 \mdsy@DeclareSymbol{Rrightarrow}{arrows}{\mathrel}
1304 \mdsy@DeclareSymbol{Uparrow}{arrows}{\mathrel}
1305 \mdsy@DeclareSymbol{Lleftarrow}{arrows}{\mathrel}
1306 \mdsy@DeclareSymbol{Ddownarrow}{arrows}{\mathrel}
1307 \mdsy@DeclareSymbol{longrightarrow}{arrows}{\mathrel}
1308 \mdsy@DeclareSymbol{longleftarrow}{arrows}{\mathrel}
1309 \mdsy@DeclareSymbol{Longrightarrow}{arrows}{\mathrel}

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1310 \mdsy@DeclareSymbol{Longleftarrow}{arrows}{\mathrel}
1311 \mdsy@DeclareSymbol{longleftrightarrow}{arrows}{\mathrel}
1312 \mdsy@DeclareSymbol{Longleftrightarrow}{arrows}{\mathrel}
1313 \mdsy@DeclareSymbol{longmapsto}{arrows}{\mathrel}
1314 \mdsy@DeclareSymbol{longmapsfrom}{arrows}{\mathrel}
1315 \mdsy@DeclareSymbol{Longmapsto}{arrows}{\mathrel}
1316 \mdsy@DeclareSymbol{Longmapsfrom}{arrows}{\mathrel}
1317 \mdsy@DeclareSymbol{longrightarrow}{arrows}{\mathrel}
1318 \mdsy@DeclareAlias{longleadsto}{arrows}{\mathrel}
1319 \mdsy@DeclareAlias{longrightsquigarrow}{arrows}{\mathrel}
1320 \mdsy@DeclareSymbol{longleftwvearrow}{arrows}{\mathrel}
1321 \mdsy@DeclareAlias{longleftsquigarrow}{arrows}{\mathrel}
1322 \mdsy@DeclareSymbol{longleftfootline}{arrows}{\mathrel}
1323 \mdsy@DeclareAlias{vlongdash}{arrows}{\mathrel}
1324 \mdsy@DeclareSymbol{longrightfootline}{arrows}{\mathrel}
1325 \mdsy@DeclareAlias{longdashv}{arrows}{\mathrel}
1326 \mdsy@DeclareSymbol{Lsh}{arrows}{\mathrel}
1327 \mdsy@DeclareSymbol{Rsh}{arrows}{\mathrel}
1328 \mdsy@DeclareSymbol{Ldsh}{arrows}{\mathrel}
1329 \mdsy@DeclareSymbol{Rdsh}{arrows}{\mathrel}
1330 \mdsy@DeclareSymbol{looparrowright}{arrows}{\mathrel}
1331 \mdsy@DeclareSymbol{looparrowleft}{arrows}{\mathrel}
1332 \mdsy@setslot{224}
1333 \mdsy@DeclareSymbol{rightvdash}{arrows}{\mathrel}
1334 \mdsy@DeclareAlias{vdash}{arrows}{\mathrel}
1335 \mdsy@DeclareSymbol{upvdash}{arrows}{\mathrel}
1336 \mdsy@DeclareAlias{perp}{arrows}{\mathrel}
1337 \mdsy@DeclareAlias{bot}{arrows}{\mathord}
1338 \mdsy@DeclareSymbol{leftvdash}{arrows}{\mathrel}
1339 \mdsy@DeclareAlias{dashv}{arrows}{\mathrel}
1340 \mdsy@DeclareSymbol{downvdash}{arrows}{\mathrel}
1341 \mdsy@DeclareAlias{top}{arrows}{\mathord}
1342 \mdsy@DeclareSymbol{rightassert}{arrows}{\mathrel}
1343 \mdsy@DeclareAlias{assert}{arrows}{\mathrel}
1344 \mdsy@DeclareAlias{shortrightarrow}{arrows}{\mathrel}
1345 \mdsy@DeclareSymbol{upassert}{arrows}{\mathrel}
1346 \mdsy@DeclareAlias{shortuptack}{arrows}{\mathrel}
1347 \mdsy@DeclareSymbol{leftassert}{arrows}{\mathrel}
1348 \mdsy@DeclareAlias{shortlefttack}{arrows}{\mathrel}
1349 \mdsy@DeclareSymbol{downassert}{arrows}{\mathrel}
1350 \mdsy@DeclareAlias{shortdowntack}{arrows}{\mathrel}
1351 \mdsy@DeclareSymbol{rightvDash}{arrows}{\mathrel}
1352 \mdsy@DeclareAlias{vDash}{arrows}{\mathrel}
1353 \mdsy@DeclareSymbol{upvDash}{arrows}{\mathrel}
1354 \mdsy@DeclareAlias{Vbar}{arrows}{\mathrel}

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1355 \mdsy@DeclareSymbol{leftvDash}{arrows}{\mathrel}
1356 \mdsy@DeclareAlias{Dashv}{arrows}{\mathrel}
1357 \mdsy@DeclareSymbol{downvDash}{arrows}{\mathrel}
1358 \mdsy@DeclareAlias{barV}{arrows}{\mathrel}
1359 \mdsy@DeclareSymbol{rightmodels}{arrows}{\mathrel}
1360 \mdsy@DeclareAlias{models}{arrows}{\mathrel}
1361 \mdsy@DeclareSymbol{upmodels}{arrows}{\mathrel}
1362 \mdsy@DeclareSymbol{leftmodels}{arrows}{\mathrel}
1363 \mdsy@DeclareSymbol{downmodels}{arrows}{\mathrel}
1364 \mdsy@DeclareSymbol{rightVdash}{arrows}{\mathrel}
1365 \mdsy@DeclareAlias{Vdash}{arrows}{\mathrel}
1366 \mdsy@DeclareSymbol{upVdash}{arrows}{\mathrel}
1367 \mdsy@DeclareSymbol{leftVdash}{arrows}{\mathrel}
1368 \mdsy@DeclareAlias{dashV}{arrows}{\mathrel}
1369 \mdsy@DeclareSymbol{downVdash}{arrows}{\mathrel}
1370 \mdsy@DeclareSymbol{rightAssert}{arrows}{\mathrel}
1371 \mdsy@DeclareAlias{Assert}{arrows}{\mathrel}
1372 \mdsy@DeclareSymbol{upAssert}{arrows}{\mathrel}
1373 \mdsy@DeclareAlias{vBar}{arrows}{\mathrel}
1374 \mdsy@DeclareSymbol{leftAssert}{arrows}{\mathrel}
1375 \mdsy@DeclareSymbol{downAssert}{arrows}{\mathrel}
1376 \mdsy@DeclareAlias{Barv}{arrows}{\mathrel}
1377 \mdsy@DeclareSymbol{rightVDash}{arrows}{\mathrel}
1378 \mdsy@DeclareAlias{VDash}{arrows}{\mathrel}
1379 \mdsy@DeclareSymbol{upVDash}{arrows}{\mathrel}
1380 \mdsy@DeclareSymbol{leftVDash}{arrows}{\mathrel}
1381 \mdsy@DeclareAlias{DashV}{arrows}{\mathrel}
1382 \mdsy@DeclareSymbol{downVDash}{arrows}{\mathrel}
1383 \mdsy@DeclareSymbol{Vvdash}{arrows}{\mathrel}
1384 \mdsy@DeclareSymbol{dashVv}{arrows}{\mathrel}
1385 \mdsy@DeclareSymbol{vDdash}{arrows}{\mathrel}
1386 \mdsy@DeclareSymbol{Ddashv}{arrows}{\mathrel}
1387
1388 \mdsy@DeclareRobustCommand{relbar}{\mathrel{\smash-}}
1389 \mdsy@DeclareRobustCommand{Relbar}{\mathrel=}
1390 \mdsy@DeclareRobustCommand{joinrel}{\mathrel{\mkern-4mu}}

MdSymbolD: stroked arrows
1391 \mdsy@setslot{0}
1392 \mdsy@DeclareSymbol{nrightarrow}{narrows}{\mathrel}
1393 \mdsy@DeclareAlias{nto}{narrows}{\mathrel}
1394 \mdsy@DeclareSymbol{nuparrow}{narrows}{\mathrel}
1395 \mdsy@DeclareSymbol{nleftarrow}{narrows}{\mathrel}
1396 \mdsy@DeclareAlias{ngets}{narrows}{\mathrel}
1397 \mdsy@DeclareSymbol{ndownarrow}{narrows}{\mathrel}
1398 \mdsy@DeclareSymbol{nnearrow}{narrows}{\mathrel}

