PL46 OpenType Fonts

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v0.101

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Abstract

pl46-fonts is an OpenType text and mathematics font package for XeLaTeX and LuaLaTeX. It loads PL46 Regular and PL46 Bold as the main text family, PL46 Mono as the monospaced text font, and PL46 Math as the mathematics font.

The PL46 fonts are developed at **https://github.com/u6771/pl46**.

1 Usage

Load **pl46-fonts** with

```
\usepackage[<options>]{pl46-fonts}
```

By default, **pl46-fonts** selects PL46 Regular as the main text font, PL46 Bold as its bold face, PL46 Mono as the monospaced text font, and PL46 Math as the mathematics font.

The PL46 font family currently has no italic or bold italic text face. PL46 Mono currently has only a regular face.

pl46-fonts provides the following option:

no-text Leave the main and monospaced text fonts unchanged and select only PL46 Math as the mathematics font.

All other options are passed to **unicode-math**. For example,

```
\usepackage[no-text,math-style=ISO]{pl46-fonts}
```

pl46-fonts requires XeLaTeX or LuaLaTeX and loads **iftex** and **unicode-math**.

2 Font Specimens

The following is a representative selection of PL46 Math. For a complete list of encoded Unicode characters, see **pl46-fonts-table.pdf**.

2.1 Examples

An equation:

$$\sum_{n=1}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6},$$

and another equation:

$$\int_{-\infty}^{\infty} e^{-x^2}\,dx = \sqrt{\pi}.$$

2.2 Digits

- Digits (**\symup**): 0123456789
- Typewriter Digits (**\symtt**): **0123456789**
- Bold Digits (**\symbf**): **0123456789**

2.3 Alphabets

- Upright Latin Uppercase (**\symup**):

  ABCDEFGHIJKLMNOPQRSTUVWXYZ

- Upright Latin Lowercase (**\symup**):

  abcdefghijklmnopqrstuvwxyz

- Upright Greek Uppercase (**\symup**):

  ΑΒΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ

- Upright Greek Lowercase (**\symup**):

  αβγδεζηθικλμνξοπρστυφχψω

- Italic Latin Lowercase (**\symit**):

$$f x$$

- Script Latin Uppercase (**\symscr**):

$$\mathscr{ABCDEFGHIJKLMNOPQRSTUVWXYZ}$$

- Fraktur Latin Uppercase (**\symfrak**):

$$\mathfrak{ABCDEFGHIJKLMNOPQRSTUVWXYZ}$$

- Fraktur Latin Lowercase (**\symfrak**):

$$\mathfrak{abcdefghijklmnopqrstuvwxyz}$$

- Blackboard Latin Uppercase (**\symbb**):

$$\mathbb{ABCDEFGHIJKLMNOPQRSTUVWXYZ}$$

- Typewriter Latin Uppercase (**\symtt**):

$$\mathtt{ABCDEFGHIJKLMNOPQRSTUVWXYZ}$$

- Typewriter Latin Lowercase (**\symtt**):

$$\mathtt{abcdefghijklmnopqrstuvwxyz}$$

- Bold Latin Uppercase (**\symbf**):

$$\mathbf{ABCDEFGHIJKLMNOPQRSTUVWXYZ}$$

- Bold Latin Lowercase (**\symbf**):

$$\mathbf{abcdefghijklmnopqrstuvwxyz}$$

2.4 Delimiters

- **()**, **[]**, and **\{\}**:

$$\left(\left(\left((x)\right)\right)\right) \quad \left[\left[\left[[x]\right]\right]\right] \quad \left\{\left\{\left\{\{x\}\right\}\right\}\right\}$$

- **\lceil** (**\rceil**), **\lfloor** (**\rfloor**), and **\lBrack** (**\rBrack**):

$$\left\lceil\left\lceil\left\lceil\lceil x\rceil\right\rceil\right\rceil\right\rceil \quad \left\lfloor\left\lfloor\left\lfloor\lfloor x\rfloor\right\rfloor\right\rfloor\right\rfloor \quad \left\llbracket\left\llbracket\left\llbracket\llbracket x\rrbracket\right\rrbracket\right\rrbracket\right\rrbracket$$

- **\langle** (**\rangle**) and **\lAngle** (**\rAngle**):

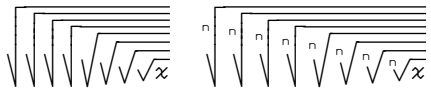
$$\left\langle\left\langle\left\langle\langle x\rangle\right\rangle\right\rangle\right\rangle \quad \left\lAngle\left\lAngle\left\lAngle\lAngle x\rAngle\right\rAngle\right\rAngle\right\rAngle$$

- **\vert** and **\Vert**:

$$\left|\left|\left|\left|x\right|\right|\right|\right| \quad \left\|\left\|\left\|\left\|x\right\|\right\|\right\|\right\|$$

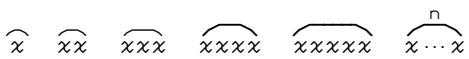
2.5 Radicals

- \sqrt and \sqrt[n]:

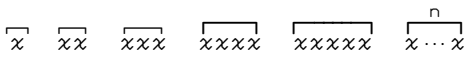


2.6 Accents

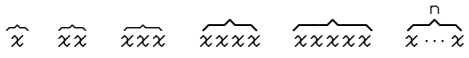
- \overparen:



