The rmathbr package

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Contents

1 Introduction

Repeating of math operator at the broken line and the new line in inline equations is used in Cyrillic mathematical typography (Russian for example), but unfortunately LaTeX doesn't provide such an option. There was an attempt to do it many years ago [see M.I. Grinchuk "TeX and Russian Traditions of Typesetting", TUGboat 17(4) (1996) 385], but there was no ready to use package.

This package extends ideas described in "TeX and Russian Traditions of Typesetting" and supports most of LaTeX mathematical packages (some known issues are listed in "Known issues" section below).

2 Usage

Just include the package using `\usepackage{rmathbr}` command.

$$\begin{aligned}
&(a+b)^2 = a^2 + 2ab + b^2, \\
&a^2 - b^2 = (a + b)\ (a - b), \\
&a^3 \pm b^3 = (a \pm b) \times (a^2 \mp ab + b^2), \\
&(1-x)^{-2} = 1 + x + \ldots, \\
&\int x \sin ax\, dx = \frac{\sin ax}{a^2} - \frac{x \cos ax}{a}, \\
&+ 2x + 3x^2 + \sin^2\alpha + \cos^2\alpha = 1, \\
&= a^{-2}(\sin ax - ax\cos ax), \\
&\cdot \vec{t}_2,\ x = 12 \times 3 \cdot 10^3. \\
&t_1 t_2 \cos\theta = \vec{t}_1 \cdot
\end{aligned}$$

It's recommended to load rmathbr after other packages, because of rmathbr has special support of many math-related packages: amsfonts, amssymb, amstex,

boisik, euler, eulervm, fourier, icomma, latexsym, lucbmath, lucidabr, lucmin, lucmtime, luctime, mathbbol, mdwmath, program, sbbm, stmaryrd, wasysym.

Please, submit any found bugs to https://github.com/dryabov/rmathbr/issues.

3 Options

The rmathbr package supports following options:

- `mathactivechars` (default): assign mathactive (12) category to `^` and `_` characters.
- `activechars`: assign active (13) category to `^` and `_` characters.
- `noactivechars`: assign default categories to `^` and `_` characters (7 and 8, correspondingly).

In some cases it might be necessary to change default option for compatibility with other packages.

4 Macros

`\*`

Macro `\*` is used to mark multiplication point that is invisible and changed to × at break only. E.g. `(a+b)\*(a-b)`.

`\cdott`

This command displays `\cdot` (·) that is changed to `\times` (×) at break.

`\nobr`

This command is used to prevent break expression on the following math operator. E.g. `a\nobr-b`.

`\SetBreakableBin`

Declares breakable binary operator, e.g. `\SetBreakableBin{\MyPlus}`.

`\SetBreakableRel`

Declares breakable relation operator, e.g. `\SetBreakableRel{\MyEqual}`.

`\SetBreakableInner`

Declares breakable “inner” expression, e.g. `\SetBreakableInner{\ldots}`.

`\SetOpenBracket`

Declares opening bracket (rmathbr disables break directly after brackets), e.g. `\SetOpenBracket{\MyOpenBracket}`.

`\SetMathOperator`

Declares math operator (rmathbr disables break directly after operators), e.g. `\SetMathOperator{\MySum}`.

`\SetPunctuation`

Declares punctuation command (rmathbr disables break directly after punctuation), e.g. `\SetPunctuation{\MyColon}`.

5 Known issues

- ’xy’ package: should be loaded after ’rmathbr’ to work properly
- ’breqn’ package: cannot work together with ’rmathbr’

6 Changelog

1.0.3 (10-April-2016)

- fix issue with sub-/superscripts in `\Biggl`, `\biggl`, `\Bigl`, `\bigl`

1.0.2 (23-June-2015)

- fix issue with expanding of math operators

1.0.1 (14-June-2015)

- fix `\cdott`-related issues (thanks to Bruno Le Floch)
- fix some `\SetBreakableRel` and `\SetBreakableBin` declarations
- fix mathematical operators with `\limits` or `\nolimits`

1.0 (02-June-2015)

- fix break after math operators (`\sum`, `\int`, etc.)
- add documentation

0.99 (15-November-2010)

- don't hyphenate trailing mathsign (e.g. in `$2+2=$`)
- don't change redefined symbols (`\le`, `\ge`, `\to`, etc.)

0.98 (31-January-2010)

- fix hyphenation on `:=`
- correct work with 'icomma' package and option 'icomma' of 'eulervm' package
- correct work with 'program' package
- symbols have been added from boisik, euler, fourier, lucbmath, lucidabr, lucmin, lucmtime, luctime, mathbbol, mdwmath, sbbm, stmaryrd and wasysym packages.
- remove shrinking of space in math (breaked url package)
- don't hyphenate after punctuation ('`,`', '`;`', '`\colon`' etc.)
- create broken commands as robust ones
- some fixes of redeclaring of AMS commands
- commented hyphenation on `\ldots` and `\cdots`, as TEXdoesn't break here

0.97 (08-October-2009)

- fix problem with operators like '`+^\leq`'

0.96 (29-September-2009)

- fix problem with '`-`' in AMS's `\DeclareMathOperator`
- fix problem with `\ldots` in text mode

0.95 (28-September-2009)

- fix problem with sub/sup-scripts after relations
- fix hyphenation on `\ldots`
- AMS/Lucida left brackets (`\lvert`, `\lVert`, `\ulcorner`, `\llcorner`) support
- mathbbol.sty left bracket (`\Lbrack`) support
- huge code refactoring

0.91 (21-September-2009)

- fix problem with problem with space after brackets

0.90 (20-September-2009)

- first public release

7 Code

Initialization

```
\RequirePackage{ifetex}
\RequirePackage{mathstyle}
\@ifpackageloaded{breqn}%
{
  \PackageError{rmathbr}{'rmathbr' package cannot be used together with 'breqn' package!}{}%
}{}
\@ifpackageloaded{xy}%
{
  \PackageError{rmathbr}{'rmathbr' package should be loaded before 'xy' package!}{}%
}{}
```

Interface

`\nobr` Makes next symbol nonbreakable.

```
\def\nobr{\penalty\relpenalty}
```

`\SetBreakableBin` Makes breakable binary operation.

```
\def\SetBreakableBin#1{\rmathbr@setbreakable{#1}{\brokenbin}}
```

`\SetBreakableRel` Makes breakable relation sign.

```
\def\SetBreakableRel#1{\rmathbr@setbreakable{#1}{\brokenrel}}
```

`\SetBreakableInner` Makes breakable inner (like `\ldots`).

```
\def\SetBreakableInner#1{\rmathbr@setbreakable{#1}{\brokeninner}}
```

`\SetOpenBracket` Disables breaks after open bracket.

```
\def\SetOpenBracket#1{\rmathbr@nobrafter{#1}}
```

`\SetMathOperator` Disables breaks after math operator.

```
\def\SetMathOperator#1{\rmathbr@setbreakable{#1}{\rmathbr@mathop}}
```

`\SetPunctuation` Disables breaks after punctuation sign.

```
\def\SetPunctuation#1{\rmathbr@nobrafter{#1}}
```

Makes argument as breakable binary operation.

```
\DeclareRobustCommand{\brokenbin}[1]{\rmathbr@brokenbin{#1}}
```

Makes argument as breakable relation sign.

```
\DeclareRobustCommand{\brokenrel}[1]{\rmathbr@brokenrel{#1}}
```

Makes argument as breakable inner.

```
\DeclareRobustCommand{\brokeninner}[1]{\rmathbr@brokeninner{#1}}
```

Implementation

Save default penalty to `\exhyphenpenalty` (as `\exhyphenpenalty` will be actual penalty for math breaks).

```
\exhyphenpenalty=\relpenalty
```

Disable default breaks.

```
\relpenalty=13131
\binoppenalty=14141
```

First symbol in equation is nonbreakable.

```
\expandafter\everymath\expandafter{\the\everymath\nobr }
```

Setup sub- and superscripts.

```
\ifnum\catcode`\^=12%
  \begingroup%
    \catcode`\^\active
    \global\let\rmathbr@superscript@text=^%
  \endgroup%
\else%
  \let\rmathbr@superscript@text=^%
\fi
\ifnum\catcode`\_=12%
  \begingroup%
    \catcode`\_\active
    \global\let\rmathbr@subscript@text=_%
  \endgroup%
\else%
  \let\rmathbr@subscript@text=_%
\fi
```

`\rmathbr@superscript`

```
\def\rmathbr@superscript#1{\rmathbr@superscript@text{{#1}}}
```

`\rmathbr@subscript`

```
\def\rmathbr@subscript#1{\rmathbr@subscript@text{{#1}}}
```

```
\begingroup
  \catcode`\^\active\gdef^{\rmathbr@superscript}
  \catcode`\_\active\gdef_{\rmathbr@subscript}
\endgroup
```

Save existing commands.

```
\begingroup\catcode`\_=13\catcode`\^=13\lowercase{\endgroup
\AtBeginDocument%
{%
  \ifnum\catcode`\^=13
    \let\rmathbr@superscript@text@active=^
    \DeclareRobustCommand{\rmathbrsuperscript}[1]{\rmathbr@superscript@text@active{{#1}}}
  \else
    \DeclareRobustCommand{\rmathbrsuperscript}[1]{\rmathbr@superscript@text{{#1}}}
  \fi
  \def^{\rmathbrsuperscript}
  \def\rmathbr@superscript@macro{\rmathbrsuperscript}
  \ifnum\catcode`\_=13
    \let\rmathbr@subscript@text@active=_
    \DeclareRobustCommand{\rmathbrsubscript}[1]{\rmathbr@subscript@text@active{{#1}}}
  \else
    \DeclareRobustCommand{\rmathbrsubscript}[1]{\rmathbr@subscript@text{{#1}}}
  \fi
  \def_{\rmathbrsubscript}
  \def\rmathbr@subscript@macro{\rmathbrsubscript}
}}
```