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1399 \mdsy@DeclareSymbol{nnwarrow}{narrows}{\mathrel}
1400 \mdsy@DeclareSymbol{nswarrow}{narrows}{\mathrel}
1401 \mdsy@DeclareSymbol{nsearrow}{narrows}{\mathrel}
1402 \mdsy@DeclareSymbol{nRightarrow}{narrows}{\mathrel}
1403 \mdsy@DeclareSymbol{nUparrow}{narrows}{\mathrel}
1404 \mdsy@DeclareSymbol{nLeftarrow}{narrows}{\mathrel}
1405 \mdsy@DeclareSymbol{nDownarrow}{narrows}{\mathrel}
1406 \mdsy@DeclareSymbol{nNearrow}{narrows}{\mathrel}
1407 \mdsy@DeclareSymbol{nNwarrow}{narrows}{\mathrel}
1408 \mdsy@DeclareSymbol{nSwarrow}{narrows}{\mathrel}
1409 \mdsy@DeclareSymbol{nSearrow}{narrows}{\mathrel}
1410 \mdsy@DeclareSymbol{nlefttriarow}{narrows}{\mathrel}
1411 \mdsy@DeclareSymbol{nupdownarrow}{narrows}{\mathrel}
1412 \mdsy@DeclareSymbol{nneswarrow}{narrows}{\mathrel}
1413 \mdsy@DeclareSymbol{nnwsearrow}{narrows}{\mathrel}
1414 \mdsy@DeclareSymbol{nLeftrightarrow}{narrows}{\mathrel}
1415 \mdsy@DeclareSymbol{nUpdownarrow}{narrows}{\mathrel}
1416 \mdsy@DeclareSymbol{nNeswarrow}{narrows}{\mathrel}
1417 \mdsy@DeclareSymbol{nNwsearrow}{narrows}{\mathrel}
1418 \mdsy@DeclareSymbol{ntwoheadrightarrow}{narrows}{\mathrel}
1419 \mdsy@DeclareSymbol{ntwoheaduparrow}{narrows}{\mathrel}
1420 \mdsy@DeclareSymbol{ntwoheadleftarrow}{narrows}{\mathrel}
1421 \mdsy@DeclareSymbol{ntwoheaddownarrow}{narrows}{\mathrel}
1422 \mdsy@DeclareSymbol{ntwoheadnearrow}{narrows}{\mathrel}
1423 \mdsy@DeclareSymbol{ntwoheadnwarrow}{narrows}{\mathrel}
1424 \mdsy@DeclareSymbol{ntwoheadswarrow}{narrows}{\mathrel}
1425 \mdsy@DeclareSymbol{ntwoheadsearrow}{narrows}{\mathrel}
1426 \mdsy@DeclareSymbol{nrightarrowtail}{narrows}{\mathrel}
1427 \mdsy@DeclareSymbol{nuparrowtail}{narrows}{\mathrel}
1428 \mdsy@DeclareSymbol{nleftarrowtail}{narrows}{\mathrel}
1429 \mdsy@DeclareSymbol{ndownarrowtail}{narrows}{\mathrel}
1430 \mdsy@DeclareSymbol{nnearrowtail}{narrows}{\mathrel}
1431 \mdsy@DeclareSymbol{nnwarrowtail}{narrows}{\mathrel}
1432 \mdsy@DeclareSymbol{nswarrowtail}{narrows}{\mathrel}
1433 \mdsy@DeclareSymbol{nsearrowtail}{narrows}{\mathrel}
1434 \mdsy@DeclareSymbol{nrightmapsto}{narrows}{\mathrel}
1435 \mdsy@DeclareAlias{nmapsto}{narrows}{\mathrel}
1436 \mdsy@DeclareSymbol{nupmapsto}{narrows}{\mathrel}
1437 \mdsy@DeclareAlias{nmapsup}{narrows}{\mathrel}
1438 \mdsy@DeclareSymbol{nleftmapsto}{narrows}{\mathrel}
1439 \mdsy@DeclareAlias{nmapsfrom}{narrows}{\mathrel}
1440 \mdsy@DeclareSymbol{ndownmapsto}{narrows}{\mathrel}
1441 \mdsy@DeclareAlias{nmapsdown}{narrows}{\mathrel}
1442 \mdsy@DeclareSymbol{nRightmapsto}{narrows}{\mathrel}
1443 \mdsy@DeclareAlias{nMapsto}{narrows}{\mathrel}

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1444 \mdsy@DeclareSymbol{nUpmapsto}{narrows}{\mathrel}
1445 \mdsy@DeclareAlias{nMapsup}{narrows}{\mathrel}
1446 \mdsy@DeclareSymbol{nLeftmapsto}{narrows}{\mathrel}
1447 \mdsy@DeclareAlias{nMapsfrom}{narrows}{\mathrel}
1448 \mdsy@DeclareSymbol{nDownmapsto}{narrows}{\mathrel}
1449 \mdsy@DeclareAlias{nMapsdown}{narrows}{\mathrel}
1450 \mdsy@DeclareSymbol{nhookrightarrow}{narrows}{\mathrel}
1451 \mdsy@DeclareSymbol{nhookuparrow}{narrows}{\mathrel}
1452 \mdsy@DeclareSymbol{nvarhookleftarrow}{narrows}{\mathrel}
1453 \mdsy@DeclareSymbol{nvarhookdownarrow}{narrows}{\mathrel}
1454 \mdsy@DeclareSymbol{nvarhooknearrow}{narrows}{\mathrel}
1455 \mdsy@DeclareSymbol{nhooknwarrow}{narrows}{\mathrel}
1456 \mdsy@DeclareAlias{nhknwarrow}{narrows}{\mathrel}
1457 \mdsy@DeclareSymbol{nvarhookswarrow}{narrows}{\mathrel}
1458 \mdsy@DeclareSymbol{nhooksearrow}{narrows}{\mathrel}
1459 \mdsy@DeclareAlias{nhksearrow}{narrows}{\mathrel}
1460 \mdsy@DeclareSymbol{nvarhookrightarrow}{narrows}{\mathrel}
1461 \mdsy@DeclareSymbol{nvarhookuparrow}{narrows}{\mathrel}
1462 \mdsy@DeclareSymbol{nhookleftarrow}{narrows}{\mathrel}
1463 \mdsy@DeclareSymbol{nhookdownarrow}{narrows}{\mathrel}
1464 \mdsy@DeclareSymbol{nhooknearrow}{narrows}{\mathrel}
1465 \mdsy@DeclareAlias{nhknearrow}{narrows}{\mathrel}
1466 \mdsy@DeclareSymbol{nvarhooknwarrow}{narrows}{\mathrel}
1467 \mdsy@DeclareSymbol{nhookswarrow}{narrows}{\mathrel}
1468 \mdsy@DeclareAlias{nhkswarrow}{narrows}{\mathrel}
1469 \mdsy@DeclareSymbol{nvarhooksearrow}{narrows}{\mathrel}
1470 \mdsy@DeclareSymbol{nrightarpoonup}{narrows}{\mathrel}
1471 \mdsy@DeclareSymbol{nupharpoonleft}{narrows}{\mathrel}
1472 \mdsy@DeclareSymbol{nleftarpoondown}{narrows}{\mathrel}
1473 \mdsy@DeclareSymbol{ndownharpoonright}{narrows}{\mathrel}
1474 \mdsy@DeclareSymbol{nneharpoonnw}{narrows}{\mathrel}
1475 \mdsy@DeclareSymbol{nnwharpoonsw}{narrows}{\mathrel}
1476 \mdsy@DeclareSymbol{nswharpoone}{narrows}{\mathrel}
1477 \mdsy@DeclareSymbol{nseharpoone}{narrows}{\mathrel}
1478 \mdsy@DeclareSymbol{nrightarpoondown}{narrows}{\mathrel}
1479 \mdsy@DeclareSymbol{nupharpoonright}{narrows}{\mathrel}
1480 \mdsy@DeclareAlias{nrestriction}{narrows}{\mathrel}
1481 \mdsy@DeclareSymbol{nleftarpoonup}{narrows}{\mathrel}
1482 \mdsy@DeclareSymbol{ndownharpoonleft}{narrows}{\mathrel}
1483 \mdsy@DeclareSymbol{nneharpoone}{narrows}{\mathrel}
1484 \mdsy@DeclareSymbol{nnwharpoone}{narrows}{\mathrel}
1485 \mdsy@DeclareSymbol{nswharpoonnw}{narrows}{\mathrel}
1486 \mdsy@DeclareSymbol{nseharpoonsw}{narrows}{\mathrel}
1487 \mdsy@DeclareSymbol{nlefttrightharpoonupdown}{narrows}{\mathrel}
1488 \mdsy@DeclareSymbol{nupdownharpoonleftrightarrow}{narrows}{\mathrel}

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1489 \mdsy@DeclareSymbol{nneswharpoonnwse}{narrows}{\mathrel}
1490 \mdsy@DeclareSymbol{nnwseharpoonnesw}{narrows}{\mathrel}
1491 \mdsy@DeclareSymbol{nleftrightharpoondownup}{narrows}{\mathrel}
1492 \mdsy@DeclareSymbol{nupdownharpoonrightleft}{narrows}{\mathrel}
1493 \mdsy@DeclareSymbol{nneswharpoonsenw}{narrows}{\mathrel}
1494 \mdsy@DeclareSymbol{nnwseharpoonswne}{narrows}{\mathrel}
1495 \mdsy@DeclareSymbol{nrightleftharpoons}{narrows}{\mathrel}
1496 \mdsy@DeclareSymbol{nupdownharpoons}{narrows}{\mathrel}
1497 \mdsy@DeclareAlias{nupdownharpoonsleftright}{narrows}{\mathrel}
1498 \mdsy@DeclareSymbol{nneswharpoons}{narrows}{\mathrel}
1499 \mdsy@DeclareSymbol{nsenwharpoons}{narrows}{\mathrel}
1500 \mdsy@DeclareSymbol{nleftrightharpoons}{narrows}{\mathrel}
1501 \mdsy@DeclareSymbol{ndownupharpoons}{narrows}{\mathrel}
1502 \mdsy@DeclareAlias{ndownupharpoonsleftright}{narrows}{\mathrel}
1503 \mdsy@DeclareSymbol{nswneharpoons}{narrows}{\mathrel}
1504 \mdsy@DeclareSymbol{nnwseharpoons}{narrows}{\mathrel}
1505 \mdsy@DeclareSymbol{nrightbkarrow}{narrows}{\mathrel}
1506 \mdsy@DeclareAlias{ndasharrow}{narrows}{\mathrel}
1507 \mdsy@DeclareAlias{ndashrightarrow}{narrows}{\mathrel}
1508 \mdsy@DeclareSymbol{nupbkarrow}{narrows}{\mathrel}
1509 \mdsy@DeclareSymbol{nleftbkarrow}{narrows}{\mathrel}
1510 \mdsy@DeclareAlias{ndashleftarrow}{narrows}{\mathrel}
1511 \mdsy@DeclareSymbol{ndownbkarrow}{narrows}{\mathrel}
1512 \mdsy@DeclareSymbol{nnebkarrow}{narrows}{\mathrel}
1513 \mdsy@DeclareSymbol{nnwbkarrow}{narrows}{\mathrel}
1514 \mdsy@DeclareSymbol{nswbkarrow}{narrows}{\mathrel}
1515 \mdsy@DeclareSymbol{nsebkarrow}{narrows}{\mathrel}
1516 \mdsy@DeclareSymbol{nrightspoon}{narrows}{\mathrel}
1517 \mdsy@DeclareAlias{nmultimap}{narrows}{\mathrel}
1518 \mdsy@DeclareSymbol{nupspoon}{narrows}{\mathrel}
1519 \mdsy@DeclareAlias{ncirmid}{narrows}{\mathrel}
1520 \mdsy@DeclareSymbol{nleftspoon}{narrows}{\mathrel}
1521 \mdsy@DeclareAlias{nmultimapinv}{narrows}{\mathrel}
1522 \mdsy@DeclareSymbol{ndownspoon}{narrows}{\mathrel}
1523 \mdsy@DeclareAlias{nmidcir}{narrows}{\mathrel}
1524 \mdsy@DeclareSymbol{nrightblackspoon}{narrows}{\mathrel}
1525 \mdsy@DeclareSymbol{nupblackspoon}{narrows}{\mathrel}
1526 \mdsy@DeclareSymbol{nleftblackspoon}{narrows}{\mathrel}
1527 \mdsy@DeclareSymbol{ndownblackspoon}{narrows}{\mathrel}
1528 \mdsy@DeclareSymbol{nleftrightspoon}{narrows}{\mathrel}
1529 \mdsy@DeclareAlias{ndualmap}{narrows}{\mathrel}
1530 \mdsy@DeclareSymbol{nleftrightblackspoon}{narrows}{\mathrel}
1531 \mdsy@DeclareSymbol{nblackwhitespoon}{narrows}{\mathrel}
1532 \mdsy@DeclareAlias{nimageof}{narrows}{\mathrel}
1533 \mdsy@DeclareSymbol{nwhiteblackspoon}{narrows}{\mathrel}

