

∞ Lete Sans Math ∞

Chenjing Bu — Daniel Flipo

<https://github.com/abccsss/LeteSansMath>

24th August 2026

1 What is Lete Sans Math?

Lete Sans Math is an OpenType maths font meant to be used with the Lato fonts, or other sans-serif text fonts.

The following documentation is meant for LuaLaTeX or XeLaTeX together with the unicode-math package¹, but informations about valid CharacterVariants, StylisticSets, etc. may be of interest for users of other Unicode formats (ConTeXt, Typst).

Please note that the current version (0.62) is *experimental*, *do expect metrics and glyphs to change* until version 1.0 is reached. Comments, suggestions and bug reports are welcome!

Some examples²:

$$\int_0^1 \frac{1}{x^x} dx = \sum_{n=1}^{\infty} \frac{1}{n^n}$$

$$\begin{aligned} \iiint_Q f(w, x, y, z) dw dx dy dz &\leq \oint_{\partial Q} f' \left(\max \left\{ \frac{\|w\|}{|w^2 + x^2|}, \frac{\|z\|}{|y^2 + z^2|}, \frac{\|w \oplus z\|}{|x \oplus y|} \right\} \right) \\ &\approx \bigcup_{Q \in \bar{Q}} \left[f^* \left(\frac{\int Q(t)}{\sqrt{1 - t^2}} \right) \right]_{t=\alpha}^{t=\vartheta} - (\Delta + \nu - \nu)^3 \end{aligned}$$

¹Please read the documentation unicode-math.pdf.

²The second one is borrowed from the LaTeX Companion, 3rd edition.

2 Usage

2.1 Calling `\setmathfont`

A basic call for Lete Sans Math would be:

```
\usepackage{unicode-math}  
\setmathfont{LeteSansMath.otf} % Call by file name or  
\setmathfont{Lete Sans Math}   % Call by font name
```

this loads Lete Sans Math as maths font³ with the default options, see subsections [3.1 on page 4](#), [3.2 on page 5](#) and [3.3 on page 6](#) for customisation.

Please note that the text fonts have to be chosen separately, f.i.:

```
\setsansfont{Lato}[Extension = .ttf,  
  UprightFont =    *-Regular,  
  BoldFont =      *-Bold,  
  ItalicFont =     *-Italic,  
  BoldItalicFont = *-BoldItalic]
```

otherwise you would get Latin Modern for text fonts.

2.2 Calling `lete-sans-math.sty` (recommended)

As an alternative to load Lete Sans Math you can type:

```
\usepackage[ options4 ]{lete-sans-math}
```

it loads `unicode-math` with the default options, sets Lete Sans Math as maths font and does a bit more:

1. it checks at `\begin{document}` if packages `amssymb` or `latexsym` are loaded and issues warnings in case they are;

³Both calls work equally well with LuaTeX; with XeTeX a call by font name will fail unless the font is declared as a *system font*.

⁴Possible *options* are `tight`, `Scale=` or any of the options described in sections [3.1](#), [3.2](#) and [3.3](#).

2. it provides aliases for glyphs named differently in Unicode, so that all `latexsym` or `AMS` commands are also available;
3. it defines specific maths characters like `\smallsetminus` ($\setminus$), `\BbbDelta` (Δ), `\parallelslant` ($\parallel$), `\shortparallelslant` ($\shortparallel$), etc.;
4. it provides an option `tight` which reduces spacing (`\thinmuskip`, `\medmuskip` and `\thickmuskip`) in maths mode.

Please note that the `lete-sans-math` package does not load any text fonts. The Lato text fonts can be loaded directly (see section 2.1), or via the `lato` package⁵ –see this package’s documentation, file `lato.pdf`, for all the available options:

```
\usepackage[default]{lato}
```

will load the Lato text fonts as main (roman) font while

```
\usepackage[defaultsans]{lato}
```

will load the Lato text fonts as sans font (use both options if necessary). Consider loading `realscripts.sty` which redefines `\textsuperscript` to output the *real* superscripts available with the Lato fonts: M^r , M^{le} , N^2 instead of *faked* ones, M^r , M^{le} , N^2 .

The `lete-sans-math` also provides a `Scale=<decimal>` option meant to be used to load the Lato Sans Math font together with text fonts other than Lato, while keeping the advantages 1. to 4. pointed in the preceding list, f.i.

```
\usepackage[Scale=0.98]{lete-sans-math}
```

3 What is provided?

Lato Sans Math provides all common unicode-math glyphs plus all glyphs available in the `amssymb` and `latexsym` packages. Therefore, the latter two packages *should not* be loaded as they might override Lato Sans Math glyphs.

