Support for the Lucida OpenType fonts from TUG

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Contents

1 Introduction

This document contains examples of the Lucida OpenType fonts available through TUG. They can be used with any OpenType-aware application, including the LuaTeX and XeTeX extensions of TeX (but not pdfTeX).

A brief overview:

- Math fonts: Lucida Bright Math and Lucida Bright Math Demi, extended OpenType versions of the original Type 1 Lucida math fonts.

- Three text families (regular, italic, bold, bold italic) also coming from the original Type 1 distribution: Lucida Bright, Lucida Sans, and Lucida Sans Typewriter.

- Three specialized fonts from the original Type 1 distribution: Blackletter, Calligraphy, and Handwriting.

® Lucida is a trademark of Bigelow & Holmes Inc. registered in the U.S. Patent & Trademark Office and other jurisdictions.

- Two additional monospaced font families (same four variants): Lucida Grande Mono DK and Lucida Console DK. These have O (oh), and Q glyphs modified to a somewhat squarish shape, and the 0 (zero) glyph open rather than slashed, as preferred by Don Knuth. As usual, Lucida ConsoleDK has shorter capitals than Grande Mono, among other smaller changes. (If you don't have the DK fonts and want to remake this document as a test, you'll need to remove the references to them.)

The package `lucida-otf` supports all families with specific optional arguments:

name	meaning
RM	Lucida Bright (Roman)
SS	Lucida Sans
TT	Lucida Sans Typewriter
GTT	Lucida GrandeDK
CTT	Lucida ConsoleDK
MM	Lucida Math
MMbold	Lucida Boldmath
BL	Lucida Blacklatter
CAL	Lucida Calligraphy
HW	Lucida Handwriting
DefaultFeatures	for all font styles

Except math all fonts are preset with `Scale=0.92`. For this documentation we use instead:

```
\usepackage[TT={Scale=0.88,FakeStretch=0.9},
            SS={Scale=0.9},
            RM={Scale=0.9},
            DefaultFeatures={Ligatures=TeX}]{lucida-otf}  % support opentype lucida fonts
```

The standard font families `rm`, `sf`, and `tt` can be used as usual for any LaTeX engine. The other specific Lucida fonts can be used by one of the macros `\LucidaBlackletter`, `\LucidaCalligraphy`, `\LucidaHandwriting`, `\LucidaGrandeMonoDK`, and `\LucidaConsoleDK`. They are defined as:

```
% The specialized one-off fonts:
\newfontface\LucidaBlackletter{LucidaBlackletterOT}[Extension=.otf,\lucidaBL@features]
\newfontface\LucidaCalligraphy{LucidaCalligraphyOT-Italic}[Extension=.otf,\lucidaCAL@features]
\newfontface\LucidaHandwriting{LucidaHandwritingOT-Italic}[Extension=.otf,\lucidaHW@features]
%
% GrandeMono and Console fonts for an example:
```

```
\newfontfamily\LucidaGrandeMonoDK{LucidaGrandeMonoDK}[
        Extension = .otf,
  \lucidaGrandeTT@features,
      ItalicFont = *-Italic,
        BoldFont = *-Bold,
  BoldItalicFont = *-BoldItalic
]
%
\newfontfamily\LucidaConsoleDK{LucidaConsoleDK}[%
        Extension = .otf,
  \lucidaConsoleTT@features,
      ItalicFont = *-Italic,
        BoldFont = *-Bold,
  BoldItalicFont = *-BoldItalic
]
```

2 Kerning

For LuaLATEX the package uses by default a kerning table (Kerning table `lucida-otf.kern` was created by Bruno Bischoffberger (https://github.com/whilealive/LaTeX_styles) and extended by the original kernings from YandY (http://tug.org/yandy).

An example (Blue is *with* kerning):
AC, AG, AJ, AO, AQ, AS, AT, AU, AV, AW, Aa, Ac, Ae, Ao, Ap, Aq, At, Av, Ay, Az, Ce, Co, Cw, Cy, Da, De, Do, Fa, Fe, Fy, Ha, He, Ib, Io, Iq, Ja, Je, Jo, Ka, Ke, Ko, Ku, Ky, Ly, Na, Ni, No, Oa, Og, Oh, Ok, Ol, Ot, Pa, Po, Pv, Pw, Ra, Rd, Re, Rj, Ro, Ru, Rw, Ry, Ta, Td, Te, To, Tr, Ts, Tu, Tw, Ty, Tz, Va, Ve, Vo, Vs, Wa, We, Wo, Wy, Ya, Ye, Yi, Yo, Yp, Ys, Yu, Za, Ze, Zo, Zu, Zü, Zy

If you do not want to use the kerning table, then load the package with the optional argument `useKerning=false`.

3 Stylistic sets for math

It makes no real sense to change the setting in the middle of a text docuument, because it should be used for the complete document.