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1534 \mdsy@DeclareAlias{norigof}{narrows}{\mathrel}
1535 \mdsy@DeclareSymbol{nrightpitchfork}{narrows}{\mathrel}
1536 \mdsy@DeclareSymbol{nuppitchfork}{narrows}{\mathrel}
1537 \mdsy@DeclareAlias{npitchfork}{narrows}{\mathrel}
1538 \mdsy@DeclareSymbol{nleftpitchfork}{narrows}{\mathrel}
1539 \mdsy@DeclareSymbol{ndownpitchfork}{narrows}{\mathrel}
1540 \mdsy@DeclareSymbol{nrightrightarrow}{narrows}{\mathrel}
1541 \mdsy@DeclareSymbol{nupuparrows}{narrows}{\mathrel}
1542 \mdsy@DeclareSymbol{nleftleftarrows}{narrows}{\mathrel}
1543 \mdsy@DeclareSymbol{ndowndownarrows}{narrows}{\mathrel}
1544 \mdsy@DeclareSymbol{nnenearrows}{narrows}{\mathrel}
1545 \mdsy@DeclareSymbol{nnwnwarrows}{narrows}{\mathrel}
1546 \mdsy@DeclareSymbol{nswsvarrows}{narrows}{\mathrel}
1547 \mdsy@DeclareSymbol{nsesearrows}{narrows}{\mathrel}
1548 \mdsy@DeclareSymbol{nrightleftarrows}{narrows}{\mathrel}
1549 \mdsy@DeclareSymbol{nupdownarrows}{narrows}{\mathrel}
1550 \mdsy@DeclareSymbol{nneswarrows}{narrows}{\mathrel}
1551 \mdsy@DeclareSymbol{nnwsearrows}{narrows}{\mathrel}
1552 \mdsy@DeclareSymbol{nleftrightarrows}{narrows}{\mathrel}
1553 \mdsy@DeclareSymbol{ndownuparrows}{narrows}{\mathrel}
1554 \mdsy@DeclareSymbol{nswnearrows}{narrows}{\mathrel}
1555 \mdsy@DeclareSymbol{nsenwarrows}{narrows}{\mathrel}
1556 \mdsy@DeclareSymbol{nrightwvearrow}{narrows}{\mathrel}
1557 \mdsy@DeclareAlias{nleadsto}{narrows}{\mathrel}
1558 \mdsy@DeclareAlias{nrightsquigarrow}{narrows}{\mathrel}
1559 \mdsy@DeclareAlias{nrightcurvedarrow}{arrows}{\mathrel}
1560 \mdsy@DeclareAlias{nrightlsquigarrow}{narrows}{\mathrel}
1561 \mdsy@DeclareSymbol{nvarupwvearrow}{narrows}{\mathrel}
1562 \mdsy@DeclareAlias{nuplsquigarrow}{narrows}{\mathrel}
1563 \mdsy@DeclareSymbol{nvarleftwvearrow}{narrows}{\mathrel}
1564 \mdsy@DeclareAlias{nleftlsquigarrow}{narrows}{\mathrel}
1565 \mdsy@DeclareSymbol{ndownwvearrow}{narrows}{\mathrel}
1566 \mdsy@DeclareAlias{ndownlsquigarrow}{narrows}{\mathrel}
1567 \mdsy@DeclareSymbol{nvarrightwvearrow}{narrows}{\mathrel}
1568 \mdsy@DeclareAlias{nrightrsquigarrow}{narrows}{\mathrel}
1569 \mdsy@DeclareSymbol{nupwvearrow}{narrows}{\mathrel}
1570 \mdsy@DeclareAlias{nuprsquigarrow}{narrows}{\mathrel}
1571 \mdsy@DeclareSymbol{nleftwvearrow}{narrows}{\mathrel}
1572 \mdsy@DeclareAlias{nleftsquigarrow}{narrows}{\mathrel}
1573 \mdsy@DeclareAlias{nleftcurvedarrow}{arrows}{\mathrel}
1574 \mdsy@DeclareAlias{nleftrsquigarrow}{narrows}{\mathrel}
1575 \mdsy@DeclareSymbol{nvardownwvearrow}{narrows}{\mathrel}
1576 \mdsy@DeclareAlias{ndownrsquigarrow}{narrows}{\mathrel}
1577 \mdsy@DeclareSymbol{nleftrightwvearrow}{narrows}{\mathrel}
1578 \mdsy@DeclareAlias{nleftrightsquigarrow}{narrows}{\mathrel}

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1579 \mdsy@DeclareSymbol{nupdownwavearrow}{narrows}{\mathrel}
1580 \mdsy@DeclareAlias{nupdownsquigarrow}{narrows}{\mathrel}
1581 \mdsy@DeclareSymbol{nvarleftrightwavearrow}{narrows}{\mathrel}
1582 \mdsy@DeclareAlias{nrightleftsquigarrow}{narrows}{\mathrel}
1583 \mdsy@DeclareSymbol{nvarupdownwavearrow}{narrows}{\mathrel}
1584 \mdsy@DeclareAlias{ndownupsquigarrow}{narrows}{\mathrel}
1585 \mdsy@DeclareSymbol{ncwoverarcarrow}{narrows}{\mathrel}
1586 \mdsy@DeclareAlias{ncurvearrowright}{narrows}{\mathrel}
1587 \mdsy@DeclareAlias{nrightlcurvearrow}{narrows}{\mathrel}
1588 \mdsy@DeclareSymbol{ncwleftarcarrow}{narrows}{\mathrel}
1589 \mdsy@DeclareAlias{nuplcurvearrow}{narrows}{\mathrel}
1590 \mdsy@DeclareSymbol{ncwunderarcarrow}{narrows}{\mathrel}
1591 \mdsy@DeclareAlias{nleftlcurvearrow}{narrows}{\mathrel}
1592 \mdsy@DeclareSymbol{ncwrightarcarrow}{narrows}{\mathrel}
1593 \mdsy@DeclareAlias{ndownlcurvearrow}{narrows}{\mathrel}
1594 \mdsy@DeclareSymbol{ncwnwarccarrow}{narrows}{\mathrel}
1595 \mdsy@DeclareAlias{nrightupcurvedarrow}{narrows}{\mathrel}
1596 \mdsy@DeclareAlias{nnelcurvearrow}{narrows}{\mathrel}
1597 \mdsy@DeclareSymbol{ncwswarccarrow}{narrows}{\mathrel}
1598 \mdsy@DeclareAlias{nupleftcurvedarrow}{narrows}{\mathrel}
1599 \mdsy@DeclareAlias{nnwlcurvearrow}{narrows}{\mathrel}
1600 \mdsy@DeclareSymbol{ncwsearccarrow}{narrows}{\mathrel}
1601 \mdsy@DeclareAlias{nleftdowncurvedarrow}{narrows}{\mathrel}
1602 \mdsy@DeclareAlias{nswlcurvearrow}{narrows}{\mathrel}
1603 \mdsy@DeclareSymbol{ncwnearccarrow}{narrows}{\mathrel}
1604 \mdsy@DeclareAlias{ndownrightcurvedarrow}{narrows}{\mathrel}
1605 \mdsy@DeclareAlias{nsecurvearrow}{narrows}{\mathrel}
1606 \mdsy@DeclareSymbol{nacwunderarcarrow}{narrows}{\mathrel}
1607 \mdsy@DeclareAlias{nrightrcurvearrow}{narrows}{\mathrel}
1608 \mdsy@DeclareSymbol{nacwrightarcarrow}{narrows}{\mathrel}
1609 \mdsy@DeclareAlias{nuprcurvearrow}{narrows}{\mathrel}
1610 \mdsy@DeclareSymbol{nacwoverarcarrow}{narrows}{\mathrel}
1611 \mdsy@DeclareAlias{ncurvearrowleft}{narrows}{\mathrel}
1612 \mdsy@DeclareAlias{nleftrcurvearrow}{narrows}{\mathrel}
1613 \mdsy@DeclareSymbol{nacwleftarcarrow}{narrows}{\mathrel}
1614 \mdsy@DeclareAlias{ndownrcurvearrow}{narrows}{\mathrel}
1615 \mdsy@DeclareSymbol{nacwsearccarrow}{narrows}{\mathrel}
1616 \mdsy@DeclareAlias{nuprightcurvearrow}{narrows}{\mathrel}
1617 \mdsy@DeclareAlias{nnercurvearrow}{narrows}{\mathrel}
1618 \mdsy@DeclareSymbol{nacwnearccarrow}{narrows}{\mathrel}
1619 \mdsy@DeclareAlias{nleftupcurvedarrow}{narrows}{\mathrel}
1620 \mdsy@DeclareAlias{nnwrcurvearrow}{narrows}{\mathrel}
1621 \mdsy@DeclareSymbol{nacwnwarccarrow}{narrows}{\mathrel}
1622 \mdsy@DeclareAlias{ndownleftcurvedarrow}{narrows}{\mathrel}
1623 \mdsy@DeclareAlias{nswrcurvearrow}{narrows}{\mathrel}