A full list of available glyphs is shown in file `unimath-lete.pdf` which also shows the coverage of other sans-serif maths fonts compared to the serif maths fonts `NewComputerModern` and `Cambria`.

⁵The `lato` package loads all available weights, Hairline to Black, hence loading takes significantly longer...

3.1 Upright or slanted?

Package `unicode-math` follows $\text{\TeX}$ conventions for Latin and Greek letters: in maths mode, the default option (`math-style=TeX`) prints Latin letters $a\dots z$ $A\dots Z$ and lowercase Greek letters $\alpha\dots\omega$ slanted (italic) while uppercase Greek letters $\text{\AA}\Gamma\dots\Omega$ are printed upright. This can be changed by option `math-style` as shown in table 1.

Table 1: Effects of the `math-style` package option.

Package option	Latin	Greek
<code>math-style=ISO</code>	(a, z, B, X)	$(\alpha, \beta, \Gamma, \Xi)$
<code>math-style=TeX</code>	(a, z, B, X)	$(\alpha, \beta, \Gamma, \Xi)$
<code>math-style=french</code>	(a, z, B, X)	$(\alpha, \beta, \Gamma, \Xi)$
<code>math-style=upright</code>	(a, z, B, X)	$(\alpha, \beta, \Gamma, \Xi)$

Bold letters are printed upright except lowercase Greek letters which are slanted (the default option is `bold-style=TeX`). This can be changed by option `bold-style` as shown in table 2.

Table 2: Effects of the `bold-style` package option.

Package option	Latin	Greek
<code>bold-style=ISO</code>	(a, z, B, X)	$(\alpha, \beta, \Gamma, \Xi)$
<code>bold-style=TeX</code>	(a, z, B, X)	$(\alpha, \beta, \Gamma, \Xi)$
<code>bold-style=upright</code>	(a, z, B, X)	$(\alpha, \beta, \Gamma, \Xi)$

Other possible customisation: ∇ is printed upright and ∂ is printed slanted by default, but `nabla=italic` and `partial=upright` can change this.

All these options are offered by the `unicode-math` package, they can be added to the `\setmathfont` call as well⁶, for example:

```
\setmathfont{LeteSansMath.otf}[math-style=french,partial=upright]
```

will print for the code

```
\[ \frac{\partial f}{\partial x} = \alpha \operatorname{\textbf{V}} + a \nabla \Gamma + \beta \operatorname{\textbf{M}} \]
```

$$\frac{\partial f}{\partial x} = \alpha \mathbf{V} + a \nabla \Gamma + \beta \mathbf{M}$$

⁶IMHO it is easier to add *all options* to the `\setmathfont` command.

while the default settings would print

$$\frac{\partial f}{\partial x} = \alpha \mathbf{V} + a \nabla \Gamma + \beta \mathbf{M}$$

Both shapes remain available anytime: `\uppi, \itpi` prints π, π .

If your text editor is able to handle Greek letters or maths symbols, they can be entered in the code instead control sequences (i.e. $\alpha, \beta, \Gamma, \dots$ for `\alpha, \beta, \Gamma, \dots`).

3.2 Character variants

Lete Sans Math provides nine “Character Variants” options, listed on table 3, to choose between different glyphs for Greek characters and some others.

For instance, to get `\epsilon` and `\phi` typeset as ϵ and φ instead of ϵ and ϕ , you can add option `CharacterVariant={3,6}` to the `\setmathfont` call:

```
\setmathfont{LeteSansMath.otf}[CharacterVariant={3,6}]
```

Table 3: Character variants.			
	Default	Variant	Name
cv01	$\hbar$	$\hbar$	<code>\hslash</code>
cv02	$\emptyset$	$\emptyset$	<code>\emptyset</code>
cv03	ϵ	ϵ	<code>\epsilon</code>
cv04	κ	κ	<code>\kappa</code>
cv05	π	π	<code>\pi</code>
cv06	ϕ	φ	<code>\phi</code>
cv07	ρ	ρ	<code>\rho</code>
cv08	σ	ς	<code>\sigma</code>
cv09	θ	ϑ	<code>\theta</code>
cv10	Θ	Θ	<code>\Theta</code>
cv11	g	g	g
cv12	l	l	l
cv13	l	ℓ	l
cv14	0	0	0

This works for all shapes and weights of these characters: f.i. `\symbf{\epsilon}`, `\symbf{\phi}` are output as ϵ, φ instead of ϵ, ϕ . If `math-style=french` has been chosen, `\epsilon` and `\phi` are output as ϵ and φ (upright).

