The unimath-plain-XeTeX package

AlphaZTX

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Abstract

unimath-plain-XeTeX package provides OpenType math font support in *plain TeX* format. The unimath-plain-XeTeX package needs XeTeX.

1 How to use this package?

Please notice again that you're using *plain* format but not LaTeX format. If you are using LaTeX format, please use unicode-math package instead.

In your document, write

```
\input unimath-plain-xetex
```

Then compile your document with `xetex`, you can get OpenType math support in your document. The package will set the math font "Latin Modern Math" with "Latin Modern" text fonts in default. To change the font, you can define some names before loading the package. For example,

```
\def\mainfontname{TeX Gyre Termes}
\def\sansfontname{TeX Gyre Heros}
\def\monofontname{TeX Gyre Cursors}
\def\mathfontname{TeX Gyre Termes Math}
\input unimath-plain-xetex
```

Your text fonts will be set in the first 3 lines and your math font will be set in the fourth line.

Currently, the package supports only font family names to use, if you want to use the file names, you can revise the code in `unimath-plain-xetex.tex`.

2 Text font commands

The package provides text font commands in the format of

\⟨*pt-size*⟩⟨*family*⟩⟨*series*⟩⟨*shape*⟩

such as `\tensfbfit`, `\twelvebf`, etc. The packages provides font commands in size of 5 pt, 7 pt, 9 pt, 10 pt, 12 pt and 20 pt, such as `\fiverm`, `\sevensf`, `\twelvett`, etc.

Take ten point as an example,

Serif

	Upright	*Italic*
Medium	`\tenrm`	`\tenit`
Bold	`\tenbf`	`\tenbfit`

Sans

	Upright	*Italic*
Medium	`\tensf`	`\tensfit`
Bold	`\tensfbf`	`\tensfbfit`

Typewriter

	Upright	*Italic*
Medium	`\tentt`	`\tenttit`
Bold	`\tenttbf`	`\tenttbfit`

The font commands can be used as those provided in `plain.tex`, for example, `{\tenbfit ABC}` yields ***ABC***.

But if you would't like to remember that many commands, you can write

`\makefontcmdcompatible{`⟨*pt-size*⟩`}`

after loading the package. For example, if you write

```
\makefontcmdcompatible{ten}
```

the ⟨*family*⟩-⟨*series*⟩-⟨*shape*⟩ order of `\ten`⟨*some*⟩ commands can be write randomly: writing `\tenbfsfit` is the same as `\tensfbfit`.

You can also get more text font commands through the `\genfontcmd` command:

`\genfontcmd{`⟨*pt-size*⟩`}{`⟨*dimension*⟩`}`

For example,

```
\genfontcmd{fortyfour}{44pt}
\genfontcmd{verytiny}{2bp}
```

will make commands like `\fortyfourrm` and `\verytinysfbfit` available.

3 Math font commands

You can input math formulae just like using traditional plain TEX. But OpenType math font is loaded. For example, `$a{\bf0}={\bf0}$` yields $a\mathbf{0} = \mathbf{0}$. Available math font commands are listed below:

```
\rm, \bf, \it, \bfit,\sf, \sfbf, \sfit, \sfbfit,
\tt, \cal, \calbf, \bb, \bbit, \frak, \frakbf
```

The ⟨*family*⟩-⟨*series*⟩-⟨*shape*⟩ order of these commands allows being random; `cal` can be replaced by `scr`.

This package uses `unicode-math-symbols.tex` to generate math symbol commands, the source file can be found in `unicode-math` package. To find all of the math symbol commands, you can execute

```
texdoc unimath-symbols
```

in Terminal.

You can also input Unicode math characters in your document's source file. For example, `$∫_a^b y\,dx$` yields $\int_a^b y\,dx$ and `$$∫_a^b y\,dx.$$` yields

$$\int_a^b y\,dx.$$