Process options.

```
\DeclareOption{mathactivechars}%
{
  \catcode`\^=12\catcode`\_=12
}
\DeclareOption{activechars}%
{
  \catcode`\^\active\catcode`\_\active
}
\DeclareOption{noactivechars}%
{
  \catcode`\^=7\catcode`\_=8
}
\ExecuteOptions{mathactivechars}%
\ProcessOptions
```

Basic math.

```
\begingroup
  \catcode`\=\active
  \ifnum\mathcode`\=<32768
    \xdef={\noexpand\brokenbin{\mathchar\number\mathcode`\=}}
  \else
    \gdef={\brokenbin{\mathchar12349}}
  \fi
\endgroup
\begingroup
  \catcode`\+\active
  \ifnum\mathcode`\+<32768
    \xdef+{\noexpand\brokenbin{\mathchar\number\mathcode`\+}}
  \else
    \gdef+{\brokenbin{\mathchar8235}}
  \fi
\endgroup
```

```
\begingroup
  \catcode`\-\active
  \ifnum\mathcode`\-<32768
    \xdef-{\noexpand\brokenbin{\mathchar\number\mathcode`\-}}
  \else
    \gdef-{\brokenbin{\mathchar8704}}
  \fi
\endgroup
\begingroup
  \catcode`\*\active
  \ifnum\mathcode`\*<32768
    \xdef*{\noexpand\brokenbin{\mathchar\number\mathcode`\*}}
  \else
    \gdef*{\brokenbin{\mathchar8707}}
  \fi
\endgroup
\begingroup
  \ifnum\mathcode`\<<32768
    \catcode`\<\active
    \xdef<{\noexpand\brokenbin{\mathchar\number\mathcode`\<}}
  \else
    \catcode`\<\active
    \gdef<{\brokenbin{\mathchar12604}}
  \fi
\endgroup
\begingroup
  \catcode`\>\active
  \ifnum\mathcode`\><32768
    \xdef>{\noexpand\brokenbin{\mathchar\number\mathcode`\>}}
  \else
    \gdef>{\brokenbin{\mathchar12606}}
  \fi
\endgroup
\begingroup
  \catcode`\(\active
  \xdef({\mathopen\delimiter\number\delcode`\(\noexpand\nobr }
\endgroup
\begingroup
  \catcode`\[\active %\]
  \xdef[{\mathopen\delimiter\number\delcode`\[\noexpand\nobr }
\endgroup
\AtBeginDocument%
{
  \mathcode`\==32768% "8000
  \mathcode`\<=32768
  \mathcode`\>=32768
  \mathcode`\+=32768
  \mathcode`\-=32768
  \mathcode`\*=32768
  \mathcode`\_=32768
  \mathcode`\^=32768
  \mathcode`\(=32768
  \mathcode`\[=32768 %\]
  \mathcode`\:=32768
```

```
  \mathcode`\,=32768
  \mathcode`\;=32768
  \let\rmathbr@orig@resetMathstrut=\resetMathstrut@
  \begingroup
    \gdef\resetMathstrut@
    {
      \mathcode`\(=16424% "4028
      \rmathbr@orig@resetMathstrut
      \mathcode`\(=32768% "8000
    }
    \gdef\newmcodes@
    {
      \mathcode`\'=39
      \mathcode`\*=42
      \mathcode`\.=24890% "613A
      \mathcode`\-=45
      \mathcode`\/=47
      \mathcode`\:=24634% "603A
      \relax
    }
  \endgroup%
}
\begingroup
  \catcode`\:\active \gdef:{\futurelet\rmathbr@let@token\rmathbr@colontest}
\endgroup
```

`\rmathbr@colontest` Check for `:=`.

```
\def\rmathbr@colontest%
{
  \ifx=\rmathbr@let@token
    \expandafter\rmathbr@letsign
  \else
    \expandafter\rmathbr@colon
  \fi
}%
\ifnum\mathcode`\:<32768
  \edef\rmathbr@letsign#1{\noexpand\brokenrel{\mathchar\number\mathcode`\:\mathchar\number\mat
  \edef\rmathbr@colon{\noexpand\brokenrel{\mathchar\number\mathcode`\:}}
\else
  \def\rmathbr@letsign#1{\brokenrel{\mathchar12346\mathchar12349}}
  \def\rmathbr@colon{\brokenrel{\mathchar12346}}
\fi
```

Check for 'icomma' package and 'eulervm' package with 'icomma' option.

```
\begingroup
  \catcode`\,\active
  \@ifpackageloaded{icomma}% check for 'icomma' package
  {
    \expandafter\gdef\expandafter\sm@rtcomma\expandafter{\sm@rtcomma\nobr}
  }{
    \ifx\domathcomma\undefined% check for 'eulervm' package with 'icomma' option
      \ifnum\mathcode`\,<32768
        \xdef,{\mathpunct\mathchar\number\mathcode`\,\noexpand\nobr }
      \else
```

```
201         \gdef,{\mathpunct\mathchar24891\nobr }
202       \fi
203     \else
204       \expandafter\gdef\expandafter\domathcomma\expandafter{\domathcomma\nobr}
205     \fi
206   }
207 \endgroup
```

Check for 'program' package.

```
208 \begingroup
209   \catcode`\;\active
210   \@ifpackageloaded{program}%
211   {
212     \gdef;{\ifmmode\semicolon\;\nobr\else\@semicolon\fi}
213   }{
214     \ifnum\mathcode`\;<32768
215       \xdef;{\mathpunct\mathchar\number\mathcode`\;\noexpand\nobr }
216     \else
217       \gdef;{\mathpunct\mathchar24635\nobr }
218     \fi
219   }
220 \endgroup
```

mathbr@ReDeclareRobustCommand

```
221 \def\rmathbr@ReDeclareRobustCommand#1#2% Command without arguments
222 {
223   \begingroup
224     \ifx#1\undefined
225     \else
226       \edef\var@orig@I{rmathbr@orig@\expandafter\@gobble\string#1}
227       \edef\var@Ispace{\expandafter\@gobble\string#1 }
228       \expandafter\ifx\csname\var@orig@I\endcsname\relax
229         \expandafter\ifx\csname\var@Ispace\endcsname\relax
230           \global\expandafter\let\csname\var@orig@I\endcsname#1
231         \else
232           \global\expandafter\let\csname\var@orig@I\expandafter\endcsname\csname\var@Ispace\en
233         \fi
234       \fi
235       \expandafter\gdef\csname\var@Ispace\endcsname{#2}% no arguments
236       \xdef#1{\noexpand\protect\expandafter\noexpand\csname\var@Ispace\endcsname}
237     \fi
238   \endgroup%
239 }
```

athbr@ReDeclareRobustCommandI

```
240 \def\rmathbr@ReDeclareRobustCommandI#1#2% Command with one argument
241 {
242   \begingroup
243     \ifx#1\undefined
244     \else
245       \edef\var@orig@I{rmathbr@orig@\expandafter\@gobble\string#1}
246       \edef\var@Ispace{\expandafter\@gobble\string#1 }
247       \expandafter\ifx\csname\var@orig@I\endcsname\relax
248         \expandafter\ifx\csname\var@Ispace\endcsname\relax
```

```
          \global\expandafter\let\csname\var@orig@I\endcsname#1
        \else
          \global\expandafter\let\csname\var@orig@I\expandafter\endcsname\csname\var@Ispace\en
        \fi
      \fi
      \expandafter\gdef\csname\var@Ispace\endcsname##1{#2}% one argument
      \xdef#1{\noexpand\protect\expandafter\noexpand\csname\var@Ispace\endcsname}
    \fi
  \endgroup%
}
```

\rmathbr@setbrokens

```
\def\rmathbr@setbrokens%
{
  \rmathbr@ReDeclareRobustCommandI{\brokenbin}{\rmathbr@brokenbin{##1}}
  \rmathbr@ReDeclareRobustCommandI{\brokenrel}{\rmathbr@brokenrel{##1}}
  \rmathbr@ReDeclareRobustCommandI{\brokeninner}{\rmathbr@brokeninner{##1}}%
}
```

\rmathbr@unsetbrokens

```
\def\rmathbr@unsetbrokens%
{
  \def\brokenbin##1{##1}
  \def\brokenrel##1{##1}
  \def\brokeninner##1{##1}%
}
```

\rmathbr@brokenbin

```
\def\rmathbr@brokenbin#1%
{
  \relax
  \def\rmathbr@arg{#1}
  \def\rmathbr@this{\rmathbr@brokenbin}
  \def\rmathbr@output{\rmathbr@@brokenbin}
  \futurelet\rmathbr@let@token\rmathbr@brokenop%
}
```

\rmathbr@brokenrel

```
\def\rmathbr@brokenrel#1%
{
  \relax
  \def\rmathbr@arg{#1}
  \def\rmathbr@this{\rmathbr@brokenrel}
  \def\rmathbr@output{\rmathbr@@brokenrel}
  \futurelet\rmathbr@let@token\rmathbr@brokenop%
}
```

\rmathbr@brokeninner

```
\def\rmathbr@brokeninner#1%
{
  \relax
  \def\rmathbr@arg{#1}
  \def\rmathbr@this{\rmathbr@brokeninner}
```

```
292   \def\rmathbr@output{\rmathbr@@brokeninner}
293   \futurelet\rmathbr@let@token\rmathbr@brokenop%
294 }
```

\rmathbr@mathop

```
295 \def\rmathbr@mathop#1%
296 {
297   \relax
298   \def\rmathbr@arg{#1}
299   \def\rmathbr@this{\rmathbr@mathop}
300   \def\rmathbr@output{\rmathbr@@mathop}
301   \futurelet\rmathbr@let@token\rmathbr@brokenop%
302 }
```