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1624 \mdsy@DeclareSymbol{nacwswarcarrow}{narrows}{\mathrel}
1625 \mdsy@DeclareAlias{nrightdowncurvedarrow}{narrows}{\mathrel}
1626 \mdsy@DeclareAlias{nsercurvearrow}{narrows}{\mathrel}
1627 \mdsy@DeclareSymbol{nbdoverarcarrow}{narrows}{\mathrel}
1628 \mdsy@DeclareAlias{nleftrightcurvearrow}{narrows}{\mathrel}
1629 \mdsy@DeclareSymbol{nbdleftarccarrow}{narrows}{\mathrel}
1630 \mdsy@DeclareAlias{nupdowncurvearrow}{narrows}{\mathrel}
1631 \mdsy@DeclareSymbol{nbdunderarccarrow}{narrows}{\mathrel}
1632 \mdsy@DeclareAlias{nrightleftcurvearrow}{narrows}{\mathrel}
1633 \mdsy@DeclareSymbol{nbdrightarccarrow}{narrows}{\mathrel}
1634 \mdsy@DeclareAlias{ndownupcurvearrow}{narrows}{\mathrel}
1635 \mdsy@DeclareSymbol{nbdnwarccarrow}{narrows}{\mathrel}
1636 \mdsy@DeclareAlias{nneswcurvearrow}{narrows}{\mathrel}
1637 \mdsy@DeclareSymbol{nbdswarcarrow}{narrows}{\mathrel}
1638 \mdsy@DeclareAlias{nnwsecurvearrow}{narrows}{\mathrel}
1639 \mdsy@DeclareSymbol{nbdsearccarrow}{narrows}{\mathrel}
1640 \mdsy@DeclareAlias{nswnecurvearrow}{narrows}{\mathrel}
1641 \mdsy@DeclareSymbol{nbdnearccarrow}{narrows}{\mathrel}
1642 \mdsy@DeclareAlias{nsewcurvearrow}{narrows}{\mathrel}
1643 \mdsy@DeclareSymbol{nleftfootline}{narrows}{\mathrel}
1644 \mdsy@DeclareSymbol{nrightfootline}{narrows}{\mathrel}
1645 \mdsy@DeclareSymbol{nacwcirculararrowup}{narrows}{\mathrel}
1646 \mdsy@DeclareSymbol{nacwcirculararrowleft}{narrows}{\mathrel}
1647 \mdsy@DeclareAlias{ncirculararrowleft}{narrows}{\mathrel}
1648 \mdsy@DeclareAlias{nacwopencirculararrow}{narrows}{\mathrel}
1649 \mdsy@DeclareSymbol{nacwcirculararrowdown}{narrows}{\mathrel}
1650 \mdsy@DeclareAlias{nacwgapcirculararrow}{narrows}{\mathrel}
1651 \mdsy@DeclareSymbol{nacwcirculararrowright}{narrows}{\mathrel}
1652 \mdsy@DeclareSymbol{ncwcirculararrowdown}{narrows}{\mathrel}
1653 \mdsy@DeclareAlias{ncwgapcirculararrow}{narrows}{\mathrel}
1654 \mdsy@DeclareSymbol{ncwcirculararrowright}{narrows}{\mathrel}
1655 \mdsy@DeclareAlias{ncirculararrowright}{narrows}{\mathrel}
1656 \mdsy@DeclareAlias{ncwopencirculararrow}{narrows}{\mathrel}
1657 \mdsy@DeclareSymbol{ncwcirculararrowup}{narrows}{\mathrel}
1658 \mdsy@DeclareSymbol{ncwcirculararrowleft}{narrows}{\mathrel}
1659 \mdsy@DeclareSymbol{nRrightarrow}{narrows}{\mathrel}
1660 \mdsy@DeclareSymbol{nUparrow}{narrows}{\mathrel}
1661 \mdsy@DeclareSymbol{nLleftarrow}{narrows}{\mathrel}
1662 \mdsy@DeclareSymbol{nDdownarrow}{narrows}{\mathrel}
1663 \mdsy@DeclareSymbol{nlongrightarrow}{narrows}{\mathrel}
1664 \mdsy@DeclareSymbol{nlongleftarrow}{narrows}{\mathrel}
1665 \mdsy@DeclareSymbol{nLongrightarrow}{narrows}{\mathrel}
1666 \mdsy@DeclareSymbol{nLongleftarrow}{narrows}{\mathrel}
1667 \mdsy@DeclareSymbol{nlongleftrightarrow}{narrows}{\mathrel}
1668 \mdsy@DeclareSymbol{nLongleftrightarrow}{narrows}{\mathrel}

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1669 \mdsy@DeclareSymbol{nlongmapsto}{narrows}{\mathrel}
1670 \mdsy@DeclareSymbol{nlongmapsfrom}{narrows}{\mathrel}
1671 \mdsy@DeclareSymbol{nLongmapsto}{narrows}{\mathrel}
1672 \mdsy@DeclareSymbol{nLongmapsfrom}{narrows}{\mathrel}
1673 \mdsy@DeclareSymbol{nlongrightwavearrow}{narrows}{\mathrel}
1674 \mdsy@DeclareAlias{nlongleadsto}{narrows}{\mathrel}
1675 \mdsy@DeclareAlias{nlongrightsquigarrow}{narrows}{\mathrel}
1676 \mdsy@DeclareSymbol{nlongleftwavearrow}{narrows}{\mathrel}
1677 \mdsy@DeclareAlias{nlongleftsquigarrow}{narrows}{\mathrel}
1678 \mdsy@DeclareSymbol{nlongleftfootline}{narrows}{\mathrel}
1679 \mdsy@DeclareAlias{nvlongdash}{narrows}{\mathrel}
1680 \mdsy@DeclareSymbol{nlongrightfootline}{narrows}{\mathrel}
1681 \mdsy@DeclareAlias{nlongdashv}{narrows}{\mathrel}
1682 \mdsy@setslot{224}
1683 \mdsy@DeclareSymbol{nrightvdash}{narrows}{\mathrel}
1684 \mdsy@DeclareAlias{nvdash}{narrows}{\mathrel}
1685 \mdsy@DeclareSymbol{nupvdash}{narrows}{\mathrel}
1686 \mdsy@DeclareAlias{nperp}{narrows}{\mathrel}
1687 \mdsy@DeclareSymbol{nleftvdash}{narrows}{\mathrel}
1688 \mdsy@DeclareAlias{ndashv}{narrows}{\mathrel}
1689 \mdsy@DeclareSymbol{ndownvdash}{narrows}{\mathrel}
1690 \mdsy@DeclareSymbol{nrightassert}{narrows}{\mathrel}
1691 \mdsy@DeclareAlias{nassert}{narrows}{\mathrel}
1692 \mdsy@DeclareAlias{nshortrighttack}{narrows}{\mathrel}
1693 \mdsy@DeclareSymbol{nupassert}{narrows}{\mathrel}
1694 \mdsy@DeclareAlias{nshortuptack}{narrows}{\mathrel}
1695 \mdsy@DeclareSymbol{nleftassert}{narrows}{\mathrel}
1696 \mdsy@DeclareAlias{nshortlefttack}{narrows}{\mathrel}
1697 \mdsy@DeclareSymbol{ndownassert}{narrows}{\mathrel}
1698 \mdsy@DeclareAlias{nshortdowntack}{narrows}{\mathrel}
1699 \mdsy@DeclareSymbol{nrightvDash}{narrows}{\mathrel}
1700 \mdsy@DeclareAlias{nvDash}{narrows}{\mathrel}
1701 \mdsy@DeclareSymbol{nupvDash}{narrows}{\mathrel}
1702 \mdsy@DeclareAlias{nVbar}{narrows}{\mathrel}
1703 \mdsy@DeclareSymbol{nleftvDash}{narrows}{\mathrel}
1704 \mdsy@DeclareAlias{nDashv}{narrows}{\mathrel}
1705 \mdsy@DeclareSymbol{ndownvDash}{narrows}{\mathrel}
1706 \mdsy@DeclareAlias{nbarV}{narrows}{\mathrel}
1707 \mdsy@DeclareSymbol{nrightmodels}{narrows}{\mathrel}
1708 \mdsy@DeclareAlias{nmodels}{narrows}{\mathrel}
1709 \mdsy@DeclareSymbol{nupmodels}{narrows}{\mathrel}
1710 \mdsy@DeclareSymbol{nleftmodels}{narrows}{\mathrel}
1711 \mdsy@DeclareSymbol{ndownmodels}{narrows}{\mathrel}
1712 \mdsy@DeclareSymbol{nrightVdash}{narrows}{\mathrel}
1713 \mdsy@DeclareAlias{nVdash}{narrows}{\mathrel}

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1714 \mdsy@DeclareSymbol{nupVdash}{narrows}{\mathrel}
1715 \mdsy@DeclareSymbol{nleftVdash}{narrows}{\mathrel}
1716 \mdsy@DeclareAlias{ndashV}{narrows}{\mathrel}
1717 \mdsy@DeclareSymbol{ndownVdash}{narrows}{\mathrel}
1718 \mdsy@DeclareSymbol{nrightAssert}{narrows}{\mathrel}
1719 \mdsy@DeclareAlias{nAssert}{narrows}{\mathrel}
1720 \mdsy@DeclareSymbol{nupAssert}{narrows}{\mathrel}
1721 \mdsy@DeclareAlias{nvBar}{narrows}{\mathrel}
1722 \mdsy@DeclareSymbol{nleftAssert}{narrows}{\mathrel}
1723 \mdsy@DeclareSymbol{ndownAssert}{narrows}{\mathrel}
1724 \mdsy@DeclareAlias{nBarv}{narrows}{\mathrel}
1725 \mdsy@DeclareSymbol{nrightVDash}{narrows}{\mathrel}
1726 \mdsy@DeclareAlias{nVDash}{narrows}{\mathrel}
1727 \mdsy@DeclareSymbol{nupVDash}{narrows}{\mathrel}
1728 \mdsy@DeclareSymbol{nleftVDash}{narrows}{\mathrel}
1729 \mdsy@DeclareAlias{nDashV}{narrows}{\mathrel}
1730 \mdsy@DeclareSymbol{ndownVDash}{narrows}{\mathrel}
1731 \mdsy@DeclareSymbol{nVvdash}{narrows}{\mathrel}
1732 \mdsy@DeclareSymbol{ndashVv}{narrows}{\mathrel}
1733 \mdsy@DeclareSymbol{nvDdash}{narrows}{\mathrel}
1734 \mdsy@DeclareSymbol{nDdashv}{narrows}{\mathrel}