Please note that curly braces are mandatory whenever more than one “Character Variant” is selected.

Note about `\hbar`: `amsmath` provides two different glyphs (italic h with horizontal or diagonal stroke) while `unicode-math` defines `\hbar` as `\hslash` (U+210F). `lete-sans-math` follows `unicode-math`; the italic h with horizontal stroke can be printed using `\hslash` or `\hbar` together with character variant `cv01` or with `\mihbar` (replacement for AMS’ command `\hbar`).

3.3 Stylistic sets

Lete Sans Math provides seven “Stylistic Sets” options to choose between different glyphs for families of maths symbols.

StylisticSet=1, alias⁷ **Style=mathcal** is new to version 0.60. It forces commands `\mathcal{}` and `\mathscr{}` to print $\mathcal{ABC}$ (former shape) instead of $\mathscr{ABC}$ (the new default in v. 0.60). Please note that `unicode-math` recommends to use `\symcal` and `\symscr` instead of `\mathcal` and `\mathscr`.

If you want to use both commands `\symcal{ABC}` and `\symscr{ABC}` to print $\mathcal{ABC}$ and $\mathscr{ABC}$ respectively, you can use `unicode-math`’s option `range` this way⁸:

```
\setmathfont{LeteSansMath}[your options]
```

```
\setmathfont{LeteSansMath}[range={cal,bfcal},StylisticSet=1]
```

Both lines are mandatory: the first one loads Lete Sans Math while the second one modifies `\mathcal` and `\symcal` commands’ output.

StylisticSet=4, alias⁷ **Style=leqslant**, converts inequalities into their slanted variants, see table 4 on the following page.

StylisticSet=5, alias⁷ **Style=smaller**, converts some symbols into their smaller variants, see table 5 on the next page.

StylisticSet=6, alias⁷ **Style=subsetneq**, converts some inclusion symbols, as shown in table 6a on the following page.

StylisticSet=7, alias⁷ **Style=parallelslant**, converts “parallel” symbols into their slanted variants, see table 6b on the next page.

⁷These Style aliases are provided by `lete-sans-math.sty`.

⁸The `unicode-math` package is not yet able to make use of Unicode Variation Selectors U+FE00 and U+FE01 to switch between ‘cal’ and ‘scr’ variants but these selectors are already implemented in Lete Sans Math.

Table 4: Style=leqslant (+ss04)

Command	Default	Variant	Command	Default	Variant
<code>\leq</code>	$\leq$	$\leqslant$	<code>\geq</code>	$\geq$	$\geqslant$
<code>\nleq</code>	$\nleq$	$\nleqslant$	<code>\ngeq</code>	$\ngeq$	$\ngeqslant$
<code>\leqq</code>	$\leqq$	$\leqslant$	<code>\geqq</code>	$\geqq$	$\geqslant$
<code>\nleqq</code>	$\nleqq$	$\nleqslant$	<code>\ngeqq</code>	$\ngeqq$	$\ngeqslant$
<code>\lesssim</code>	$\lesssim$	$\lessslant$	<code>\gtrsim</code>	$\gtrsim$	$\gtrslant$
<code>\simless</code>	$\simless$	$\simlesslant$	<code>\simgtr</code>	$\simgtr$	$\simgtrslant$
<code>\smt</code>	$\smt$	$\smtslant$	<code>\late</code>	$\late$	$\lateslant$
<code>\eqless</code>	$\eqless$	$\eqlesslant$	<code>\eqgtr</code>	$\eqgtr$	$\eqgtrslant$
<code>\lesseqgtr</code>	$\lesseqgtr$	$\lesseqgtrslant$	<code>\gtreqless</code>	$\gtreqless$	$\gtreqlesslant$
<code>\lesseqqgtr</code>	$\lesseqqgtr$	$\lesseqqgtrslant$	<code>\gtreqqless</code>	$\gtreqqless$	$\gtreqqlesslant$

Table 5: Style=smaller (+ss05)