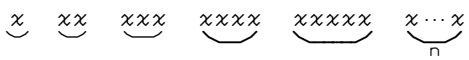
- \overbracket:



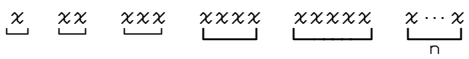
- \overbrace:



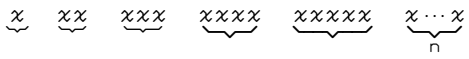
- \underparen:



- \underbracket:

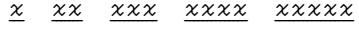


- \underbrace:



- \wideoverbar:

- \mathunderbar:



- \overleftharpoon:

- \overrightharpoon:

- \overrightarrow:

$$\vec{x} \quad \overrightarrow{xx} \quad \overrightarrow{xxx} \quad \overrightarrow{xxxx} \quad \overrightarrow{xxxxx}$$

- \widehat:

$$\hat{x} \quad \widehat{xx} \quad \widehat{xxx}$$

- \widecheck:

$$\check{x} \quad \widecheck{xx} \quad \widecheck{xxx}$$

- \widetilde:

$$\tilde{x} \quad \widetilde{xx} \quad \widetilde{xxx}$$

- \dot, \ddot, \dddot, and \ddddot:

$$\dot{x} \quad \ddot{x} \quad \dddot{x} \quad \ddddot{x}$$

- ', '', ''', and '''':

$$x' \quad x'' \quad x''' \quad x''''$$

2.7 Big Operators

- \prod, \coprod, and \sum:

$$\prod_{i=0}^{n} \quad \coprod_{i=0}^{n} \quad \sum_{i=0}^{n}$$

- \bigcap, \bigcup, \bigcupdot, and \biguplus:

$$\bigcap_{i=0}^{n} \quad \bigcup_{i=0}^{n} \quad \bigcupdot_{i=0}^{n} \quad \biguplus_{i=0}^{n}$$

- \bigsqcap, \bigsqcup, \bigwedge, and \bigvee:

$$\bigsqcap_{i=0}^{n} \quad \bigsqcup_{i=0}^{n} \quad \bigwedge_{i=0}^{n} \quad \bigvee_{i=0}^{n}$$

- \bigodot, \bigoplus, and \bigotimes:

$$\bigodot_{i=0}^{n} \quad \bigoplus_{i=0}^{n} \quad \bigotimes_{i=0}^{n}$$

- \int, \iint, \iiint, and \iiiint:

$$\int_{0}^{1} \quad \iint_{\Omega} \quad \iiint_{\Omega} \quad \iiiint_{\Omega}$$

- \intclockwise, \awint, \varointclockwise, and \ointctrclockwise:

$$\intclockwise_{\Omega} \quad \awint_{\Omega} \quad \varointclockwise_{\Omega} \quad \ointctrclockwise_{\Omega}$$

- \oint, \oiint, and \oiiint:

$$\oint_{\Omega} \quad \oiint_{\Omega} \quad \oiiint_{\Omega}$$

2.8 Binary Operators

- +, -, \times, and \div:

$$a + b \quad a - b \quad a \times b \quad a \div b$$

- \pm and \mp:

$$a \pm b \quad a \mp b$$

- \cdot, \ast, \star, and \circ:

$$a \cdot b \quad a \ast b \quad a \star b \quad a \circ b$$

- \oplus, \ominus, \otimes, and \oslash:

$$A \oplus B \quad A \ominus B \quad A \otimes B \quad A \oslash B$$

- \amalg, \fracslash, \divslash, and \setminus:

$$A \amalg B \quad A \fracslash B \quad A \divslash B \quad A \setminus B$$

- \cap, \cup, \cupdot, and \uplus:

$$A \cap B \quad A \cup B \quad A \cupdot B \quad A \uplus B$$

- \sqcap, \sqcup, \wedge, and \vee:

$$A \sqcap B \quad A \sqcup B \quad A \wedge B \quad A \vee B$$

- \ltimes, \rtimes, \leftthreetimes, and \rightthreetimes:

$$A \ltimes B \quad A \rtimes B \quad A \leftthreetimes B \quad A \rightthreetimes B$$

2.9 Ordinary Symbols

- \neg, \forall, and \exists:

$$\neg \quad \forall \quad \exists$$

- \partial, \nabla, and \increment:

$$\partial \quad \nabla \quad \Delta$$

- \hbar, \imath, and \jmath:

$$\hbar \quad \imath \quad \jmath$$

- \ell and \wp:

$$\ell \quad \wp$$

- \flat, \natural, and \sharp:

$$\flat \quad \natural \quad \sharp$$

- \aleph, \beth, \gimel, and \daleth:

$$\aleph \quad \beth \quad \gimel \quad \daleth$$

2.10 Relation Symbols

- `<`, `\leq`, and `=`:

$$a < b \quad a \leq b \quad a = b$$

- `\sim`, `\simeq`, and `\cong`:

$$a \sim b \quad A \simeq B \quad A \cong B$$

- `\in`, `\subset`, and `\subseteq`:

$$a \in A \quad A \subset B \quad A \subseteq B$$

- `\mapsto`, `\rightarrow`, `\hookrightarrow`, and `\twoheadrightarrow`:

$$a \mapsto b \quad A \to B \quad A \hookrightarrow B \quad A \twoheadrightarrow B$$

- `\implies` and `\iff`:

$$A \Longrightarrow B \quad A \Longleftrightarrow B$$