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MdSymbolE: large operators

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1735 \mdsy@setslot{0}
1736 \mdsy@DeclareSymbol{tbigplus}{largesymbols}{\mathop}
1737 \mdsy@DeclareSymbol{dbigplus}{largesymbols}{\mathop}
1738 \mdsy@DeclareSymbol{tbigtimes}{largesymbols}{\mathop}
1739 \mdsy@DeclareSymbol{dbigtimes}{largesymbols}{\mathop}
1740 \mdsy@DeclareSymbol{tbigwedge}{largesymbols}{\mathop}
1741 \mdsy@DeclareSymbol{dbigwedge}{largesymbols}{\mathop}
1742 \mdsy@DeclareSymbol{tbigvee}{largesymbols}{\mathop}
1743 \mdsy@DeclareSymbol{dbigvee}{largesymbols}{\mathop}
1744 \mdsy@DeclareSymbol{tbigwedgedot}{largesymbols}{\mathop}
1745 \mdsy@DeclareSymbol{dbigwedgedot}{largesymbols}{\mathop}
1746 \mdsy@DeclareSymbol{tbigveedot}{largesymbols}{\mathop}
1747 \mdsy@DeclareSymbol{dbigveedot}{largesymbols}{\mathop}
1748 \mdsy@DeclareSymbol{tbigdoublewedge}{largesymbols}{\mathop}
1749 \mdsy@DeclareAlias{tconjquant}{largesymbols}{\mathop}
1750 \mdsy@DeclareSymbol{dbigdoublewedge}{largesymbols}{\mathop}
1751 \mdsy@DeclareAlias{dconjquant}{largesymbols}{\mathop}
1752 \mdsy@DeclareSymbol{tbigdoublevee}{largesymbols}{\mathop}
1753 \mdsy@DeclareAlias{tdisjquant}{largesymbols}{\mathop}
1754 \mdsy@DeclareSymbol{dbigdoublevee}{largesymbols}{\mathop}
1755 \mdsy@DeclareAlias{ddisjquant}{largesymbols}{\mathop}
1756 \mdsy@DeclareSymbol{tbigcurlywedge}{largesymbols}{\mathop}
1757 \mdsy@DeclareSymbol{dbigcurlywedge}{largesymbols}{\mathop}

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1758 \mdsy@DeclareSymbol{tbigcurlyvee}{largesymbols}{\mathop}
1759 \mdsy@DeclareSymbol{dbigcurlyvee}{largesymbols}{\mathop}
1760 \mdsy@DeclareSymbol{tbigcap}{largesymbols}{\mathop}
1761 \mdsy@DeclareSymbol{dbigcap}{largesymbols}{\mathop}
1762 \mdsy@DeclareSymbol{tbigcup}{largesymbols}{\mathop}
1763 \mdsy@DeclareSymbol{dbigcup}{largesymbols}{\mathop}
1764 \mdsy@DeclareSymbol{tbigcapdot}{largesymbols}{\mathop}
1765 \mdsy@DeclareSymbol{dbigcapdot}{largesymbols}{\mathop}
1766 \mdsy@DeclareSymbol{tbigcupdot}{largesymbols}{\mathop}
1767 \mdsy@DeclareSymbol{dbigcupdot}{largesymbols}{\mathop}
1768 \mdsy@DeclareSymbol{tbigcapplus}{largesymbols}{\mathop}
1769 \mdsy@DeclareSymbol{dbigcapplus}{largesymbols}{\mathop}
1770 \mdsy@DeclareSymbol{tbigcupplus}{largesymbols}{\mathop}
1771 \mdsy@DeclareAlias{tbiguplus}{largesymbols}{\mathop}
1772 \mdsy@DeclareSymbol{dbigcupplus}{largesymbols}{\mathop}
1773 \mdsy@DeclareAlias{dbiguplus}{largesymbols}{\mathop}
1774 \mdsy@DeclareSymbol{tbigsqcap}{largesymbols}{\mathop}
1775 \mdsy@DeclareSymbol{dbigsqcap}{largesymbols}{\mathop}
1776 \mdsy@DeclareSymbol{tbigsqcup}{largesymbols}{\mathop}
1777 \mdsy@DeclareSymbol{dbigsqcup}{largesymbols}{\mathop}
1778 \mdsy@DeclareSymbol{tbigsqcapdot}{largesymbols}{\mathop}
1779 \mdsy@DeclareSymbol{dbigsqcapdot}{largesymbols}{\mathop}
1780 \mdsy@DeclareSymbol{tbigsqcupdot}{largesymbols}{\mathop}
1781 \mdsy@DeclareSymbol{dbigsqcupdot}{largesymbols}{\mathop}
1782 \mdsy@DeclareSymbol{tbigsqcapplus}{largesymbols}{\mathop}
1783 \mdsy@DeclareSymbol{dbigsqcapplus}{largesymbols}{\mathop}
1784 \mdsy@DeclareSymbol{tbigsqcupplus}{largesymbols}{\mathop}
1785 \mdsy@DeclareSymbol{dbigsqcupplus}{largesymbols}{\mathop}
1786 \mdsy@DeclareSymbol{tbigoplus}{largesymbols}{\mathop}
1787 \mdsy@DeclareSymbol{dbigoplus}{largesymbols}{\mathop}
1788 \mdsy@DeclareSymbol{tbigotimes}{largesymbols}{\mathop}
1789 \mdsy@DeclareSymbol{dbigotimes}{largesymbols}{\mathop}
1790 \mdsy@DeclareSymbol{tbigodot}{largesymbols}{\mathop}
1791 \mdsy@DeclareSymbol{dbigodot}{largesymbols}{\mathop}
1792 \mdsy@DeclareSymbol{tbigooast}{largesymbols}{\mathop}
1793 \mdsy@DeclareSymbol{dbigoast}{largesymbols}{\mathop}
1794 \mdsy@DeclareSymbol{tprod}{largesymbols}{\mathop}
1795 \mdsy@DeclareSymbol{dprod}{largesymbols}{\mathop}
1796 \mdsy@DeclareSymbol{tcoproduct}{largesymbols}{\mathop}
1797 \mdsy@DeclareSymbol{dcoproduct}{largesymbols}{\mathop}
1798 \mdsy@DeclareSymbol{tsum}{largesymbols}{\mathop}
1799 \mdsy@DeclareSymbol{dsum}{largesymbols}{\mathop}
1800 \mdsy@DeclareSymbol{tosum}{largesymbols}{\mathop}
1801 \mdsy@DeclareAlias{tmodtwosum}{largesymbols}{\mathop}
1802 \mdsy@DeclareSymbol{dosum}{largesymbols}{\mathop}

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1803 \mdsy@DeclareAlias{dmodtwosum}{largesymbols}{\mathop}
1804 \mdsy@DeclareSymbol{tint}{largesymbols}{\mathop}
1805 \mdsy@DeclareSymbol{dint}{largesymbols}{\mathop}
1806 \mdsy@DeclareSymbol{tiint}{largesymbols}{\mathop}
1807 \mdsy@DeclareSymbol{diint}{largesymbols}{\mathop}
1808 \mdsy@DeclareSymbol{tiiint}{largesymbols}{\mathop}
1809 \mdsy@DeclareSymbol{diiint}{largesymbols}{\mathop}
1810 \mdsy@DeclareSymbol{tiiiint}{largesymbols}{\mathop}
1811 \mdsy@DeclareSymbol{diiiint}{largesymbols}{\mathop}
1812 \mdsy@DeclareSymbol{tidotsint}{largesymbols}{\mathop}
1813 \mdsy@DeclareAlias{tdotsint}{largesymbols}{\mathop}
1814 \mdsy@DeclareSymbol{didotsint}{largesymbols}{\mathop}
1815 \mdsy@DeclareAlias{ddotsint}{largesymbols}{\mathop}
1816 \mdsy@DeclareSymbol{tlandupint}{largesymbols}{\mathop}
1817 \mdsy@DeclareAlias{tintclockwise}{largesymbols}{\mathop}
1818 \mdsy@DeclareSymbol{dlandupint}{largesymbols}{\mathop}
1819 \mdsy@DeclareAlias{dintclockwise}{largesymbols}{\mathop}
1820 \mdsy@DeclareSymbol{tlanddownint}{largesymbols}{\mathop}
1821 \mdsy@DeclareAlias{tawint}{largesymbols}{\mathop}
1822 \mdsy@DeclareAlias{tintctrlockwise}{largesymbols}{\mathop}
1823 \mdsy@DeclareSymbol{dlanddownint}{largesymbols}{\mathop}
1824 \mdsy@DeclareAlias{dawint}{largesymbols}{\mathop}
1825 \mdsy@DeclareAlias{dintctrlockwise}{largesymbols}{\mathop}
1826 \mdsy@DeclareSymbol{tintbar}{largesymbols}{\mathop}
1827 \mdsy@DeclareSymbol{dintbar}{largesymbols}{\mathop}
1828 \mdsy@DeclareSymbol{tintBar}{largesymbols}{\mathop}
1829 \mdsy@DeclareSymbol{dintBar}{largesymbols}{\mathop}
1830 \mdsy@DeclareSymbol{tfint}{largesymbols}{\mathop}
1831 \mdsy@DeclareSymbol{dfint}{largesymbols}{\mathop}
1832 \mdsy@DeclareSymbol{toint}{largesymbols}{\mathop}
1833 \mdsy@DeclareSymbol{doint}{largesymbols}{\mathop}
1834 \mdsy@DeclareSymbol{toiint}{largesymbols}{\mathop}
1835 \mdsy@DeclareSymbol{doiint}{largesymbols}{\mathop}
1836 \mdsy@DeclareSymbol{toiiint}{largesymbols}{\mathop}
1837 \mdsy@DeclareSymbol{doiiint}{largesymbols}{\mathop}
1838 \mdsy@DeclareSymbol{trcircularrightint}{largesymbols}{\mathop}
1839 \mdsy@DeclareAlias{tointctrlockwise}{largesymbols}{\mathop}
1840 \mdsy@DeclareSymbol{drcircularrightint}{largesymbols}{\mathop}
1841 \mdsy@DeclareAlias{dointctrlockwise}{largesymbols}{\mathop}
1842 \mdsy@DeclareSymbol{tlcircularrightint}{largesymbols}{\mathop}
1843 \mdsy@DeclareAlias{tvarointclockwise}{largesymbols}{\mathop}
1844 \mdsy@DeclareSymbol{dlcircularrightint}{largesymbols}{\mathop}
1845 \mdsy@DeclareAlias{dvarointclockwise}{largesymbols}{\mathop}
1846 \mdsy@DeclareSymbol{trcircleleftint}{largesymbols}{\mathop}
1847 \mdsy@DeclareAlias{tvarointctrlockwise}{largesymbols}{\mathop}