\rmathbr@@brokenbin

```
303 \def\rmathbr@@brokenbin#1%
304 {
305   \ifnum\lastpenalty=\relpenalty
306     \mathbin{#1}
307   \else
308     \mathbin{#1}
309     \ifx$\rmathbr@let@token
310     \else
311       \rmathbr@selector{#1}
312     \fi
313   \fi
314   \rmathbr@setbrokens
315   \penalty\binoppenalty %
316 }
```

\rmathbr@@brokenrel

```
317 \def\rmathbr@@brokenrel#1%
318 {
319   \ifnum\lastpenalty=\relpenalty
320     \mathrel{#1}
321   \else
322     \mathrel{#1}
323     \ifx$\rmathbr@let@token
324     \else
325       \rmathbr@selector{#1}
326     \fi
327   \fi
328   \rmathbr@setbrokens
329   \penalty\relpenalty %
330 }
```

\rmathbr@@brokeninner

```
331 \def\rmathbr@@brokeninner#1%
332 {
333   \ifnum\lastpenalty=\relpenalty
334     \mathinner{#1}
335   \else
336     \mathinner{#1}
337     \ifx$\rmathbr@let@token
```

```
    \else
      \rmathbr@selector{#1}
    \fi
  \fi
  \rmathbr@setbrokens
  \penalty\relpenalty %
}
```

\rmathbr@@mathop

```
\def\rmathbr@@mathop#1%
{
  \rmathbr@setbrokens
  #1\nobr %
}
```

\rmathbr@selector

```
\def\rmathbr@selector#1%
{
  \mathchoice
    {\discretionary{}{\hbox{$\m@th\displaystyle#1$}}{}}
    {\discretionary{}{\hbox{$\m@th\textstyle#1$}}{}}
    {\discretionary{}{\hbox{$\m@th\scriptstyle#1$}}{}}
    {\discretionary{}{\hbox{$\m@th\scriptscriptstyle#1$}}{}}%
}
```

```
\begingroup\catcode`\_=12\catcode`\^=12
```

\rmathbr@brokenop

```
\gdef\rmathbr@brokenop%
{
  \ifmmode
    \rmathbr@unsetbrokens
    \ifx\rmathbr@subscript@macro\rmathbr@let@token
      \let\@command=\rmathbr@brokenglue
    \else\ifx_\rmathbr@let@token
      \let\@command=\rmathbr@brokenglue
    \else\ifx\rmathbr@superscript@macro\rmathbr@let@token
      \let\@command=\rmathbr@brokenglue
    \else\ifx^\rmathbr@let@token
      \let\@command=\rmathbr@brokenglue
    \else\ifx\limits\rmathbr@let@token
      \let\@command=\rmathbr@brokenskip
    \else\ifx\nolimits\rmathbr@let@token
      \let\@command=\rmathbr@brokenskip
    \else\ifx\relax\rmathbr@let@token
      \let\@command=\rmathbr@brokenskip
    \else
      \let\@command=\rmathbr@output
    \fi\fi\fi\fi\fi\fi\fi
  \else
    \let\@command=\relax
  \fi
  \expandafter\@command\expandafter{\rmathbr@arg}%
}
```

```
385 \endgroup
```

\rmathbr@brokenglue

```
386 \def\rmathbr@brokenglue#1#2#3%
387 {
388   \def\rmathbr@temp{#1#2{#3}}
389   \expandafter\rmathbr@this\expandafter{\rmathbr@temp}%
390 }
```

\rmathbr@brokenskip

```
391 \def\rmathbr@brokenskip#1#2%
392 {
393   \def\rmathbr@temp{#1#2}
394   \expandafter\rmathbr@this\expandafter{\rmathbr@temp}%
395 }
```

\rmathbr@setbreakable

```
396 \def\rmathbr@setbreakable#1#2%
397 {
398   \begingroup
399     \ifx#1\undefined
400     \else
401       \edef\rmathbr@orig{rmathbr@orig@\expandafter\@gobble\string#1}
402       \expandafter\ifx\csname\rmathbr@orig\endcsname\relax
403         \expandafter\rmathbr@ReDeclareRobustCommand\expandafter#1\expandafter{\expandafter#2\e
404       \fi
405     \fi
406   \endgroup%
407 }
```

\rmathbr@nobrafter

```
408 \def\rmathbr@nobrafter#1%
409 {
410   \begingroup
411     \ifx#1\undefined
412     \else
413       \edef\rmathbr@orig{rmathbr@orig@\expandafter\@gobble\string#1}
414       \expandafter\ifx\csname\rmathbr@orig\endcsname\relax
415         \expandafter\rmathbr@ReDeclareRobustCommand\expandafter#1\expandafter{\csname\rmathbr@
416       \fi
417     \fi
418   \endgroup%
419 }
```

Redeclaration of math signs

Redeclare \not.

```
420 \rmathbr@ReDeclareRobustCommandI{\not}%
421 {
422   \begingroup
423     \edef\rmathbr@orig{rmathbr@orig@\expandafter\@gobble\string#1}
424     \expandafter\ifx\csname\rmathbr@orig\endcsname\relax
425       \brokenrel{\rmathbr@orig@not#1}
```

```
    \else
      \expandafter\brokenrel\expandafter{\expandafter\rmathbr@orig@not\csname\rmathbr@orig\end
    \fi
  \endgroup%
}
```

Open brackets.

```
\rmathbr@ReDeclareRobustCommandI{\bigl}{\rmathbr@mathop{\mathopen\big#1}}
\rmathbr@ReDeclareRobustCommandI{\Bigl}{\rmathbr@mathop{\mathopen\Big#1}}
\rmathbr@ReDeclareRobustCommandI{\biggl}{\rmathbr@mathop{\mathopen\bigg#1}}
\rmathbr@ReDeclareRobustCommandI{\Biggl}{\rmathbr@mathop{\mathopen\Bigg#1}}
\SetOpenBracket{\lmoustache}
\SetOpenBracket{\langle}
\SetOpenBracket{\lbrace}
\SetOpenBracket{\lceil}
\SetOpenBracket{\lfloor}
\SetOpenBracket{\lgroup}
\SetOpenBracket{\lvert}
\SetOpenBracket{\lVert}
\SetOpenBracket{\ulcorner}
\SetOpenBracket{\llcorner}
\SetOpenBracket{\Lbrack}
```

Math operators.

```
\SetMathOperator{\coprod}
\SetMathOperator{\bigvee}
\SetMathOperator{\bigwedge}
\SetMathOperator{\biguplus}
\SetMathOperator{\bigcap}
\SetMathOperator{\bigcup}
\SetMathOperator{\int}
\SetMathOperator{\prod}
\SetMathOperator{\sum}
\SetMathOperator{\bigotimes}
\SetMathOperator{\bigoplus}
\SetMathOperator{\bigodot}
\SetMathOperator{\oint}
\SetMathOperator{\bigsqcup}
\SetMathOperator{\smallint}
```

Punctuations.

```
\SetPunctuation{\ldotp}
\SetPunctuation{\cdotp}
\SetPunctuation{\colon}
\SetPunctuation{\period}
```

Binary Operations.

```
\SetBreakableBin{\triangleleft}
\SetBreakableBin{\triangleright}
\SetBreakableBin{\bigtriangleup}
\SetBreakableBin{\bigtriangledown}
\SetBreakableBin{\wedge} \SetBreakableBin{\land}
\SetBreakableBin{\vee}   \SetBreakableBin{\lor}
\SetBreakableBin{\cap}
\SetBreakableBin{\cup}
\SetBreakableBin{\ddagger}
```

```
\SetBreakableBin{\dagger}
\SetBreakableBin{\sqcap}
\SetBreakableBin{\sqcup}
\SetBreakableBin{\uplus}
\SetBreakableBin{\amalg}
\SetBreakableBin{\diamond}
\SetBreakableBin{\bullet}
\SetBreakableBin{\wr}
\SetBreakableBin{\div}
\SetBreakableBin{\odot}
\SetBreakableBin{\oslash}
\SetBreakableBin{\otimes}
\SetBreakableBin{\ominus}
\SetBreakableBin{\oplus}
\SetBreakableBin{\mp}
\SetBreakableBin{\pm}
\SetBreakableBin{\circ}
\SetBreakableBin{\bigcirc}
\SetBreakableBin{\setminus}
\SetBreakableBin{\ast}
\SetBreakableBin{\star}
\SetBreakableBin{\times}
\SetBreakableBin{\cdot}
```

`\cdott` `\cdott` is `\cdot` that is changed to `\times` at break point.

```
\def\rmathbr@cdott{%
  %% inplace-expanded mathchoice from mathstyle.sty
  \mathchoice{%
    \mkern\medmuskip$%
    \discretionary{\the\textfont2\char2}{\the\textfont2\char2}{\the\textfont2\char1}%
    $\displaystyle\mkern\medmuskip%
  }{%
    \mkern\medmuskip$%
    \discretionary{\the\textfont2\char2}{\the\textfont2\char2}{\the\textfont2\char1}%
    $\textstyle\mkern\medmuskip%
  }{%
    $%
    \discretionary{\the\scriptfont2\char2}{\the\scriptfont2\char2}{\the\scriptfont2\char1}%
    $\scriptstyle%
  }{%
    $%
    \discretionary{\the\scriptscriptfont2\char2}{\the\scriptscriptfont2\char2}{\the\scriptscri
    $\scriptscriptstyle%
  }
}
\def\cdott{%
  \ensuremath
  \ifetex
    \ifinner%
      \ifnum\currentgrouptype=15\relax
        \rmathbr@cdott
      \else
        \cdot
      \fi
```

```
    \else
      \cdot
    \fi
  \else
    \rmathbr@cdott
  \fi
}

\*
\def\*{\mathbin{}%
  \mathchoice{%
     \discretionary{\hbox{$\m@th\displaystyle\times$}}{\hbox{$\m@th\displaystyle\times$}}{}%
    }{%
     \discretionary{\hbox{$\m@th\textstyle\times$}}{\hbox{$\m@th\textstyle\times$}}{}%
    }{%
     \discretionary{\hbox{$\m@th\scriptstyle\times$}}{\hbox{$\m@th\scriptstyle\times$}}{}%
    }{%
     \discretionary{\hbox{$\m@th\scriptscriptstyle\times$}}{\hbox{$\m@th\scriptscriptstyle\ti
    }%
  \penalty\binoppenalty%
}
```