For example, with:

`\usepackage[MM={StylisticSet=ss03}]{LucidaBrightMathOT.otf}`

the $\sum$ has a smaller height of 9.49364pt instead of the default height of 10.8186pt. However, a local change of the math features is possible with the macro `\Lss`. It expects two digits and the math argument

---

Local change of math features

`\Lss03{\sum}` vs.`\` default `$\sum$`.   ∑ vs. default ∑.

---

ss01   alternate Latin lower case math italic identical to text italic. This option is not recommended as Greek ν (nu) and Latin v (vee) become too similar; cf. default vee: v.

ss02   smaller arrows (original Type 1 size): ⇑ vs. default ⇑.

ss03   smaller operators (original Type 1 size): ∑ vs. default ∑.

ss04   calligraphic alternative (similar to the Type 1 design) to the math script alphabet: $\mathcal{ABC}\,xyz$ vs. default $\mathscr{ABC}\,xyz$.

ss05   use a slashed-zero style for the empty set character (U+2205): ∅ vs. default ∅.

ss20   upright partial differential character (U+2202): ∂ vs. default ∂.

4   Text examples

The basic text family is `LucidaBrightOT`, with the usual four variants—regular, italic, bold, and bold italic, all with oldstyle figures; small caps are available in the upright shapes.

For £45, almost anything can be found floating in fields. ¡THE DAZED BROWN FOX QUICKLY GAVE 12345–67890 JUMPS! — ¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve vis-à-vis the dæmonic phœnix's official rôle in fluffy soufflés? Sᴘʜɪɴx ᴏf ʙʟᴀᴄᴋ ǫᴜᴀʀᴛᴢ, ᴊᴜᴅɢᴇ ᴍʏ ᴠᴏᴡ. 0123456789.   `LucidaBrightOT`

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LucidaBrightOT-DemiboldItalic

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LucidaSansOT

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LucidaSansOT-Italic

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LucidaSansTypewriterOT-Oblique

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¿But aren't Kafka's Schloß and Æsop's Œuvres often naïve
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```

LucidaSansTypewriterOT-Bold

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LucidaSansTypewriterOT-BoldOblique

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LucidaGrandeMonoDK

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LucidaGrandeMonoDK-Italic

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LucidaGrandeMonoDK-Bold

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LucidaConsoleDK

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LucidaConsoleDK-Italic

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LucidaConsoleDK-Bold

LucidaConsoleDK-BoldItalic

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LucidaBlackletterOT

LucidaCalligraphyOT

LucidaHandwritingOT

Euro and copyright symbols are available: € ©.

5 Math examples

```
Here's some math:
\[
  \phi(x)=\int_{-\infty}^{x} e^{-x^{2}/2}
\]
And now bold math:
\mathversion{bold}
\[
  \phi(x)=\int_{-\infty}^{x} e^{-x^{2}/2}
```

```
\]
\mathversion{normal}
\[
  \symbf{\phi(x)}=\int_{-\infty}^{x} \symbf{e^{-x^{2}/2}}
\]
```

Here's some math:

$$\phi(x) = \int_{-\infty}^{x} e^{-x^2/2}$$

And now bold math:

$$\phi(x) = \int_{-\infty}^{x} e^{-x^2/2}$$

$$\boldsymbol{\phi}(\mathbf{x}) = \int_{-\infty}^{x} \mathbf{e}^{-\mathbf{x}^2/\mathbf{2}}$$

6 Closing

If you have questions or problems regarding installation or use, please email `lucida@tug.org`; this is an open and publicly archived list for Lucida discussion; you can subscribe on the web at http://lists.tug.org/lucida. On the other hand, questions or problems related to ordering or licensing should go to `lucida-admin@tug.org`.

Finally, B&H's web site for Lucida is http://lucidafonts.com, and the home page for Lucida and TEX is http://tug.org/lucida.

The font list of this documentation is:

References

[1] Charles Bigelow and Kris Holmes. "The design of Lucida: an integrated family of types for electronic literacy". In: *Text Processing and Document Manipulation*. Proceedings of the International Conference. Ed. by J. C. van Vliet. Cambridge: Cambridge University Press, Apr. 14, 1986, pp. 1–17. ISBN: 0-521-32592-7.

[2] Bigelow & Holmes. *Lucida$^{©}$ Fonts – Exclusive Styles & Weights. Typographic Facts*. URL: http://lucidafonts.com/pages/facts (visited on 03/24/2017).

[3] *Fontconfig. A library for configuring and customizing font access*. June 15, 2016. URL: https://www.freedesktop.org/wiki/Software/fontconfig/ (visited on 03/18/2017).

[4] WIKIPEDIA. *List of typographic features*. Feb. 21, 2017. URL: https://en.wikipedia.org/wiki/List_of_typographic_features (visited on 03/24/2017).

[5] Wikipedia. *Lucida*. Oct. 19, 2016. URL: https://en.wikipedia.org/wiki/Lucida (visited on 04/03/2017).