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1848 \mdsy@DeclareSymbol{drcircleleftint}{largesymbols}{\mathop}
1849 \mdsy@DeclareAlias{dvarointctrclockwise}{largesymbols}{\mathop}
1850 \mdsy@DeclareSymbol{tlcircleleftint}{largesymbols}{\mathop}
1851 \mdsy@DeclareAlias{tointclockwise}{largesymbols}{\mathop}
1852 \mdsy@DeclareSymbol{dlcircleleftint}{largesymbols}{\mathop}
1853 \mdsy@DeclareAlias{dointclockwise}{largesymbols}{\mathop}
1854 \mdsy@DeclareSymbol{tsumint}{largesymbols}{\mathop}
1855 \mdsy@DeclareSymbol{dsumint}{largesymbols}{\mathop}
1856 \mdsy@DeclareSymbol{tprodi}{largesymbols}{\mathop}
1857 \mdsy@DeclareSymbol{dprodi}{largesymbols}{\mathop}
1858 \mdsy@DeclareSymbol{tcoprodu}{largesymbols}{\mathop}
1859 \mdsy@DeclareSymbol{dcoprodu}{largesymbols}{\mathop}
1860 %\let\intop\tint
1861 %\let\ointop\toint
1862
1863 \mdsy@DeclareOperator{bigplus}{\dbigplus}{\tbigplus}
1864 \mdsy@DeclareOperator{bigtimes}{\dbigtimes}{\tbigtimes}
1865 \mdsy@DeclareOperator{bigwedge}{\dbigwedge}{\tbigwedge}
1866 \mdsy@DeclareOperator{bigvee}{\dbigvee}{\tbigvee}
1867 \mdsy@DeclareOperator{bigwedgedot}{\dbigwedgedot}{\tbigwedgedot}
1868 \mdsy@DeclareOperator{bigveedot}{\dbigveedot}{\tbigveedot}
1869 \mdsy@DeclareOperator{bigdoublewedge}{\dbigdoublewedge}{\tbigdoublewedge}
1870 \mdsy@DeclareOperator{conjquant}{\dconjquant}{\tconjquant}
1871 \mdsy@DeclareOperator{bigdoublevee}{\dbigdoublevee}{\tbigdoublevee}
1872 \mdsy@DeclareOperator{disjquant}{\ddisjquant}{\tdisjquant}
1873 \mdsy@DeclareOperator{bigcurlywedge}{\dbigcurlywedge}{\tbigcurlywedge}
1874 \mdsy@DeclareOperator{bigcurlyvee}{\dbigcurlyvee}{\tbigcurlyvee}
1875 \mdsy@DeclareOperator{bigcurlywedgedot}{\dbigcurlywedgedot}{\tbigcurlywedgedot}
1876 \mdsy@DeclareOperator{bigcurlyveedot}{\dbigcurlyveedot}{\tbigcurlyveedot}
1877 \mdsy@DeclareOperator{bigdoublecurlywedge}{\dbigdoublecurlywedge}{\tbigdoublecurlywed}
1878 \mdsy@DeclareOperator{bigdoublecurlyvee}{\dbigdoublecurlyvee}{\tbigdoublecurlyvee}
1879 \mdsy@DeclareOperator{bigcap}{\dbigcap}{\tbigcap}
1880 \mdsy@DeclareOperator{bigcup}{\dbigcup}{\tbigcup}
1881 \mdsy@DeclareOperator{bigcapdot}{\dbigcapdot}{\tbigcapdot}
1882 \mdsy@DeclareOperator{bigcupdot}{\dbigcupdot}{\tbigcupdot}
1883 \mdsy@DeclareOperator{bigcapplus}{\dbigcapplus}{\tbigcapplus}
1884 \mdsy@DeclareOperator{bigcupplus}{\dbigcupplus}{\tbigcupplus}
1885 \mdsy@DeclareOperator{biguplus}{\dbiguplus}{\tbiguplus}
1886 \mdsy@DeclareOperator{bigsqcap}{\dbigsqcap}{\tbigsqcap}
1887 \mdsy@DeclareOperator{bigsqcup}{\dbigsqcup}{\tbigsqcup}
1888 \mdsy@DeclareOperator{bigsqcapdot}{\dbigsqcapdot}{\tbigsqcapdot}
1889 \mdsy@DeclareOperator{bigsqcupdot}{\dbigsqcupdot}{\tbigsqcupdot}
1890 \mdsy@DeclareOperator{bigsqcapplus}{\dbigsqcapplus}{\tbigsqcapplus}
1891 \mdsy@DeclareOperator{bigsqcupplus}{\dbigsqcupplus}{\tbigsqcupplus}
1892 \mdsy@DeclareOperator{bigoplus}{\dbigoplus}{\tbigoplus}

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1893 \mdsy@DeclareOperator{bigotimes}{\dbigotimes}{\tbigotimes}
1894 \mdsy@DeclareOperator{bigodot}{\dbigodot}{\tbigodot}
1895 \mdsy@DeclareOperator{bigoast}{\dbigoast}{\tbigoast}
1896 \mdsy@DeclareOperator{sum}{\dsum}{\tsum}
1897 \mdsy@DeclareOperator{osum}{\dosum}{\tosum}
1898 \mdsy@DeclareOperator{modtwosum}{\dmodtwosum}{\tmodtwosum}
1899 \mdsy@DeclareOperator{prod}{\dprod}{\tprod}
1900 \mdsy@DeclareOperator{coprod}{\dcoprod}{\tcoprod}
1901 \mdsy@DeclareOperator{prodi}{\dprodi}{\tprodi}
1902 \mdsy@DeclareOperator{coprodi}{\dcoprodi}{\tcoprodi}
1903 \mdsy@DeclareIntegral{int}{\dint}{\tint}
1904 \mdsy@DeclareIntegral{iint}{\diint}{\tiint}
1905 \mdsy@DeclareIntegral{iiint}{\diiint}{\tiiiint}
1906 \mdsy@DeclareIntegral{iiiint}{\diiiint}{\tiiiiint}
1907 \mdsy@DeclareIntegral{idotsint}{\didotsint}{\tidotsint}
1908 \mdsy@DeclareIntegral{dotsint}{\ddotsint}{\tdotsint}
1909 \mdsy@DeclareIntegral{landupint}{\dlandupint}{\tlandupint}
1910 \mdsy@DeclareIntegral{intclockwise}{\dintclockwise}{\tintclockwise}
1911 \mdsy@DeclareIntegral{landdownint}{\dlanddownint}{\tlanddownint}
1912 \mdsy@DeclareIntegral{awint}{\dawint}{\tawint}
1913 \mdsy@DeclareIntegral{intctrlockwise}{\dintctrlockwise}{\tintctrlockwise}
1914 \mdsy@DeclareIntegral{landdownint}{\dlanddownint}{\tlanddownint}
1915 \mdsy@DeclareIntegral{intbar}{\dintbar}{\tintbar}
1916 \mdsy@DeclareIntegral{intBar}{\dintBar}{\tintBar}
1917 \mdsy@DeclareIntegral{fint}{\dfint}{\tfint}
1918 \mdsy@DeclareIntegral{oint}{\doint}{\toint}
1919 \mdsy@DeclareIntegral{oiint}{\doiint}{\toiint}
1920 \mdsy@DeclareIntegral{oiint}{\doiint}{\toiint}
1921 \mdsy@DeclareIntegral{rcirclerightint}{\drcirclerightint}{\trcirclerightint}
1922 \mdsy@DeclareIntegral{oointclockwise}{\doointclockwise}{\toointclockwise}
1923 \mdsy@DeclareIntegral{lrcirclerightint}{\dlrcirclerightint}{\tlrcirclerightint}
1924 \mdsy@DeclareIntegral{varointclockwise}{\dvarointclockwise}{\tvarointclockwise}
1925 \mdsy@DeclareIntegral{rcircleleftint}{\drcircleleftint}{\trcircleleftint}
1926 \mdsy@DeclareIntegral{varointctrlockwise}{\dvarointctrlockwise}{\tvarointctrlockwise}
1927 \mdsy@DeclareIntegral{lrcircleleftint}{\dlrcircleleftint}{\tlrcircleleftint}
1928 \mdsy@DeclareIntegral{oointclockwise}{\doointclockwise}{\toointclockwise}
1929 \mdsy@DeclareIntegral{sumint}{\dsumint}{\tsumint}
1930
1931 \mdsy@renewcommand{intkern@}{\mkern-8.5mu\mathchoice{\mkern-1mu}{-}{-}}
1932 \mdsy@renewcommand{intdots@}{\mkern-6mu%
1933   \mathchoice{\@cdots}%
1934   {\{\cdotp\}\mkern0.5mu{\cdotp}\mkern0.5mu{\cdotp}}%
1935   {\{\cdotp\}\cdotp\cdotp}%
1936   {\{\cdotp\}\cdotp\cdotp}}%
1937   \mkern-6mu}

```


Math accents.

```
1938 \mdsy@DeclareMathAccent{widehat}{\mathord}{largesymbols}{"72}
1939 \mdsy@DeclareMathAccent{widetilde}{\mathord}{largesymbols}{"78}
1940 \mdsy@DeclareMathAccent{wideparen}{\mathord}{largesymbols}{"7E}
1941 \mdsy@DeclareMathAccent{vec}{\mathord}{largesymbols}{"84}
1942 \mdsy@DeclareMathAccent{middlebar}{\mathord}{largesymbols}{"85}
1943 \mdsy@DeclareMathAccent{middleslash}{\mathord}{largesymbols}{"86}
1944 \mdsy@DeclareMathAccent{strokethrough}{\mathord}{largesymbols}{"87}
```

MdSymbolF: delimiters