Relations.

```
\SetBreakableRel{\propto}
\SetBreakableRel{\sqsubseteq}
\SetBreakableRel{\sqsupseteq}
\SetBreakableRel{\parallel}
\SetBreakableRel{\mid}
\SetBreakableRel{\dashv}
\SetBreakableRel{\vdash}
\SetBreakableRel{\leq} \SetBreakableRel{\le}
\SetBreakableRel{\geq} \SetBreakableRel{\ge}
\SetBreakableRel{\succ}
\SetBreakableRel{\prec}
\SetBreakableRel{\approx}
\SetBreakableRel{\succeq}
\SetBreakableRel{\preceq}
\SetBreakableRel{\supset}
\SetBreakableRel{\subset}
\SetBreakableRel{\supseteq}
\SetBreakableRel{\subseteq}
\SetBreakableRel{\in}
\SetBreakableRel{\ni} \SetBreakableRel{\owns}
\SetBreakableRel{\gg}
\SetBreakableRel{\ll}
\SetBreakableRel{\sim}
\SetBreakableRel{\simeq}
\SetBreakableRel{\perp}
\SetBreakableRel{\equiv}
\SetBreakableRel{\asymp}
\SetBreakableRel{\smile}
\SetBreakableRel{\frown}
\SetBreakableRel{\models}
\SetBreakableRel{\cong}
```

```
\SetBreakableRel{\notin}
\SetBreakableRel{\doteq}
\SetBreakableRel{\bowtie}
\SetBreakableRel{\neq} % Works well without \SetBreakableRel
\SetBreakableRel{\ne}  % Works well without \SetBreakableRel
```

Arrows.

```
\SetBreakableRel{\nearrow}
\SetBreakableRel{\searrow}
\SetBreakableRel{\nwarrow}
\SetBreakableRel{\swarrow}
\SetBreakableRel{\Leftrightarrow}
\SetBreakableRel{\Leftarrow}
\SetBreakableRel{\Rightarrow}
\SetBreakableRel{\leftrightarrow}
\SetBreakableRel{\leftarrow}  \SetBreakableRel{\gets}
\SetBreakableRel{\rightarrow} \SetBreakableRel{\to}
\SetBreakableRel{\leftharpoonup}
\SetBreakableRel{\leftharpoondown}
\SetBreakableRel{\rightharpoonup}
\SetBreakableRel{\rightharpoondown}
\SetBreakableRel{\longleftarrow}
\SetBreakableRel{\Longleftarrow}
\SetBreakableRel{\longrightarrow}
\SetBreakableRel{\Longrightarrow}
\SetBreakableRel{\longleftrightarrow}
\SetBreakableRel{\Longleftrightarrow}
\SetBreakableRel{\mapsto}
\SetBreakableRel{\longmapsto}
\SetBreakableRel{\hookleftarrow}
\SetBreakableRel{\hookrightarrow}
\SetBreakableRel{\rightleftharpoons}
```

From latexsym.

```
\SetBreakableBin{\lhd}
\SetBreakableBin{\unlhd}
\SetBreakableBin{\rhd}
\SetBreakableBin{\unrhd}
\SetBreakableRel{\Join}
\SetBreakableRel{\leadsto}
\SetBreakableRel{\sqsubset}
\SetBreakableRel{\sqsupset}
```

amsfonts

```
\@ifpackageloaded{amsfonts}% amsfonts
{
  \SetBreakableRel{\dashrightarrow} \SetBreakableRel{\dasharrow}
  \SetBreakableRel{\dashleftarrow}
  \SetBreakableRel{\vartriangleright}
  \SetBreakableRel{\vartriangleleft}
  \SetBreakableRel{\trianglerighteq}
  \SetBreakableRel{\trianglelefteq}
  \SetBreakableRel{\rightsquigarrow} \SetBreakableRel{\leadsto}
}{}
```

amssymb

```
\@ifpackageloaded{amssymb}% amssymb
{
  \SetBreakableBin{\boxdot}
  \SetBreakableBin{\boxplus}
  \SetBreakableBin{\boxtimes}
  \SetBreakableBin{\centerdot}
  \SetBreakableBin{\boxminus}
  \SetBreakableBin{\veebar}
  \SetBreakableBin{\barwedge}
  \SetBreakableBin{\doublebarwedge}
  \SetBreakableBin{\Cup} \SetBreakableBin{\doublecup}
  \SetBreakableBin{\Cap} \SetBreakableBin{\doublecap}
  \SetBreakableBin{\curlywedge}
  \SetBreakableBin{\curlyvee}
  \SetBreakableBin{\leftthreetimes}
  \SetBreakableBin{\rightthreetimes}
  \SetBreakableBin{\dotplus}
  \SetBreakableBin{\intercal}
  \SetBreakableBin{\circledcirc}
  \SetBreakableBin{\circledast}
  \SetBreakableBin{\circleddash}
  \SetBreakableBin{\divideontimes}
  \SetBreakableBin{\lessdot}
  \SetBreakableBin{\gtrdot}
  \SetBreakableBin{\ltimes}
  \SetBreakableBin{\rtimes}
  \SetBreakableBin{\smallsetminus}
  \SetBreakableRel{\circlearrowright}
  \SetBreakableRel{\circlearrowleft}
  \SetBreakableRel{\leftrightharpoons}
  \SetBreakableRel{\Vdash}
  \SetBreakableRel{\Vvdash}
  \SetBreakableRel{\vDash}
  \SetBreakableRel{\twoheadrightarrow}
  \SetBreakableRel{\twoheadleftarrow}
  \SetBreakableRel{\leftleftarrows}
  \SetBreakableRel{\rightrightarrows}
  \SetBreakableRel{\upuparrows}
  \SetBreakableRel{\downdownarrows}
  \SetBreakableRel{\upharpoonright} \SetBreakableRel{\restriction}
  \SetBreakableRel{\downharpoonright}
  \SetBreakableRel{\upharpoonleft}
  \SetBreakableRel{\downharpoonleft}
  \SetBreakableRel{\rightarrowtail}
  \SetBreakableRel{\leftarrowtail}
  \SetBreakableRel{\leftrightarrows}
  \SetBreakableRel{\rightleftarrows}
  \SetBreakableRel{\Lsh}
  \SetBreakableRel{\Rsh}
  \SetBreakableRel{\rightsquigarrow}
  \SetBreakableRel{\leftrightsquigarrow}
  \SetBreakableRel{\looparrowleft}
  \SetBreakableRel{\looparrowright}
  \SetBreakableRel{\circeq}
```

```
\SetBreakableRel{\succsim}
\SetBreakableRel{\gtrsim}
\SetBreakableRel{\gtrapprox}
\SetBreakableRel{\multimap}
\SetBreakableRel{\therefore}
\SetBreakableRel{\because}
\SetBreakableRel{\doteqdot} \SetBreakableRel{\Doteq}
\SetBreakableRel{\triangleq}
\SetBreakableRel{\precsim}
\SetBreakableRel{\lesssim}
\SetBreakableRel{\lessapprox}
\SetBreakableRel{\eqslantless}
\SetBreakableRel{\eqslantgtr}
\SetBreakableRel{\curlyeqprec}
\SetBreakableRel{\curlyeqsucc}
\SetBreakableRel{\preccurlyeq}
\SetBreakableRel{\leqq}
\SetBreakableRel{\leqslant}
\SetBreakableRel{\lessgtr}
\SetBreakableRel{\risingdotseq}
\SetBreakableRel{\fallingdotseq}
\SetBreakableRel{\succcurlyeq}
\SetBreakableRel{\geqq}
\SetBreakableRel{\geqslant}
\SetBreakableRel{\gtrless}
\SetBreakableRel{\vartriangleright}
\SetBreakableRel{\vartriangleleft}
\SetBreakableRel{\trianglerighteq}
\SetBreakableRel{\trianglelefteq}
\SetBreakableRel{\between}
\SetBreakableRel{\blacktriangleright}
\SetBreakableRel{\blacktriangleleft}
\SetBreakableRel{\vartriangle}
\SetBreakableRel{\eqcirc}
\SetBreakableRel{\lesseqgtr}
\SetBreakableRel{\gtreqless}
\SetBreakableRel{\lesseqqgtr}
\SetBreakableRel{\gtreqqless}
\SetBreakableRel{\Rrightarrow}
\SetBreakableRel{\Lleftarrow}
\SetBreakableRel{\varpropto}
\SetBreakableRel{\smallsmile}
\SetBreakableRel{\smallfrown}
\SetBreakableRel{\Subset}
\SetBreakableRel{\Supset}
\SetBreakableRel{\subseteqq}
\SetBreakableRel{\supseteqq}
\SetBreakableRel{\bumpeq}
\SetBreakableRel{\Bumpeq}
\SetBreakableRel{\lll} \SetBreakableRel{\llless}
\SetBreakableRel{\ggg} \SetBreakableRel{\gggtr}
\SetBreakableRel{\pitchfork}
\SetBreakableRel{\backsim}
\SetBreakableRel{\backsimeq}
```

```
\SetBreakableRel{\lvertneqq}
\SetBreakableRel{\gvertneqq}
\SetBreakableRel{\nleq}
\SetBreakableRel{\ngeq}
\SetBreakableRel{\nless}
\SetBreakableRel{\ngtr}
\SetBreakableRel{\nprec}
\SetBreakableRel{\nsucc}
\SetBreakableRel{\lneqq}
\SetBreakableRel{\gneqq}
\SetBreakableRel{\nleqslant}
\SetBreakableRel{\ngeqslant}
\SetBreakableRel{\lneq}
\SetBreakableRel{\gneq}
\SetBreakableRel{\npreceq}
\SetBreakableRel{\nsucceq}
\SetBreakableRel{\precnsim}
\SetBreakableRel{\succnsim}
\SetBreakableRel{\lnsim}
\SetBreakableRel{\gnsim}
\SetBreakableRel{\nleqq}
\SetBreakableRel{\ngeqq}
\SetBreakableRel{\precneqq}
\SetBreakableRel{\succneqq}
\SetBreakableRel{\precnapprox}
\SetBreakableRel{\succnapprox}
\SetBreakableRel{\lnapprox}
\SetBreakableRel{\gnapprox}
\SetBreakableRel{\nsim}
\SetBreakableRel{\ncong}
\SetBreakableRel{\varsubsetneq}
\SetBreakableRel{\varsupsetneq}
\SetBreakableRel{\nsubseteqq}
\SetBreakableRel{\nsupseteqq}
\SetBreakableRel{\subsetneqq}
\SetBreakableRel{\supsetneqq}
\SetBreakableRel{\varsubsetneqq}
\SetBreakableRel{\varsupsetneqq}
\SetBreakableRel{\subsetneq}
\SetBreakableRel{\supsetneq}
\SetBreakableRel{\nsubseteq}
\SetBreakableRel{\nsupseteq}
\SetBreakableRel{\nparallel}
\SetBreakableRel{\nmid}
\SetBreakableRel{\nshortmid}
\SetBreakableRel{\nshortparallel}
\SetBreakableRel{\nvdash}
\SetBreakableRel{\nVdash}
\SetBreakableRel{\nvDash}
\SetBreakableRel{\nVDash}
\SetBreakableRel{\ntrianglerighteq}
\SetBreakableRel{\ntrianglelefteq}
\SetBreakableRel{\ntriangleleft}
\SetBreakableRel{\ntriangleright}
```

```
  \SetBreakableRel{\nleftarrow}
  \SetBreakableRel{\nrightarrow}
  \SetBreakableRel{\nLeftarrow}
  \SetBreakableRel{\nRightarrow}
  \SetBreakableRel{\nLeftrightarrow}
  \SetBreakableRel{\nleftrightarrow}
  \SetBreakableRel{\eqsim}
  \SetBreakableRel{\shortmid}
  \SetBreakableRel{\shortparallel}
  \SetBreakableRel{\thicksim}
  \SetBreakableRel{\thickapprox}
  \SetBreakableRel{\approxeq}
  \SetBreakableRel{\succapprox}
  \SetBreakableRel{\precapprox}
  \SetBreakableRel{\curvearrowleft}
  \SetBreakableRel{\curvearrowright}
  \SetBreakableRel{\backepsilon}
}{}
```