Command	Default	Variant
<code>\in</code>	$\in$	$\in$
<code>\ni</code>	$\ni$	$\ni$
<code>\setminus</code>	$\setminus$	$\setminus$
<code>\mid</code>	$\mid$	$\mid$
<code>\nmid</code>	$\nmid$	$\nmid$
<code>\parallel</code>	$\parallel$	$\parallel$
<code>\nparallel</code>	$\nparallel$	$\nparallel$
<code>\parallelslant</code>	$\parallel$	$\parallel$
<code>\nparallelslant</code>	$\nparallel$	$\nparallel$

Table 6: Stylistic Sets 6 and 7

(a) Style=subsetneq (+ss06)			(b) Style=parallelslant (+ss07)		
Command	Default	Variant	Command	Default	Variant
<code>\subsetneq</code>	$\subsetneq$	$\subsetneqslant$	<code>\parallel</code>	$\parallel$	$\parallel$
<code>\supsetneq</code>	$\supsetneq$	$\supsetneqslant$	<code>\nparallel</code>	$\nparallel$	$\nparallel$
<code>\subsetneqq</code>	$\subsetneqq$	$\subsetneqqslant$	<code>\shortparallel</code>	$\parallel$	$\parallel$
<code>\supsetneqq</code>	$\supsetneqq$	$\supsetneqqslant$	<code>\nshortparallel</code>	$\nparallel$	$\nparallel$

StylisticSet=8, alias⁹

Table 7: Style=upint (+ss08)

Command	<code>\int</code>	<code>\iint</code>	<code>\iiint</code>	<code>\iiiiint</code>	<code>\oint</code>	<code>\oiint</code>	<code>\oiiint</code>
Default	$\int$	$\iint$	$\iiint$	$\iiiiint$	$\oint$	$\oiint$	$\oiiint$
Upright	$\int$	$\iint$	$\iiint$	$\iiiiint$	$\oint$	$\oiint$	$\oiiint$

Command	<code>\intclockwise</code>	<code>\awint</code>	<code>\varointclockwise</code>	<code>\ointctrckwise</code>
Default	$\int$	$\int$	$\oint$	$\oint$
Upright	$\int$	$\int$	$\oint$	$\oint$

StylisticSet=9, alias⁹ **Style=upint**, converts integrals signs into their upright variants, see table 7. **Style=vertneg**, converts slanted negations into vertical ones. see table 8.

Table 8: Style=vertneg (+ss09)

Command	Default	Variant	Command	Default	Variant
<code>\notin</code>	$\notin$	$\notin$	<code>\ngtrless</code>	$\ngtrless$	$\ngtrless$
<code>\nni</code>	$\nni$	$\nni$	<code>\nlessgtr</code>	$\nlessgtr$	$\nlessgtr$
<code>\ne</code>	$\neq$	$\neq$	<code>\nlesssim</code>	$\nlesssim$	$\nlesssim$
<code>\nequiv</code>	$\nequiv$	$\nequiv$	<code>\ngtrsim</code>	$\ngtrsim$	$\ngtrsim$
<code>\nsim</code>	$\sim$	$\sim$	<code>\nprec</code>	$\nprec$	$\nprec$
<code>\nsimeq</code>	$\nsimeq$	$\nsimeq$	<code>\nsucc</code>	$\nsucc$	$\nsucc$
<code>\ncong</code>	$\ncong$	$\ncong$	<code>\npreccurlyeq</code>	$\npreccurlyeq$	$\npreccurlyeq$
<code>\nasymp</code>	$\nasymp$	$\nasymp$	<code>\nsucccurlyeq</code>	$\nsucccurlyeq$	$\nsucccurlyeq$
<code>\ngtr</code>	$\ngtr$	$\ngtr$	<code>\nsubset</code>	$\nsubset$	$\nsubset$
<code>\nless</code>	$\nless$	$\nless$	<code>\nsupset</code>	$\nsupset$	$\nsupset$
<code>\ngeq</code>	$\ngeq$	$\ngeq$	<code>\nsubseteq</code>	$\nsubseteq$	$\nsubseteq$
<code>\nleq</code>	$\nleq$	$\nleq$	<code>\nsupseteq</code>	$\nsupseteq$	$\nsupseteq$
<code>\gneqq</code>	$\gneqq$	$\gneqq$	<code>\ntrianglelefteq</code>	$\ntrianglelefteq$	$\ntrianglelefteq$
<code>\lneqq</code>	$\lneqq$	$\lneqq$	<code>\ntrianglerighteq</code>	$\ntrianglerighteq$	$\ntrianglerighteq$

⁹These Style aliases are provided by `lete-sans-math.sty`.