```
1945 \ifmdsy@largedelims
1946 % \mdsy@DeclareOpen{(){delimiters}"01}
1947 % \mdsy@DeclareClose{(){delimiters}"07}
1948 \mdsy@DeclareOpen{lparen}{delimiters}"01}
1949 \mdsy@DeclareClose{rparen}{delimiters}"07}
1950 % \mdsy@DeclareOpen{[]}{delimiters}"13}
1951 % \mdsy@DeclareClose{[]}{delimiters}"19}
1952 \mdsy@DeclareOpen{lbrack}{delimiters}"13}
1953 \mdsy@DeclareClose{rbrack}{delimiters}"19}
1954 \mdsy@DeclareOpen{lfloor}{delimiters}"1F}
1955 \mdsy@DeclareClose{rfloor}{delimiters}"25}
1956 \mdsy@DeclareOpen{lceil}{delimiters}"2B}
1957 \mdsy@DeclareClose{rceil}{delimiters}"31}
1958 \mdsy@DeclareOpen{ulcorner}{delimiters}"37}
1959 \mdsy@DeclareClose{urcorner}{delimiters}"3D}
1960 \mdsy@DeclareOpen{llcorner}{delimiters}"43}
1961 \mdsy@DeclareClose{lrcorner}{delimiters}"49}
1962 \mdsy@DeclareOpen{ullcorner}{delimiters}"4F}
1963 \mdsy@DeclareClose{ulrcorner}{delimiters}"55}
1964 \mdsy@DeclareOpen{lsem}{delimiters}"61}
1965 \mdsy@DeclareClose{rsem}{delimiters}"67}
1966 \mdsy@DeclareOpen{lBrack}{delimiters}"61}
1967 \mdsy@DeclareClose{rBrack}{delimiters}"67}
1968 \mdsy@DeclareOpen{lbrace}{delimiters}"73}
1969 \mdsy@DeclareClose{rbrace}{delimiters}"79}
1970 % \mdsy@DeclareOpen{<}{delimiters}"86}
1971 % \mdsy@DeclareClose{>}{delimiters}"8C}
1972 \mdsy@DeclareOpen{langle}{delimiters}"86}
1973 \mdsy@DeclareClose{rangle}{delimiters}"8C}
1974 \mdsy@DeclareOpen{lAngle}{delimiters}"92}
1975 \mdsy@DeclareClose{rAngle}{delimiters}"98}
1976 \mdsy@DeclareOpen{langledot}{delimiters}"9E}
1977 \mdsy@DeclareClose{rangledot}{delimiters}"A4}
1978 % \mdsy@DeclareDelimiter{/}{\mathord}{delimiters}"AA}
1979 \mdsy@DeclareDelimiter{mathslash}{\mathord}{delimiters}"AA}
1980 \mdsy@DeclareMathSymbol{divslash}{\mathbin}{delimiters}"AA}
```

```

1981 \msdy@DeclareDelimiter{backslash}{\mathord}{delimiters}{"B0}
1982 % \expandafter\DeclareMathDelimiter\@backslashchar%
1983 % {\mathord}{delimiters}{"B0}{delimiters}{"B0}
1984 \msdy@DeclareMathSymbol{setminus}{\mathbin}{delimiters}{"B0}
1985 % \msdy@DeclareDelimiter{|}{\mathord}{delimiters}{"B7}
1986 \msdy@DeclareDelimiter{vert}{\mathord}{delimiters}{"B7}
1987 \msdy@DeclareOpen{lvert}{delimiters}{"B7}
1988 \msdy@DeclareClose{rvert}{delimiters}{"B7}
1989 \msdy@DeclareMathSymbol{mid}{\mathrel}{delimiters}{"B7}
1990 \msdy@DeclareMathSymbol{nmid}{\mathrel}{delimiters}{"BA}
1991 \msdy@DeclareDelimiter{Vert}{\mathord}{delimiters}{"BE}
1992 \msdy@DeclareOpen{lVert}{delimiters}{"BE}
1993 \msdy@DeclareClose{rVert}{delimiters}{"BE}
1994 \msdy@DeclareMathSymbol{parallel}{\mathrel}{delimiters}{"BE}
1995 \msdy@DeclareMathSymbol{nparallel}{\mathrel}{delimiters}{"C1}
1996 \msdy@DeclareDelimiter{Vvert}{\mathord}{delimiters}{"C4}
1997 \msdy@DeclareOpen{lVvert}{delimiters}{"C4}
1998 \msdy@DeclareClose{rVvert}{delimiters}{"C4}
1999 \else
2000 % \msdy@DeclareOpen{(){delimiters}"00}
2001 % \msdy@DeclareClose{)}{delimiters}"06}
2002 \msdy@DeclareOpen{lparen}{delimiters}"00}
2003 \msdy@DeclareClose{rparen}{delimiters}"06}
2004 % \msdy@DeclareOpen{[]}{delimiters}"12}
2005 % \msdy@DeclareClose{[]}{delimiters}"18}
2006 \msdy@DeclareOpen{lbrack}{delimiters}"12}
2007 \msdy@DeclareClose{rbrack}{delimiters}"18}
2008 \msdy@DeclareOpen{lfloor}{delimiters}"1E}
2009 \msdy@DeclareClose{rfloor}{delimiters}"24}
2010 \msdy@DeclareOpen{lceil}{delimiters}"2A}
2011 \msdy@DeclareClose{rceil}{delimiters}"30}
2012 \msdy@DeclareOpen{ulcorner}{delimiters}"36}
2013 \msdy@DeclareClose{urcorner}{delimiters}"3C}
2014 \msdy@DeclareOpen{llcorner}{delimiters}"42}
2015 \msdy@DeclareClose{lrcorner}{delimiters}"48}
2016 \msdy@DeclareOpen{ulcorner}{delimiters}"4E}
2017 \msdy@DeclareClose{ulrcorner}{delimiters}"54}
2018 \msdy@DeclareOpen{lsem}{delimiters}"60}
2019 \msdy@DeclareClose{rsem}{delimiters}"66}
2020 \msdy@DeclareOpen{lBrack}{delimiters}"60}
2021 \msdy@DeclareClose{rBrack}{delimiters}"66}
2022 \msdy@DeclareOpen{lbrace}{delimiters}"72}
2023 \msdy@DeclareClose{rbrace}{delimiters}"78}
2024 % \msdy@DeclareOpen{<}{delimiters}"85}
2025 % \msdy@DeclareClose{>}{delimiters}"8B}

```

```

2026 \mdsy@DeclareOpen{langle}{delimiters}{"85}
2027 \mdsy@DeclareClose{rangle}{delimiters}{"8B}
2028 \mdsy@DeclareOpen{lAngle}{delimiters}{"91}
2029 \mdsy@DeclareClose{rAngle}{delimiters}{"97}
2030 \mdsy@DeclareOpen{langledot}{delimiters}{"9D}
2031 \mdsy@DeclareClose{rangledot}{delimiters}{"A3}
2032 % \mdsy@DeclareDelimiter{/}{\mathord}{delimiters}{"A9}
2033 \mdsy@DeclareDelimiter{mathslash}{\mathord}{delimiters}{"A9}
2034 \mdsy@DeclareMathSymbol{divslash}{\mathbin}{delimiters}{"A9}
2035 \mdsy@DeclareDelimiter{backslash}{\mathord}{delimiters}{"AF}
2036 % \expandafter\DeclareMathDelimiter\@backslashchar%
2037 % {\mathord}{delimiters}{"AF}{delimiters}{"AF}
2038 \mdsy@DeclareMathSymbol{setminus}{\mathbin}{delimiters}{"AF}
2039 % \mdsy@DeclareDelimiter{|}{\mathord}{delimiters}{"B6}
2040 \mdsy@DeclareDelimiter{vert}{\mathord}{delimiters}{"B6}
2041 \mdsy@DeclareOpen{lvert}{delimiters}{"B6}
2042 \mdsy@DeclareClose{rvert}{delimiters}{"B6}
2043 \mdsy@DeclareMathSymbol{mid}{\mathrel}{delimiters}{"B6}
2044 \mdsy@DeclareMathSymbol{nmid}{\mathrel}{delimiters}{"B9}
2045 \mdsy@DeclareDelimiter{Vert}{\mathord}{delimiters}{"BD}
2046 \mdsy@DeclareOpen{lVert}{delimiters}{"BD}
2047 \mdsy@DeclareClose{rVert}{delimiters}{"BD}
2048 \mdsy@DeclareMathSymbol{parallel}{\mathrel}{delimiters}{"BD}
2049 \mdsy@DeclareMathSymbol{nparallel}{\mathrel}{delimiters}{"C0}
2050 \mdsy@DeclareDelimiter{Vvert}{\mathord}{delimiters}{"C3}
2051 \mdsy@DeclareOpen{lVvert}{delimiters}{"C3}
2052 \mdsy@DeclareClose{rVvert}{delimiters}{"C3}
2053 \fi
2054 \let\|\Vert
2055 \mdsy@renewcommand{divides}{\mid}
2056 \mdsy@renewcommand{ndivides}{\nmid}
2057 \mdsy@DeclareMathSymbol{shortmid}{\mathrel}{delimiters}{"B5}
2058 \mdsy@DeclareMathSymbol{nshortmid}{\mathrel}{delimiters}{"B8}
2059 \mdsy@DeclareMathSymbol{shortparallel}{\mathrel}{delimiters}{"BC}
2060 \mdsy@DeclareMathSymbol{nshortparallel}{\mathrel}{delimiters}{"BF}
2061 \mdsy@DeclareDelimiter{arrowvert}{\mathord}{delimiters}{"BB}
2062 \mdsy@DeclareDelimiter{Arrowvert}{\mathord}{delimiters}{"C2}
2063 \mdsy@DeclareClose{lgroup}{delimiters}{"7E}
2064 \mdsy@DeclareOpen{rgroup}{delimiters}{"7F}
2065 \mdsy@DeclareClose{rmoustache}{delimiters}{"80}
2066 \mdsy@DeclareOpen{lmoustache}{delimiters}{"81}
2067 \mdsy@DeclareDelimiter{bracevert}{\mathord}{delimiters}{"84}
2068
2069 \mdsy@DeclareMathDelimiter{uparrow}{\mathrel}{arrows}{"01}{delimiters}{"C6}
2070 \mdsy@DeclareMathDelimiter{downarrow}{\mathrel}{arrows}{"03}{delimiters}{"C7}

```

```

2071 \mdsy@DeclareMathDelimiter{updownarrow}{\mathrel}{arrows}{"11}{delimiters}"C8}
2072 \mdsy@DeclareMathDelimiter{Uparrow}{\mathrel}{arrows}{"09}{delimiters}"C9}
2073 \mdsy@DeclareMathDelimiter{Downarrow}{\mathrel}{arrows}{"0B}{delimiters}"CA}
2074 \mdsy@DeclareMathDelimiter{Updownarrow}{\mathrel}{arrows}{"15}{delimiters}"CB}

```

Horizontal braces.