amstex

```
\@ifpackageloaded{amstex}% amstex
{
  \SetBreakableRel{\vartriangleright} \SetBreakableRel{\rhd}
  \SetBreakableRel{\vartriangleleft}  \SetBreakableRel{\lhd}
  \SetBreakableRel{\trianglerighteq}  \SetBreakableRel{\unrhd}
  \SetBreakableRel{\trianglelefteq}   \SetBreakableRel{\unlhd}
  \SetBreakableRel{\rightsquigarrow}  \SetBreakableRel{\leadsto}
}{}
```

boisik

```
\@ifpackageloaded{boisik}% boisik
{
  \SetMathOperator{\intup}
  \SetOpenBracket{\binampersand}
  \SetBreakableRel{\upharpoonright}
  \SetBreakableRel{\downharpoonright}
  \SetBreakableRel{\upharpoonleft}
  \SetBreakableRel{\downharpoonleft}
  \SetBreakableRel{\leftrightarrows}
  \SetBreakableRel{\rightleftarrows}
  \SetBreakableRel{\leftrightharpoons}
  \SetBreakableRel{\leftleftarrows}
  \SetBreakableRel{\rightrightarrows}
  \SetBreakableRel{\upuparrows}
  \SetBreakableRel{\downdownarrows}
  \SetBreakableRel{\twoheadrightarrow}
  \SetBreakableRel{\twoheadleftarrow}
  \SetBreakableRel{\rightarrowtail}
  \SetBreakableRel{\leftarrowtail}
  \SetBreakableRel{\rightsquigarrow}
  \SetBreakableRel{\leftrightsquigarrow}
  \SetBreakableRel{\Lsh}
  \SetBreakableRel{\Rsh}
  \SetBreakableRel{\looparrowleft}
  \SetBreakableRel{\looparrowright}
```

```
\SetBreakableRel{\circlearrowright}
\SetBreakableRel{\circlearrowleft}
\SetBreakableRel{\curvearrowleft}
\SetBreakableRel{\curvearrowright}
\SetBreakableRel{\nleftarrow}
\SetBreakableRel{\nrightarrow}
\SetBreakableRel{\nleftrightarrow}
\SetBreakableRel{\nLeftarrow}
\SetBreakableRel{\nRightarrow}
\SetBreakableRel{\nLeftrightarrow}
\SetBreakableRel{\Lleftarrow}
\SetBreakableRel{\Rrightarrow}
\SetBreakableRel{\nLeftrightarroW}
% \SetBreakableRel{\lhook}
% \SetBreakableRel{\rhook}
\SetBreakableRel{\multimap}
\SetBreakableRel{\multimapdot}
\SetBreakableRel{\therefore}
\SetBreakableRel{\because}
\SetBreakableRel{\between}
\SetBreakableRel{\Vdash}
\SetBreakableRel{\Vvdash}
\SetBreakableRel{\VDash}
\SetBreakableRel{\vDash}
\SetBreakableRel{\smallsmile}
\SetBreakableRel{\smallfrown}
\SetBreakableRel{\shortmid}
\SetBreakableRel{\shortparallel}
\SetBreakableRel{\thickapprox}
\SetBreakableBin{\divideontimes}
\SetBreakableBin{\lessdot}
\SetBreakableBin{\gtrdot}
\SetBreakableRel{\bumpeq}
\SetBreakableRel{\Bumpeq}
\SetBreakableRel{\leqslant}
\SetBreakableRel{\geqslant}
\SetBreakableRel{\eqslantless}
\SetBreakableRel{\eqslantgtr}
\SetBreakableRel{\curlyeqprec}
\SetBreakableRel{\curlyeqsucc}
\SetBreakableRel{\preccurlyeq}
\SetBreakableRel{\succcurlyeq}
\SetBreakableRel{\thicksim}
\SetBreakableRel{\backsim}
\SetBreakableRel{\eqsim}
\SetBreakableRel{\backsimeq}
\SetBreakableBin{\ltimes}
\SetBreakableBin{\rtimes}
\SetBreakableRel{\lll} \SetBreakableRel{\llless}
\SetBreakableRel{\ggg} \SetBreakableRel{\gggtr}
\SetBreakableRel{\trianglеq}
\SetBreakableRel{\circeq}
\SetBreakableRel{\eqcirc}
\SetBreakableRel{\doteqdot} \SetBreakableRel{\Doteq}
```

```
\SetBreakableRel{\risingdotseq}
\SetBreakableRel{\fallingdotseq}
\SetBreakableRel{\varpropto}
\SetBreakableRel{\vartriangleright}
\SetBreakableRel{\vartriangleleft}
\SetBreakableRel{\trianglerighteq}
\SetBreakableRel{\trianglelefteq}
\SetBreakableRel{\blacktriangleright}
\SetBreakableRel{\blacktriangleleft}
\SetBreakableRel{\vartriangle}
\SetBreakableBin{\centerdot}
\SetBreakableBin{\boxplus}
\SetBreakableBin{\boxminus}
\SetBreakableBin{\boxtimes}
\SetBreakableBin{\boxdot}
\SetBreakableBin{\circledcirc}
\SetBreakableBin{\circledast}
\SetBreakableBin{\circleddash}
\SetBreakableBin{\intercal}
\SetBreakableRel{\prurel}
\SetBreakableRel{\scurel}
\SetBreakableRel{\disin}
\SetBreakableRel{\nisd}
\SetBreakableRel{\fatslash}
\SetBreakableRel{\fatbslash}
\SetBreakableRel{\nequiv}
\SetBreakableRel{\bagmember}
\SetBreakableRel{\lvertneqq}
\SetBreakableRel{\gvertneqq}
\SetBreakableRel{\nleq}
\SetBreakableRel{\ngeq}
\SetBreakableRel{\nless}
\SetBreakableRel{\ngtr}
\SetBreakableRel{\nprec}
\SetBreakableRel{\nsucc}
\SetBreakableRel{\lneqq}
\SetBreakableRel{\gneqq}
\SetBreakableRel{\nleqslant}
\SetBreakableRel{\ngeqslant}
\SetBreakableRel{\lneq}
\SetBreakableRel{\gneq}
\SetBreakableRel{\npreceq}
\SetBreakableRel{\nsucceq}
\SetBreakableRel{\nleqq}
\SetBreakableRel{\ngeqq}
\SetBreakableRel{\lnsim}
\SetBreakableRel{\gnsim}
\SetBreakableRel{\precnsim}
\SetBreakableRel{\succnsim}
\SetBreakableRel{\precneqq}
\SetBreakableRel{\succneqq}
\SetBreakableRel{\nsim}
\SetBreakableRel{\ncong}
\SetBreakableRel{\lnapprox}
```

```
\SetBreakableRel{\gnapprox}
\SetBreakableRel{\precnapprox}
\SetBreakableRel{\succnapprox}
\SetBreakableRel{\nsubset}
\SetBreakableRel{\nsupset}
\SetBreakableRel{\varsubsetneq}
\SetBreakableRel{\varsupsetneq}
\SetBreakableRel{\nsubseteqq}
\SetBreakableRel{\nsupseteqq}
\SetBreakableRel{\subsetneqq}
\SetBreakableRel{\supsetneqq}
\SetBreakableRel{\varsubsetneqq}
\SetBreakableRel{\varsupsetneqq}
\SetBreakableRel{\subsetneq}
\SetBreakableRel{\supsetneq}
\SetBreakableRel{\nsubseteq}
\SetBreakableRel{\nsupseteq}
\SetBreakableRel{\nparallel}
\SetBreakableRel{\nmid}
\SetBreakableRel{\nshortmid}
\SetBreakableRel{\nshortparallel}
\SetBreakableRel{\nvdash}
\SetBreakableRel{\nVdash}
\SetBreakableRel{\nvDash}
\SetBreakableRel{\nVDash}
\SetBreakableRel{\ntrianglerighteq}
\SetBreakableRel{\ntrianglelefteq}
\SetBreakableRel{\ntriangleleft}
\SetBreakableRel{\ntriangleright}
\SetBreakableRel{\precapprox}
\SetBreakableRel{\succapprox}
\SetBreakableRel{\precsim}
\SetBreakableRel{\succsim}
\SetBreakableRel{\lesssim}
\SetBreakableRel{\gtrsim}
\SetBreakableRel{\lessapprox}
\SetBreakableRel{\gtrapprox}
\SetBreakableRel{\leqq}
\SetBreakableRel{\geqq}
\SetBreakableRel{\lessgtr}
\SetBreakableRel{\gtrless}
\SetBreakableRel{\lesseqgtr}
\SetBreakableRel{\gtreqless}
\SetBreakableRel{\lesseqqgtr}
\SetBreakableRel{\gtreqqless}
\SetBreakableRel{\Subset}
\SetBreakableRel{\Supset}
\SetBreakableBin{\Cup} \SetBreakableBin{\doublecup}
\SetBreakableBin{\Cap} \SetBreakableBin{\doublecap}
\SetBreakableRel{\subseteqq}
\SetBreakableRel{\supseteqq}
\SetBreakableBin{\curlywedge}
\SetBreakableBin{\curlyvee}
\SetBreakableBin{\veebar}
```

```
\SetBreakableBin{\barwedge}
\SetBreakableBin{\doublebarwedge}
\SetBreakableBin{\leftthreetimes}
\SetBreakableBin{\rightthreetimes}
\SetBreakableBin{\smallsetminus}
\SetBreakableRel{\approxeq}
\SetBreakableBin{\dotplus}
\SetBreakableRel{\pitchfork}
\SetBreakableBin{\oblong}
\SetBreakableBin{\talloblong}
\SetBreakableBin{\sslash}
