

The St Mary's Road symbol font

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1 Introduction

This is a brief guide to the St Mary's Road symbol font, a new symbol font for TeX and LaTeX. It is designed to live with the American Mathematical Society's fonts, contained in `amssymb.sty`.

It provides a number of new symbols, including ones for derivation of functional programming (such as ∇ , \pm and \mathbb{M}), process algebra (\parallel , \square and ζ), domain theory (\sqcap), linear logic ($\&$ and \wp), multisets ($\langle x \rangle$, \oplus , and $\underline{\oplus}$) and many more. It also fixes some 'features' with previous symbols (\oplus used not to be circular, now you can use \oplus instead) and adds obvious variants of others (such as \leftarrow , \Rightarrow and \Leftrightarrow). It is all wrapped up in a LaTeX 2_ε package called `stmaryrd`, which can be used by saying:

```
\usepackage{stmaryrd}
```

This package understands a large number of options:

- `heavycircles` says that all of the circular operators such as `\oplus` and `\otimes` should by default be heavy, and that `\varoplus` and `\varotimes` should refer to the light ones.
- `only` says that only the symbols listed in the option list should be defined. For example:

```
\usepackage[only,mapsfrom,Mapsto,Mapsfrom]{stmaryrd}
```

says that only the symbols ' \leftarrow ', ' \Rightarrow ' and ' \Leftrightarrow ' should be defined, which is useful if you use a TeX implementation with limited memory.

2 Symbols

The following operators are defined:

\Uparrow <code>\Ydown</code>	\Leftarrow <code>\Yleft</code>	\succ <code>\Yright</code>
\Uparrow <code>\Yup</code>	$\bar{\phi}$ <code>\bar{\phi}</code>	\parallel <code>\bbslash</code>
$\&$ <code>\binampersand</code>	\wp <code>\bindnasrepma</code>	\boxtimes <code>\boxast</code>
\boxbar <code>\boxbar</code>	\boxbox <code>\boxbox</code>	\boxtimes <code>\boxbslash</code>
\boxcircle <code>\boxcircle</code>	\boxdot <code>\boxdot</code>	\boxempty <code>\boxempty</code>
\boxslash <code>\boxslash</code>	\curlyvee <code>\curlyveedownarrow</code>	\curlyvee <code>\curlyveeuparrow</code>

\curlywedgedownarrow	\curlywedgeuparrow	\fatbslash
\fatsemi	\fatslash	\interleave
\leftslice	\merge	\minuso
\moo	\nplus	\obar
\oblong	\obslash	\ogreaterthan
\olessthan	\ovee	\owedge
\rightslice	\sslash	\talloblong
\varbigcirc	\varcurlyvee	\varcurlywedge
\varoast	\varobar	\varobslash
\varocircle	\varodot	\varogreaterthan
\varolessthan	\varominus	\varoplus
\varoslash	\varotimes	\varovee
\varowedge	\vartimes	

(CAR) Added by Chris Rowley, March 2004:

If the amssymb package has been loaded then the following are also defined:
 $\backslash oast$ and $\backslash ocircle$. The following large operators are defined:

\bigbox	\bigcurlyvee	\bigcurlywedge
\biginterleave	\bignplus	\bigparallel
\bigsqcap	\bigtriangledown	\bigtriangleup

The following relations are defined:

\inplus	\niplus	\ntrianglelefteqslant
\ntrianglerighteqslant	\subseteqplus	\subsetequseq
\supsetplus	\supsetplususeq	\trianglelefteqslant
\trianglerighteqslant		

The following arrows are defined:

\Longmapsfrom	\Longmapsto	\Mapsfrom
\Mapsto	\leftarrowtriangle	\leftrightarroweq
$\leftrightharpoonuptriangle$	\lightning	\longmapsfrom
\mapsfrom	\nnearrow	\nnwarrow
\rightarrowtriangle	\rrparenthesis	\shortdownarrow
\shortleftarrow	\shortrightarrow	\shortuparrow
\ssearrow	\sswarrow	

The following delimiters are defined:

\Lbag	\Rbag	\lbag
\llbracket	\llceil	\llfloor
\llparenthesis	\rrbag	\rrbracket
\rrceil	\rrfloor	

Note that \llbracket and \rrbracket are ‘growing’ delimiters that can be used with \left and \right :

$$\llbracket \mathcal{P} \rrbracket \quad \llbracket \square \mathcal{P} \rrbracket \quad \left[\square_{i \in I} P_i \right]^{a \oplus b} \quad \left[\begin{array}{c} a \\ b \\ c \end{array} \right] \quad \left[\begin{array}{c} a \\ b \\ c \end{array} \right] \quad \left[\begin{array}{c} a \\ b \\ c \\ d \\ e \\ f \end{array} \right]$$

The following special characters are used in building others:

<code>/\Arrownot</code>	<code> \Mapsfromchar</code>	<code> \Mapstochar</code>
<code>\arrownot</code>	<code> \mapsfromchar</code>	

For example, if you type `$/\Arrownot\Rightarrow$` you get \Rightarrow , and if you type `$/\arrownot\rightarrowtriangle$` you get \rightarrowtriangle .

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