```

2075 \mdsy@DeclareMathSymbol{braceld}{\mathord}{delimiters}"CC}
2076 \mdsy@DeclareMathSymbol{bracelu}{\mathord}{delimiters}"CD}
2077 \mdsy@DeclareMathSymbol{bracerd}{\mathord}{delimiters}"CE}
2078 \mdsy@DeclareMathSymbol{braceru}{\mathord}{delimiters}"CF}
2079 \mdsy@DeclareMathSymbol{bracemd}{\mathord}{delimiters}"D0}
2080 \mdsy@DeclareMathSymbol{bracemu}{\mathord}{delimiters}"D1}
2081 \mdsy@DeclareMathSymbol{bracemid}{\mathord}{delimiters}"D2}
2082
2083 \mdsy@DeclareRobustCommandArg{bracefill@}{5}{%
2084   $\m@th#5#1\leaders\hbox{##4$\}\hfill#2\leaders\hbox{##4$\}\hfill#3$%
2085 }
2086 \mdsy@renewcommand{downbracefill@}{\bracefill@\braceld\bracemd\bracerd\bracemid}
2087 \mdsy@renewcommand{upbracefill@}{\bracefill@\bracelu\bracemu\braceru\bracemid}
2088 \mdsy@renewcommand{downgroupfill@}{\bracefill@\braceld}{\bracerd\bracemid}
2089 \mdsy@renewcommand{upgroupfill@}{\bracefill@\bracelu}{\braceru\bracemid}
2090 \mdsy@renewcommand{linesegmentfill@}{\arrowfill@\leftfootline\relbar\rightfootline}
2091 \mdsy@renewcommand{leftharpoonfill@}{\arrowfill@\leftharpoondown\relbar\relbar}
2092 \mdsy@renewcommand{rightharpoonfill@}{\arrowfill@\relbar\relbar\rightharpoonup}
2093
2094 \mdsy@DeclareRobustCommandArg{overbrace}{1}{%
2095   \mathop{\mathpalette{\overarrow@\downbracefill@}{#1}}\limits%
2096 }
2097 \mdsy@DeclareRobustCommandArg{underbrace}{1}{%
2098   \mathop{\mathpalette{\underarrow@upbracefill@}{#1}}\limits%
2099 }
2100 \mdsy@DeclareRobustCommand{overgroup}{\mathpalette{\overarrow@\downgroupfill@}}
2101 \mdsy@DeclareRobustCommand{undergroup}{\mathpalette{\underarrow@upgroupfill@}}
2102 \mdsy@DeclareRobustCommand{overlinesegment}{\mathpalette{\overarrow@linesegmentfill@}}
2103 \mdsy@DeclareRobustCommand{overleftharpoon}{\mathpalette{\overarrow@leftharpoonfill@}}
2104 \mdsy@DeclareRobustCommand{overrightharpoon}{\mathpalette{\overarrow@rightharpoonfill@}}
2105 \mdsy@DeclareRobustCommand{underlinesegment}{\mathpalette{\underarrow@linesegmentfil

```

Radical symbols.

```

2106 \ifmdsy@largedelims
2107   \mdsy@DeclareMathRadical{sqrtsgn}{delimiters}"D4}{delimiters}"D4}
2108   \mdsy@DeclareMathSymbol{surd}{\mathop}{delimiters}"D4}
2109 \else
2110   \mdsy@DeclareMathRadical{sqrtsgn}{delimiters}"D3}{delimiters}"D3}
2111   \mdsy@DeclareMathSymbol{surd}{\mathop}{delimiters}"D3}
2112 \fi

```

In the n -th root, we don't want the n to come too close to the radical (adopted from package lucimatx).

```

2113 \mdsy@DeclareRobustCommandArg{r@t}{2}{\setbox\z@\hbox{\$m@th#1\sqrt{#2}$}%
2114 \dimen@ \ht\z@ \advance\dimen@-\dp\z@
2115 \mkern5mu\raise.6\dimen@\copy\rootbox \mkern-8mu\box\z@}

```

Mathchars. If onllysansmath, we make certain single characters active to react on the mathversion.

```

2116 \AtBeginDocument{%
2117 \mdsy@DeclareActiveMathSymbol{+}{\mathbin}{symbols}{"11}
2118 \mdsy@DeclareActiveMathSymbol{-}{\mathbin}{symbols}{"0E}
2119 \mdsy@DeclareActiveMathSymbol{*}{\mathbin}{symbols}{"98}
2120 \mdsy@DeclareActiveMathSymbol{:}{\mathrel}{symbols}{"02}
2121 \mdsy@DeclareActiveMathSymbol{=}{\mathrel}{relations}{"00}
2122 \mdsy@DeclareActiveMathSymbol{<}{\mathrel}{relations}{"24}
2123 \mdsy@DeclareActiveMathSymbol{>}{\mathrel}{relations}{"25}
2124 \ifmdsy@largedelims
2125 \mdsy@DeclareActiveMathDelimiter{|}{\mathord}{delimiters}{"B7}
2126 \mdsy@DeclareActiveMathDelimiter{(}{\mathopen}{delimiters}{"01}
2127 \mdsy@DeclareActiveMathDelimiter{)}{\mathclose}{delimiters}{"07}
2128 \mdsy@DeclareActiveMathDelimiter{[}{\mathopen}{delimiters}{"13}
2129 \mdsy@DeclareActiveMathDelimiter{]}{\mathclose}{delimiters}{"19}
2130 \mdsy@DeclareActiveMathDelimiter{/}{\mathord}{delimiters}{"AA}
2131 \else
2132 \mdsy@DeclareActiveMathDelimiter{|}{\mathord}{delimiters}{"B6}
2133 \mdsy@DeclareActiveMathDelimiter{(}{\mathopen}{delimiters}{"00}
2134 \mdsy@DeclareActiveMathDelimiter{)}{\mathclose}{delimiters}{"06}
2135 \mdsy@DeclareActiveMathDelimiter{[}{\mathopen}{delimiters}{"12}
2136 \mdsy@DeclareActiveMathDelimiter{]}{\mathclose}{delimiters}{"18}
2137 \mdsy@DeclareActiveMathDelimiter{/}{\mathord}{delimiters}{"A9}
2138 \fi
2139 \ifmdsy@onllysansmath

```

amsmath and amsopn define commands which use the mathcode of some of the symbols above to define new math characters. Since the mathcode is out of the range (made active), this fails. So change the commands and make the definitions at the begin of the document.

```

2140 \def\resetMathstrut{%
2141 \setbox\z@\hbox{%
2142 \ifmathversionsans{%
2143 \mathchardef\@tempa\csname<@new\endcsname%
2144 }{%
2145 \mathchardef\@tempa\csname<@old\endcsname%
2146 }
2147 \def\@temp##1"##2##3{\the\textfont"##3\char"}%
2148 \expandafter\@temp\meaning\@tempa \relax

```

```

2149     }%
2150     \ht\Mathstrutbox@ht\z@ \dp\Mathstrutbox@dp\z@
2151   }
2152   \renewcommand{\std@minus}{-}
2153   \renewcommand{\std@equal}{=}
2154   \gdef\newmcodes@{\mathcode'\ '39\mathcode'\*42\mathcode'\."613A%
2155     \ifnum\mathcode'\-45 \else
2156       \renewcommand{\std@minus}{-}\relax
2157     \fi
2158     \mathcode'\-45\mathcode'\ /47\mathcode'\:"603A\relax}
2159   \fi
2160 }

```

There is no `\not` symbol in `MdSymbol` since all relational symbols come with a stroked companion. For compatibility we define a `\not` command that places a virgule over the following symbol.

```

2161 \msdy@DeclareRobustCommandArg{c@ncel}{2}{\m@th\oalign{${\hfil#1/\hfil$\crrc$#1#2$}}
2162 \msdy@DeclareRobustCommandArg{not}{1}{\mathrel{\m@th\mathpalette@c@ncel{#1}}}

```

The height of the `\overline` command is three times the `default_line_thickness` which can be too much for heavier weights. An alternative implementation follows with a fixed height. It is based on <http://tex.stackexchange.com/a/24134/11605> and <http://tex.stackexchange.com/a/43906/11605>.

```

2163 \RequirePackage{calc}
2164 \newsavebox\overliningbox
2165
2166 \def\ovlg@eat#1#2#3#4#5{\futurelet\ovlg@let@token\ovlg@eat@}
2167 \def\ovlg@eat@#1\ovlg@eat{%
2168 \ifx\ovlg@let@token\bgroup
2169 \else\ifx\ovlg@let@token\mathop
2170   \mathop
2171 \else\ifx\ovlg@let@token\mathbin
2172   \mathbin
2173 \else\ifx\ovlg@let@token\mathrel
2174   \mathrel
2175 \else\ifx\ovlg@let@token\mathopen
2176   \mathopen
2177 \else\ifx\ovlg@let@token\mathop
2178   \mathop
2179 \else\ifx\ovlg@let@token\mathpunct
2180   \mathpunct
2181 \else\ifcat.\ifcat a\noexpand\ovlg@let@token.\else\noexpand\ovlg@let@token\fi
2182   \afterassignment\ovlg@mathchar\count@\mathcode'#1\relax\ovlg@eat
2183 \else\ifx\ovlg@let@token\mathchar
2184   \afterassignment\ovlg@mathchar\expandafter\count@\@gobble#1\relax\ovlg@eat
2185 \else

```

```

2186 \xdef\meaning@{\meaning\ovlg@let@token}%
2187 \expandafter\ovlg@mchar@test\meaning@""\@nil
2188 \fi\fi\fi\fi\fi\fi\fi\fi\fi
2189 }
2190
2191 \edef\ovlg@mchar@{\meaning\mathchar}
2192
2193 \def\ovlg@mchar@test#1"#2"#3\@nil{%
2194 \xdef\meaning@{#1}%
2195 \ifx\meaning@\ovlg@mchar@
2196 \count"#2\relax
2197 \ovlg@mathchar\ovlg@eat
2198 \fi
2199 }
2200
2201 \def\ovlg@mathchar#1\ovlg@eat{%
2202 \divide\count@"1000 }
2203
2204 \mdsy@DeclareRobustCommandArg{overlining}{1}{%
2205 \begingroup
2206 \let\protect\empty
2207 \expandafter\ovlg@eat\romannumeral'\Q#1\relax\ovlg@eat
2208 \ifcase\count@
2209 \or
2210 \mathop\or
2211 \mathbin\or
2212 \mathrel\or
2213 \mathopen\or
2214 \mathclose\or
2215 \mathpunct\or
2216 \fi
2217 {\text{\savebox\overliningbox{\$m@th#1$}\fboxsep\z@%
2218 \makebox[Opt][l]{\$m@th#1$}%
2219 \rule[\ht\overliningbox+1.2pt]{\wd\overliningbox}{.8\fontdimen8\textfont3}}}%
2220 \endgroup}
2221 \</style>

```