\SetBreakableBin{\bbslash}
\SetBreakableRel{\hash}
\SetBreakableRel{\varhash}
\SetBreakableBin{\convolution}
\SetBreakableBin{\coAsterisk}
\SetBreakableRel{\veeeq}
\SetBreakableRel{\corresponds}
\SetBreakableRel{\arceq}
\SetBreakableRel{\CircledEq}
\SetBreakableRel{\eqbumped}
\SetBreakableRel{\dotminus}
\SetBreakableRel{\kernelcontraction}
\SetBreakableRel{\dotsim}
\SetBreakableRel{\simrdots}
\SetBreakableBin{\circplus}
\SetBreakableBin{\dottimes}
\SetBreakableBin{\vartimes}
\SetBreakableBin{\merge}
\SetBreakableBin{\veeonvee}
\SetBreakableBin{\obslash}
\SetBreakableBin{\otop}
\SetBreakableBin{\obot}
\SetBreakableBin{\oleft}
\SetBreakableBin{\oright}
\SetBreakableBin{\obar}
\SetBreakableBin{\otriangle}
\SetBreakableBin{\olessthan}
\SetBreakableBin{\ogreaterthan}
\SetBreakableBin{\ovee}
\SetBreakableBin{\owedge}
\SetBreakableBin{\boxbslash}
\SetBreakableBin{\boxtop}
\SetBreakableBin{\boxbot}
\SetBreakableBin{\boxleft}
\SetBreakableBin{\boxright}
\SetBreakableBin{\boxbar}
\SetBreakableBin{\boxslash}
\SetBreakableBin{\boxtriangle}
\SetBreakableBin{\boxast}
\SetBreakableBin{\boxcircle}
\SetBreakableBin{\boxdivision}
\SetBreakableBin{\boxbox}
\SetBreakableBin{\diamondop}
```

```
\SetBreakableBin{\diamondminus}
\SetBreakableBin{\diamondbar}
\SetBreakableBin{\diamondtimes}
\SetBreakableBin{\diamondplus}
\SetBreakableBin{\diamondtriangle}
\SetBreakableBin{\diamondcircle}
\SetBreakableBin{\cupleftarrow}
\SetBreakableBin{\varcup}
\SetBreakableBin{\varcap}
\SetBreakableBin{\varsqcup}
\SetBreakableBin{\varsqcap}
\SetBreakableRel{\sqSubset}
\SetBreakableRel{\sqSupset}
\SetBreakableRel{\inplus}
\SetBreakableRel{\niplus}
\SetBreakableRel{\varisins}
\SetBreakableRel{\varnis}
\SetBreakableRel{\subsetplus}
\SetBreakableRel{\supsetplus}
\SetBreakableRel{\subsetpluseq}
\SetBreakableRel{\supsetpluseq}
\SetBreakableBin{\nplus}
\SetBreakableBin{\squplus}
\SetBreakableRel{\multimapboth}
\SetBreakableRel{\multimapdotboth}
\SetBreakableRel{\multimapdotbothB}
\SetBreakableRel{\multimapdotbothA}
\SetBreakableRel{\multimapinv}
\SetBreakableRel{\multimapdotinv}
\SetBreakableRel{\multimapbothvert}
\SetBreakableRel{\multimapdotbothvert}
\SetBreakableRel{\multimapdotbothBvert}
\SetBreakableRel{\multimapdotbothAvert}
\SetBreakableRel{\dfourier}
\SetBreakableRel{\Dfourier}
\SetBreakableRel{\ztransf}
\SetBreakableRel{\Ztransf}
\SetBreakableRel{\Lt}
\SetBreakableRel{\Gt}
\SetBreakableBin{\leftslice}
\SetBreakableBin{\rightslice}
\SetBreakableRel{\trianglelefteqslant}
\SetBreakableRel{\trianglerighteqslant}
\SetBreakableBin{\Ydown}
\SetBreakableBin{\Yup}
\SetBreakableBin{\Yleft}
\SetBreakableBin{\Yright}
\SetBreakableRel{\dashVv}
\SetBreakableRel{\DashV}
\SetBreakableRel{\DashV}
\SetBreakableRel{\dashV}
\SetBreakableBin{\lbag}
\SetBreakableBin{\rbag}
\SetBreakableRel{\Perp}
```

```
\SetBreakableBin{\moo}
\SetBreakableBin{\baro}
\SetBreakableBin{\pluscirc}
\SetBreakableBin{\minuso}
\SetBreakableRel{\llcurly}
\SetBreakableRel{\ggcurly}
\SetBreakableRel{\strictfi}
\SetBreakableRel{\strictif}
\SetBreakableRel{\ac}
\SetBreakableBin{\varintercal}
\SetBreakableRel{\equalparallel}
\SetBreakableBin{\plustrif}
\SetBreakableBin{\smashtimes}
\SetBreakableRel{\ltcir}
\SetBreakableRel{\gtcir}
\SetBreakableRel{\glj}
\SetBreakableBin{\Vee}
\SetBreakableBin{\Wedge}
\SetBreakableBin{\fatsemi}
\SetBreakableRel{\forkv}
\SetBreakableRel{\topfork}
\SetBreakableRel{\twoheaduparrow}
\SetBreakableRel{\twoheaddownarrow}
\SetBreakableRel{\mapsfrom}
\SetBreakableRel{\mapsup}
\SetBreakableRel{\mapsdown}
\SetBreakableRel{\nVleftarrow}
\SetBreakableRel{\nVrightarrow}
\SetBreakableRel{\rightarrowcircle}
\SetBreakableRel{\nwarrowcorner}
\SetBreakableRel{\nearrowcorner}
\SetBreakableRel{\barovernorthwestarrow}
\SetBreakableRel{\carriagereturn}
\SetBreakableRel{\linefeed}
\SetBreakableRel{\leftzigzagarrow}
\SetBreakableRel{\Nwarrow}
\SetBreakableRel{\Nearrow}
\SetBreakableRel{\Swarrow}
\SetBreakableRel{\Searrow}
\SetBreakableRel{\nHuparrow}
\SetBreakableRel{\nHdownarrow}
\SetBreakableRel{\updownarrowbar}
\SetBreakableRel{\barleftarrow}
\SetBreakableRel{\rightarrowbar}
\SetBreakableRel{\leftsquigarrow}
\SetBreakableRel{\rightsquigarrow}
\SetBreakableRel{\leftrightsquigarrow}
\SetBreakableRel{\downzigzagarrow}
\SetBreakableRel{\rightthreearrows}
\SetBreakableRel{\barleftarrowrightarrowbar}
\SetBreakableRel{\leftdasharrow}
\SetBreakableRel{\rightdasharrow}
\SetBreakableRel{\updasharrow}
\SetBreakableRel{\downdasharrow}
```

```
  \SetBreakableRel{\upwhitearrow}
  \SetBreakableRel{\downwhitearrow}
  \SetBreakableRel{\whitearrowupfrombar}
  \SetBreakableRel{\whitearrowuppedestal}
  \SetBreakableRel{\whitearrowuppedestalhbar}
  \SetBreakableRel{\whitearrowuppedestalvbar}
  \SetBreakableRel{\twoheadwhiteuparrow}
  \SetBreakableRel{\twoheadwhiteuparrowpedestal}
  \SetBreakableRel{\updownwhitearrow}
  \SetBreakableRel{\leftblackarrow}
  \SetBreakableRel{\rightblackarrow}
  \SetBreakableRel{\upblackarrow}
  \SetBreakableRel{\downblackarrow}
  \SetBreakableRel{\leftrightblackarrow}
  \SetBreakableRel{\updownblackarrow}
  \SetBreakableRel{\curlyveeuparrow}
  \SetBreakableRel{\curlyveedownarrow}
  \SetBreakableRel{\curlywedgeuparrow}
  \SetBreakableRel{\curlywedgedownarrow}
  \SetBreakableRel{\Mapsfrom}
  \SetBreakableRel{\Mapsto}
  \SetBreakableRel{\leftwhitearrow}
  \SetBreakableRel{\rightwhitearrow}
  \SetBreakableRel{\leftwhiteroundarrow}
  \SetBreakableRel{\rightwhiteroundarrow}
  \SetBreakableRel{\righttoleftarrow}
  \SetBreakableRel{\lefttorightarrow}
  \SetBreakableRel{\looparrowdownleft}
  \SetBreakableRel{\looparrowdownright}
  \SetBreakableRel{\uptodownarrow}
  \SetBreakableRel{\downtouparrow}
  \SetBreakableRel{\nnearrow}
  \SetBreakableRel{\ssearrow}
  \SetBreakableRel{\nnwarrow}
  \SetBreakableRel{\sswarrow}
  \SetBreakableRel{\curvearrowleft}
  \SetBreakableRel{\curvearrowright}
  \SetBreakableRel{\curvearrowleftright}
  \SetBreakableRel{\curvearrowbotleft}
  \SetBreakableRel{\curvearrowbotright}
  \SetBreakableRel{\curvearrowbotleftright}
  \SetBreakableRel{\leftrightarroweq}
  \SetBreakableRel{\eqleftrightarrow}
  \SetBreakableRel{\dlsh}
  \SetBreakableRel{\drsh}
  \SetBreakableRel{\leftarrowTriangle}
  \SetBreakableRel{\rightarrowTriangle}
  \SetBreakableRel{\leftrightarrowTriangle}
  \SetBreakableRel{\leftarrowtriangle}
  \SetBreakableRel{\rightarrowtriangle}
  \SetBreakableRel{\leftrightarrowtriangle}
}{}
```