To enable Stylistic Sets 4 and 8 for Lete Sans Math, you can enter
`\setmathfont{LeteSansMath.otf}[StylisticSet={4,8}]` or
`\usepackage[Style={leqslant,upint}]{lete-sans-math}`

then, `\[x\leq y \quad \int_a^b f(x) \, dx]` will print as

$$x \leqslant y \quad \int_a^b f(x) \, dx$$

instead of

$$x \leq y \quad \int_a^b f(x) \, dx$$

3.4 Other font features

To get oldstyle numbers in maths, the feature +onum is available:

`\setmathfont{LeteSansMath.otf}[Numbers=OldStyle]` or
`\usepackage[Style=fulloldstyle]{lete-sans-math}`

0123456789, **0123456789**

3.5 Standard LaTeX maths commands

All standard LaTeX maths commands, all amssymb commands and all latexsym commands are supported, for some of them loading `lete-sans-math.sty` is required.

Various wide accents and extensible arrows are also supported:

 `\wideoverbar` and `\mathunderbar`¹⁰

$$\overline{x} \quad \overline{xy} \quad \overline{xyz} \quad \overline{A \cup B} \quad \overline{A \cup (B \cap C) \cup D} \quad \underline{m+n+p}$$

 `\widehat` and `\widetilde`

$$\widehat{x} \quad \widehat{xx} \quad \widehat{xxx} \quad \widehat{xxxx} \quad \widehat{xxxxx} \quad \widehat{xxxxxx} \quad \widetilde{x} \quad \widetilde{xx} \quad \widetilde{xxx} \quad \widetilde{xxxx} \quad \widetilde{xxxxx} \quad \widetilde{xxxxxx}$$

¹⁰`\overline` and `\underline` are not font related, they are based on `\rule`.

☞ \widecheck and \widebreve

$$\check{x} \quad \widecheck{xxxx} \quad \widebreve{xxxxxx} \quad \breve{x} \quad \breve{xxxx} \quad \breve{xxxxxx}$$

☞ \overparen and \underparen

$$\widehat{x} \quad \widehat{xy} \quad \widehat{xyz} \quad \widehat{A \cup B} \quad \widehat{A \cup (B \cap C) \cup D} \quad \widehat{x+y}^2 \quad \widehat{a+b+\dots+z}^{26}$$

$$\underline{x} \quad \underline{xz} \quad \underline{xyz} \quad \underline{x+z}_2 \quad \underline{a+b+\dots+z}_{26}$$

☞ \overbrace and \underbrace

$$\overbrace{a} \quad \overbrace{ab} \quad \overbrace{abc} \quad \overbrace{abcd} \quad \overbrace{abcde} \quad \overbrace{a+b+c}^3 \quad \overbrace{a+b+\dots+z}^{26}$$

$$\underbrace{a} \quad \underbrace{ab} \quad \underbrace{abc} \quad \underbrace{abcd} \quad \underbrace{abcde} \quad \underbrace{a+b+c}_3 \quad \underbrace{a+b+\dots+z}_{26}$$

☞ \overbracket and \underbracket

$$\overbracket{a} \quad \overbracket{ab} \quad \overbracket{abc} \quad \overbracket{abcd} \quad \overbracket{abcde} \quad \overbracket{a+b+c}^3 \quad \overbracket{a+b+\dots+z}^{26}$$

$$\underbracket{a} \quad \underbracket{ab} \quad \underbracket{abc} \quad \underbracket{abcd} \quad \underbracket{abcde} \quad \underbracket{a+b+c}_3 \quad \underbracket{a+b+\dots+z}_{26}$$

☞ \overrightarrow and \overleftarrow

$$\overrightarrow{v} \quad \overrightarrow{M} \quad \overrightarrow{vv} \quad \overrightarrow{AB} \quad \overrightarrow{ABC} \quad \overrightarrow{ABCD} \quad \overrightarrow{ABCDEFGH}.$$

$$\overleftarrow{v} \quad \overleftarrow{M} \quad \overleftarrow{vv} \quad \overleftarrow{AB} \quad \overleftarrow{ABC} \quad \overleftarrow{ABCD} \quad \overleftarrow{ABCDEFGH}$$