euler

```
\@ifpackageloaded{euler}% euler
```

```
{
  \SetBreakableRel{\uparrow}
  \SetBreakableRel{\downarrow}
  \SetBreakableRel{\updownarrow}
  \SetBreakableRel{\Uparrow}
  \SetBreakableRel{\Downarrow}
  \SetBreakableRel{\Updownarrow}
  % \SetBreakableRel{\lhook}
  % \SetBreakableRel{\rhook}
}{}
```

fourier

```
\@ifpackageloaded{fourier}% fourier
{
  \SetMathOperator{\iint}
  \SetMathOperator{\iiint}
  \SetMathOperator{\oiint}
  \SetMathOperator{\oiiint}
  \SetMathOperator{\slashint}
  \SetOpenBracket{\llbracket}
  \SetBreakableRel{\leqslant}
  \SetBreakableRel{\geqslant}
  \SetBreakableRel{\parallelslant}
  \SetBreakableRel{\vDash}
  \SetBreakableRel{\blacktriangleleft}
  \SetBreakableRel{\blacktriangleright}
  \SetBreakableRel{\nleqslant}
  \SetBreakableRel{\ngeqslant}
  \SetBreakableRel{\nparallel}
  \SetBreakableRel{\nparallelslant}
  \SetBreakableRel{\nvDash}
  \SetBreakableBin{\intercal}
  \SetBreakableRel{\varsubsetneq}
  \SetBreakableRel{\notowns}
  \SetBreakableBin{\smallsetminus}
  \SetBreakableRel{\subsetneqq}
  \SetBreakableRel{\rightrightarrows}
  \SetBreakableRel{\leftleftarrows}
  \SetBreakableRel{\curvearrowleft}
  \SetBreakableRel{\curvearrowright}
  \SetBreakableRel{\Downarrow}
}{}
```

Lucida font (lucbmath,lucidabr,lucmin,lucmtime,luctime)

```

\ifnum\@ifpackageloaded{lucbmath}{1}{%
\@ifpackageloaded{lucidabr}{1}{%
\@ifpackageloaded{lucmin}{1}{%
\@ifpackageloaded{lucmtime}{1}{%
\@ifpackageloaded{luctime}{1}{0}}}}}=1\relax%
  \SetMathOperator{\surfint}
  \SetMathOperator{\midint}
  \SetMathOperator{\midoint}
  \SetMathOperator{\midsurfint}
  \SetMathOperator{\largeint}
```

```
\SetBreakableRel{\leadsfrom}
\SetBreakableRel{\defineequal}
\SetBreakableRel{\notequiv}
\SetBreakableRel{\notapprox}
\SetBreakableRel{\notasymp}
\SetBreakableRel{\notsubset}
\SetBreakableRel{\notsupset}
\SetBreakableRel{\notsim}
\SetBreakableRel{\notsubseteq}
\SetBreakableRel{\notsupseteq}
\SetBreakableRel{\notsimeq}
\SetBreakableRel{\notsqsubseteq}
\SetBreakableRel{\notsqsupseteq}
\SetBreakableRel{\notcong}
\SetBreakableRel{\notni}
\SetBreakableBin{\boxdot}
\SetBreakableBin{\boxplus}
\SetBreakableBin{\boxtimes}
\SetBreakableBin{\centerdot}
\SetBreakableRel{\circlearrowright}
\SetBreakableRel{\circlearrowleft}
\SetBreakableRel{\leftrightharpoons}
\SetBreakableBin{\boxminus}
\SetBreakableRel{\Vdash}
\SetBreakableRel{\Vvdash}
\SetBreakableRel{\vDash}
\SetBreakableRel{\twoheadrightarrow}
\SetBreakableRel{\twoheadleftarrow}
\SetBreakableRel{\leftleftarrows}
\SetBreakableRel{\rightrightarrows}
\SetBreakableRel{\upuparrows}
\SetBreakableRel{\downdownarrows}
\SetBreakableRel{\upharpoonright}
\SetBreakableRel{\downharpoonright}
\SetBreakableRel{\upharpoonleft}
\SetBreakableRel{\downharpoonleft}
\SetBreakableRel{\rightarrowtail}
\SetBreakableRel{\leftarrowtail}
\SetBreakableRel{\leftrightarrows}
\SetBreakableRel{\rightleftarrows}
\SetBreakableRel{\Lsh}
\SetBreakableRel{\Rsh}
\SetBreakableRel{\rightsquigarrow}
\SetBreakableRel{\leftsquigarrow}
\SetBreakableRel{\leftrightsquigarrow}
\SetBreakableRel{\looparrowleft}
\SetBreakableRel{\looparrowright}
\SetBreakableRel{\circeq}
\SetBreakableRel{\succsim}
\SetBreakableRel{\gtrsim}
\SetBreakableRel{\gtrapprox}
\SetBreakableRel{\multimap}
\SetBreakableRel{\image}
\SetBreakableRel{\original}
```

```
\SetBreakableRel{\therefore}
\SetBreakableRel{\because}
\SetBreakableRel{\doteqdot}
\SetBreakableRel{\trianglеq}
\SetBreakableRel{\precsim}
\SetBreakableRel{\lesssim}
\SetBreakableRel{\lessapprox}
\SetBreakableRel{\eqslantless}
\SetBreakableRel{\eqslantgtr}
\SetBreakableRel{\curlyeqprec}
\SetBreakableRel{\curlyeqsucc}
\SetBreakableRel{\preccurlyeq}
\SetBreakableRel{\leqq}
\SetBreakableRel{\leqslant}
\SetBreakableRel{\lessgtr}
\SetBreakableRel{\risingdotseq}
\SetBreakableRel{\fallingdotseq}
\SetBreakableRel{\succcurlyeq}
\SetBreakableRel{\geqq}
\SetBreakableRel{\geqslant}
\SetBreakableRel{\gtrless}
\SetBreakableRel{\vartriangleright}
\SetBreakableRel{\vartriangleleft}
\SetBreakableRel{\trianglerighteq}
\SetBreakableRel{\trianglelefteq}
\SetBreakableRel{\between}
\SetBreakableRel{\blacktriangleright}
\SetBreakableRel{\blacktriangleleft}
\SetBreakableRel{\vartriangle}
\SetBreakableRel{\eqcirc}
\SetBreakableRel{\lesseqgtr}
\SetBreakableRel{\gtreqless}
\SetBreakableRel{\lesseqqgtr}
\SetBreakableRel{\gtreqqless}
\SetBreakableRel{\Rrightarrow}
\SetBreakableRel{\Lleftarrow}
\SetBreakableBin{\veebar}
\SetBreakableBin{\barwedge}
\SetBreakableRel{\varpropto}
\SetBreakableRel{\smallsmile}
\SetBreakableRel{\smallfrown}
\SetBreakableRel{\Subset}
\SetBreakableRel{\Supset}
\SetBreakableBin{\Cup}
\SetBreakableBin{\Cap}
\SetBreakableBin{\curlywedge}
\SetBreakableBin{\curlyvee}
\SetBreakableBin{\leftthreetimes}
\SetBreakableBin{\rightthreetimes}
\SetBreakableRel{\subseteqq}
\SetBreakableRel{\supseteqq}
\SetBreakableRel{\bumpeq}
\SetBreakableRel{\Bumpeq}
\SetBreakableRel{\lll}
```

```
\SetBreakableRel{\ggg}
\SetBreakableRel{\pitchfork}
\SetBreakableBin{\dotplus}
\SetBreakableRel{\backsim}
\SetBreakableRel{\backsimeq}
\SetBreakableBin{\intercal}
\SetBreakableBin{\circledcirc}
\SetBreakableBin{\circledast}
\SetBreakableBin{\circleddash}
\SetBreakableRel{\lvertneqq}
\SetBreakableRel{\gvertneqq}
\SetBreakableRel{\nleq}
\SetBreakableRel{\ngeq}
\SetBreakableRel{\nless}
\SetBreakableRel{\ngtr}
\SetBreakableRel{\nprec}
\SetBreakableRel{\nsucc}
\SetBreakableRel{\lneqq}
\SetBreakableRel{\gneqq}
\SetBreakableRel{\nleqslant}
\SetBreakableRel{\ngeqslant}
\SetBreakableRel{\lneq}
\SetBreakableRel{\gneq}
\SetBreakableRel{\npreceq}
\SetBreakableRel{\nsucceq}
\SetBreakableRel{\precnsim}
\SetBreakableRel{\succnsim}
\SetBreakableRel{\lnsim}
\SetBreakableRel{\gnsim}
\SetBreakableRel{\nleqq}
\SetBreakableRel{\ngeqq}
\SetBreakableRel{\precneqq}
\SetBreakableRel{\succneqq}
\SetBreakableRel{\precnapprox}
\SetBreakableRel{\succnapprox}
\SetBreakableRel{\lnapprox}
\SetBreakableRel{\gnapprox}
\SetBreakableRel{\nsim}
\SetBreakableRel{\ncong}
\SetBreakableRel{\diagup}
\SetBreakableRel{\diagdown}
\SetBreakableRel{\varsubsetneq}
\SetBreakableRel{\varsupsetneq}
\SetBreakableRel{\nsubseteqq}
\SetBreakableRel{\nsupseteqq}
\SetBreakableRel{\subsetneqq}
\SetBreakableRel{\supsetneqq}
\SetBreakableRel{\varsubsetneqq}
\SetBreakableRel{\varsupsetneqq}
\SetBreakableRel{\subsetneq}
\SetBreakableRel{\supsetneq}
\SetBreakableRel{\nsubseteq}
\SetBreakableRel{\nsupseteq}
\SetBreakableRel{\nparallel}
```

```
  \SetBreakableRel{\nmid}
  \SetBreakableRel{\nshortmid}
  \SetBreakableRel{\nshortparallel}
  \SetBreakableRel{\nvdash}
  \SetBreakableRel{\nVdash}
  \SetBreakableRel{\nvDash}
  \SetBreakableRel{\nVDash}
  \SetBreakableRel{\ntrianglerighteq}
  \SetBreakableRel{\ntrianglelefteq}
  \SetBreakableRel{\ntriangleleft}
  \SetBreakableRel{\ntriangleright}
  \SetBreakableRel{\nleftarrow}
  \SetBreakableRel{\nrightarrow}
  \SetBreakableRel{\nLeftarrow}
  \SetBreakableRel{\nRightarrow}
  \SetBreakableRel{\nLeftrightarrow}
  \SetBreakableRel{\nleftrightarrow}
  \SetBreakableBin{\divideontimes}
  \SetBreakableRel{\eqsim}
  \SetBreakableRel{\lessdot}
  \SetBreakableRel{\gtrdot}
  \SetBreakableBin{\ltimes}
  \SetBreakableBin{\rtimes}
  \SetBreakableRel{\shortmid}
  \SetBreakableRel{\shortparallel}
  \SetBreakableBin{\smallsetminus}
  \SetBreakableRel{\thicksim}
  \SetBreakableRel{\thickapprox}
  \SetBreakableRel{\approxeq}
  \SetBreakableRel{\succapprox}
  \SetBreakableRel{\precapprox}
  \SetBreakableRel{\curvearrowleft}
  \SetBreakableRel{\curvearrowright}
  \SetBreakableRel{\backepsilon}
\fi
```