☞ \overrightarrow and \overleftarrow

$$\overrightarrow{v} \quad \overrightarrow{M} \quad \overrightarrow{vv} \quad \overrightarrow{AB} \quad \overrightarrow{ABC} \quad \overrightarrow{ABCD} \quad \overrightarrow{ABCDEFGH}.$$

$$\overleftarrow{v} \quad \overleftarrow{M} \quad \overleftarrow{vv} \quad \overleftarrow{AB} \quad \overleftarrow{ABC} \quad \overleftarrow{ABCD} \quad \overleftarrow{ABCDEFGH}$$

☞ \underrightarrow and \underleftarrow

$$\underrightarrow{v} \quad \underrightarrow{M} \quad \underrightarrow{vv} \quad \underrightarrow{AB} \quad \underrightarrow{ABC} \quad \underrightarrow{ABCD} \quad \underrightarrow{ABCDEFGH}.$$

$$\overleftarrow{\underbrace{M}} \quad \overleftarrow{\underbrace{v}} \quad \overleftarrow{\underbrace{AB}} \quad \overleftarrow{\underbrace{ABC}} \quad \overleftarrow{\underbrace{ABCD}} \quad \overleftarrow{\underbrace{ABCDEFGH}}$$

☞ `\underrightharpoonup` and `\underleftharpoondown`

$$\overrightarrow{\underbrace{M}} \quad \overrightarrow{\underbrace{v}} \quad \overrightarrow{\underbrace{AB}} \quad \overrightarrow{\underbrace{ABC}} \quad \overrightarrow{\underbrace{ABCD}} \quad \overrightarrow{\underbrace{ABCDEFGH}}$$

$$\overleftarrow{\underbrace{M}} \quad \overleftarrow{\underbrace{v}} \quad \overleftarrow{\underbrace{AB}} \quad \overleftarrow{\underbrace{ABC}} \quad \overleftarrow{\underbrace{ABCD}} \quad \overleftarrow{\underbrace{ABCDEFGH}}$$

All extensible arrows provided by the `mathtools` package are available in `LeteSansMath` (loading `lete-sans-math.sty` is required), f.i.:

$$X \overset{\text{above}}{\underset{\text{under}}{\longleftrightarrow}} Y \overset{\text{above}}{\underset{\text{under}}{\longrightarrow}} Z \overset{\text{above}}{\underset{\text{under}}{\longleftarrow}} W$$

A wide range of extensible vertical delimiters is provided:

$$\left(\begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right) \left[\begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right] \left\{ \begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right\} \left| \begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right| \left\| \begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right\| \left| \! \! \! \left| \begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right| \! \! \! \right| \left[\! \! \! \left[\begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right] \! \! \! \right] \left\| \! \! \! \left\| \begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right\| \! \! \! \right\| \left\langle \begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right\rangle \left\langle \! \! \! \left\langle \begin{matrix} a_1 \\ a_2 \\ a_3 \end{matrix} \right\rangle \! \! \! \right\rangle \backslash$$

3.6 Mathematical alphabets

☞ All Latin and Greek characters are available in italic, upright, bold and bold italic via the `\symit{}`, `\symup{}`, `\symbf{}` and `\symbf{it}` commands.

☞ Calligraphic alphabet (`\symscr` or `\symcal` command)¹¹, uppercase¹²:

ABCEDEFGHIJKLMNOPQRSTUVWXYZ, eglor

ABCDEFGHIJKLMNPOQRSTUVWXYZ

also in boldface (`\symbfscr`, or `\symbfcal` command):

ABCEDEFGHIJKLMNOPQRSTUVWXYZ, eglor

ABCDEFGHIJKLMNPOQRSTUVWXYZ

☞ Blackboard-bold alphabet (`\symbb` command):

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz 0123456789

☞ Fraktur alphabet is borrowed from Latin Modern, medium and bold (`\symfrak`, or `\symbf{frak}` commands):

¹¹See section 3.3 if you need both shapes.

¹²Lowercase letters *eglo*, *r*, *lr* (Griffith's curly r, regular and bold) are also provided.

$\mathcal{A}\mathcal{B}\mathcal{C}\mathcal{D}\mathcal{E}\mathcal{F}\mathcal{G}\mathcal{H}\mathcal{I}\mathcal{J}\mathcal{K}\mathcal{L}\mathcal{M}\mathcal{N}\mathcal{O}\mathcal{P}\mathcal{Q}\mathcal{R}\mathcal{S}\mathcal{T}\mathcal{U}\mathcal{V}\mathcal{W}\mathcal{X}\mathcal{Y}\mathcal{Z}$ $\mathfrak{a}\mathfrak{b}\mathfrak{c}\mathfrak{d}\mathfrak{e}\mathfrak{f}\mathfrak{g}\mathfrak{h}\mathfrak{i}\mathfrak{j}\mathfrak{k}\mathfrak{l}\mathfrak{m}\mathfrak{n}\mathfrak{o}\mathfrak{p}\mathfrak{q}\mathfrak{r}\mathfrak{s}\mathfrak{t}\mathfrak{u}\mathfrak{v}\mathfrak{w}\mathfrak{x}\mathfrak{y}\mathfrak{z}$
 $\mathcal{A}\mathcal{B}\mathcal{C}\mathcal{D}\mathcal{E}\mathcal{F}\mathcal{G}\mathcal{H}\mathcal{I}\mathcal{J}\mathcal{K}\mathcal{L}\mathcal{M}\mathcal{N}\mathcal{O}\mathcal{P}\mathcal{Q}\mathcal{R}\mathcal{S}\mathcal{T}\mathcal{U}\mathcal{V}\mathcal{W}\mathcal{X}\mathcal{Y}\mathcal{Z}$
 $\mathfrak{a}\mathfrak{b}\mathfrak{c}\mathfrak{d}\mathfrak{e}\mathfrak{f}\mathfrak{g}\mathfrak{h}\mathfrak{i}\mathfrak{j}\mathfrak{k}\mathfrak{l}\mathfrak{m}\mathfrak{n}\mathfrak{o}\mathfrak{p}\mathfrak{q}\mathfrak{r}\mathfrak{s}\mathfrak{t}\mathfrak{u}\mathfrak{v}\mathfrak{w}\mathfrak{x}\mathfrak{y}\mathfrak{z}$

but this can be overwritten, i.e.

```

\setmathfont{Asana-Math.otf}[range=frak,Scale=MatchUppercase]
$\symfrac{ABCDEFGHJKLMN...XYZ}{\mathfrak{a}\mathfrak{b}\mathfrak{c}\mathfrak{d}\mathfrak{e}\mathfrak{f}\mathfrak{g}\mathfrak{h}\mathfrak{i}\mathfrak{j}\mathfrak{k}\mathfrak{l}\mathfrak{m}\mathfrak{n}\mathfrak{o}\mathfrak{p}\mathfrak{q}\mathfrak{r}\mathfrak{s}\mathfrak{t}\mathfrak{u}\mathfrak{v}\mathfrak{w}\mathfrak{x}\mathfrak{y}\mathfrak{z}}$

```

 Typewriter alphabet is sans-serif: 0123456789
 ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
 but it can be borrowed from another maths font.

3.7 Bold variant

In case short maths formulas have to be printed in section titles, a *limited* bold variant is provided. Example of usage: **Einstein's equation $E = mc^2$**

```

\setmathfont{LeteSansMath-Bold.otf}[version=bold, options]
\section{\mathversion{bold} Einstein's equation  $E=mc^2$ )

```

It is also possible to use the `\boldmath` command¹³:

```

\setmathfont{LeteSansMath.otf}[BoldFont=LeteSansMath-Bold.otf]
\section{\boldmath Einstein's equation  $E=mc^2$ )

```

3.8 Missing symbols

Lete Sans Math is fairly complete (see file `unimath-lete.pdf`), if you happen to need some of the few missing glyphs you can borrow them from a more complete font, say New Computer Modern. For instance if you need Italic Blackboard Bold (U+2145 to U+2149) you could try:

```

\setmathfont{NewCMMath-Book.otf}[range={"2145-"2149},Scale=1.05]

```

Let's mention `albatross`, a useful tool to find out the list of fonts providing a given glyph: f.i. type in a terminal "`albatross -t U+2145`", see the manpage or `albatross-manual.pdf`.

¹³The `\boldmath` command works out of the box when `lete-sans-math.sty` is loaded.

4 Acknowledgements

Many thanks to [Łukasz Dziejic](#) for providing the Lato text fonts in OpenType format.

We are grateful to George Williams and his co-workers for providing and maintaining FontForge and to Ulrik Vieth for his illuminating paper published in TUGboat 2009 Volume 30 about OpenType Maths.