mathbbol

```
\@ifpackageloaded{mathbbol}% mathbbol
{
  \SetOpenBracket{\Langle}
  \SetOpenBracket{\Lparen}
}{}
```

mdwmath

```
\@ifpackageloaded{mdwmath}% mdwmath
{
  \SetBreakableBin{\bitand}
  \begingroup
    \catcode`\&\active \xdef&{\noexpand\brokenbin{\mathchar\number\mathcode`\&}}
  \endgroup
  \AtBeginDocument{\mathcode`\&=32768 }
}{}
```

sbmm

```
\@ifpackageloaded{sbbm}% sbbm
```

```
{
  \SetOpenBracket{\Lparen}
}{}
```

stmaryrd

```
\@ifpackageloaded{stmaryrd}% stmaryrd
{
  \SetOpenBracket{\Lbag}
  \SetOpenBracket{\llparenthesis}
  \SetOpenBracket{\binampersand}
  \SetOpenBracket{\llfloor}
  \SetOpenBracket{\llceil}
  \SetOpenBracket{\llbracket}
  \SetBreakableRel{\shortleftarrow}
  \SetBreakableRel{\shortrightarrow}
  \SetBreakableRel{\shortuparrow}
  \SetBreakableRel{\shortdownarrow}
  \SetBreakableBin{\Yup}
  \SetBreakableBin{\Ydown}
  \SetBreakableBin{\Yleft}
  \SetBreakableBin{\Yright}
  \SetBreakableBin{\varcurlyvee}
  \SetBreakableBin{\varcurlywedge}
  \SetBreakableBin{\minuso}
  \SetBreakableBin{\baro}
  \SetBreakableBin{\sslash}
  \SetBreakableBin{\bbslash}
  \SetBreakableBin{\moo}
  \SetBreakableBin{\varotimes}
  \SetBreakableBin{\varoast}
  \SetBreakableBin{\varobar}
  \SetBreakableBin{\varodot}
  \SetBreakableBin{\varoslash}
  \SetBreakableBin{\varobslash}
  \SetBreakableBin{\varocircle}
  \SetBreakableBin{\varoplus}
  \SetBreakableBin{\varominus}
  \SetBreakableBin{\boxast}
  \SetBreakableBin{\boxbar}
  \SetBreakableBin{\boxdot}
  \SetBreakableBin{\boxslash}
  \SetBreakableBin{\boxbslash}
  \SetBreakableBin{\boxcircle}
  \SetBreakableBin{\boxbox}
  \SetBreakableBin{\boxempty}
  \SetBreakableBin{\merge}
  \SetBreakableBin{\vartimes}
  \SetBreakableBin{\fatsemi}
  \SetBreakableRel{\sswarrow}
  \SetBreakableRel{\ssearrow}
  \SetBreakableRel{\curlywedgeuparrow}
  \SetBreakableRel{\curlywedgedownarrow}
  \SetBreakableBin{\fatslash}
  \SetBreakableBin{\fatbslash}
  \SetBreakableBin{\lbag}
```

```
  \SetBreakableBin{\rbag}
  \SetBreakableBin{\varbigcirc}
  \SetBreakableRel{\leftrightarroweq}
  \SetBreakableRel{\curlyveedownarrow}
  \SetBreakableRel{\curlyveeuparrow}
  \SetBreakableRel{\nnwarrow}
  \SetBreakableRel{\nnearrow}
  \SetBreakableBin{\leftslice}
  \SetBreakableBin{\rightslice}
  \SetBreakableBin{\varolessthan}
  \SetBreakableBin{\varogreaterthan}
  \SetBreakableBin{\varovee}
  \SetBreakableBin{\varowedge}
  \SetBreakableBin{\talloblong}
  \SetBreakableBin{\interleave}
  \SetBreakableBin{\obar}
  \SetBreakableBin{\obslash}
  \SetBreakableBin{\olessthan}
  \SetBreakableBin{\ogreaterthan}
  \SetBreakableBin{\ovee}
  \SetBreakableBin{\owedge}
  \SetBreakableBin{\oblong}
  \SetBreakableRel{\inplus}
  \SetBreakableRel{\niplus}
  \SetBreakableBin{\nplus}
  \SetBreakableRel{\subsetplus}
  \SetBreakableRel{\supsetplus}
  \SetBreakableRel{\subsetpluseq}
  \SetBreakableRel{\supsetpluseq}
  \SetBreakableRel{\trianglelefteqslant}
  \SetBreakableRel{\trianglerighteqslant}
  \SetBreakableRel{\ntrianglelefteqslant}
  \SetBreakableRel{\ntrianglerighteqslant}
  \SetBreakableRel{\arrownot}
  \SetBreakableRel{\Arrownot}
  \SetBreakableRel{\Mapstochar}
  \SetBreakableRel{\mapsfromchar}
  \SetBreakableRel{\Mapsfromchar}
  \SetBreakableBin{\leftrightarrowtriangle}
  \SetBreakableRel{\leftarrowtriangle}
  \SetBreakableRel{\rightarrowtriangle}
  \SetBreakableRel{\longarrownot}
  \SetBreakableRel{\Longarrownot}
  \SetBreakableRel{\Mapsto}
  \SetBreakableRel{\mapsfrom}
  \SetBreakableRel{\Mapsfrom}
  \SetBreakableRel{\Longmapsto}
  \SetBreakableRel{\longmapsfrom}
  \SetBreakableRel{\Longmapsfrom}
}{}
```

wasysym

```
\@ifpackageloaded{wasysym}% wasysym
{
  \SetMathOperator{\varint}
```

```
  \SetMathOperator{\iint}
  \SetMathOperator{\iiint}
  \SetMathOperator{\varoint}
  \SetMathOperator{\oiint}
  \SetBreakableBin{\LHD}
  \SetBreakableBin{\RHD}
  \SetBreakableRel{\apprle}
  \SetBreakableRel{\apprge}
  \SetBreakableRel{\wasypropto}
  \SetBreakableRel{\invneg}
  \SetBreakableBin{\ocircle}
  \SetBreakableRel{\logof}
}{}
```