Unslanted Digits in Adobe Utopia Italics*

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Abstract

The *Annals of Mathematics* uses italics for theorems. However, slanted digits and parentheses look disturbing when surrounded by (upright) math. This package provides virtual fonts with italics and upright digits and punctuation.

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1 Introduction

This package provides fonts for the *Annals of Mathematics.* The journal uses italics for theorems, but the house style requires upright digits and punctuation. Since the journal switched to Adobe Utopia fonts, it needed matching fonts for theorems typesetting.

To install the package you need the file `http://mirrors.ctan.org/install/fonts/mdputu.tds.zip/` Unzip this file in `$TEXMF`. Run `texhash` to update the configuration files and file names database.

To use the package, you need to call it after `\usepackage[utopia]{mathdesign}`:

```
\usepackage[utopia]{mathdesign}
\usepackage{mdputu}
```

`\sitshape`
`\textsit`
`\specialdigits`

This will define new font shape 'special italics', which can be switched on by the declaration `\sitshape` or command `\textsit`, for example

```
{\sitshape This is example~1,} and this is \textsit{example~2.}
```

The command `\specialdigits` changes italics to special italics:

```
Here the numbers \textit{123 are slanted}.  {\specialdigits Here
the numbers \textit{123 are uprigt.}}
```

2 Implementation

2.1 Identification

We start with the declaration who we are. Most `.dtx` files put driver code in a separate driver file `.drv`. We roll this code into the main file, and use the pseudo-guard `<gobble>` for it.

```
 1 ⟨style⟩\NeedsTeXFormat{LaTeX2e}
 2 ⟨*gobble⟩
 3 \ProvidesFile{mdputu.dtx}
 4 ⟨/gobble⟩
 5 ⟨style⟩\ProvidesClass{mdputu}
 6 ⟨drv⟩\ProvidesFile{drv.tex}
 7 ⟨*!mtx⟩
 8 [2010/11/02 v1.2 Adobe Utopia Font with Unslanted Digits]
 9 ⟨/!mtx⟩
```

And the driver code:

```
10 ⟨*gobble⟩
11 \documentclass{ltxdoc}
12 \usepackage{booktabs,amsmath}
13 \usepackage{url}
```

```
14 \usepackage[breaklinks,colorlinks,linkcolor=black,citecolor=black,
15            pagecolor=black,urlcolor=black,hyperindex=false]{hyperref}
16 \PageIndex
17 \CodelineIndex
18 \RecordChanges
19 \EnableCrossrefs
20 \begin{document}
21   \DocInput{mdputu.dtx}
22 \end{document}
23 ⟨/gobble⟩
```

2.2 Fontinst Driver

First, we read the Fontinst program `fontinst.sty`:

```
24 ⟨*drv⟩
25 \input fontinst.sty
```

Standard substitutions.

```
26 \substitutesilent{bx}{b}
```

First, we create `.pl` files

```
27 \generalpltomtx{mdputri7t}{mdputri7t}{vpl}{}
28 \generalpltomtx{mdputr7t}{mdputr7t}{vpl}{}
29 \generalpltomtx{mdputbi7t}{mdputbi7t}{vpl}{}
30 \generalpltomtx{mdputb7t}{mdputb7t}{vpl}{}
31 \generalpltomtx{mdputri8t}{mdputri8t}{vpl}{}
32 \generalpltomtx{mdputr8t}{mdputr8t}{vpl}{}
33 \generalpltomtx{mdputbi8t}{mdputbi8t}{vpl}{}
34 \generalpltomtx{mdputb8t}{mdputb8t}{vpl}{}
```

Now font installation the first one:

```
35 \installfonts
36 \installfamily{OT1}{mdputu}{}
37 \installfont{mdputuri7t}{%
38   mdputri7t,deldigits,mdputr7t}{ot1}{OT1}{mdputu}{m}{si}{}
39 \installfont{mdputubi7t}{%
40   mdputbi7t,deldigits,mdputb7t}{ot1}{OT1}{mdputu}{bx}{si}{}
41 \installfamily{T1}{mdputu}{}
42 \installfont{mdputuri8t}{%
43   mdputri8t,deldigits,mdputr8t}{t1}{T1}{mdputu}{m}{si}{}
44 \installfont{%
45   mdputubi8t}{mdputbi8t,deldigits,mdputb8t}{t1}{T1}{mdputu}{bx}{si}{}
46 \endinstallfonts
47 \bye
48 ⟨/drv⟩
```

2.3 Deleting Digits

Everything between \relax and \metrix is just a comment:

```
49 ⟨*mtx⟩
```

```
50 \relax
51 Unset all digits and punctuation
52 \metrics
```

The file itself uses the command \unsetglyph. We unset the digits, parenthesizes, etc.

```
53 \unsetglyph{exclam}
54 \unsetglyph{parenleft}
55 \unsetglyph{parenright}
56 \unsetglyph{comma}
57 \unsetglyph{period}
58 \unsetglyph{slash}
59 \unsetglyph{zero}
60 \unsetglyph{one}
61 \unsetglyph{two}
62 \unsetglyph{three}
63 \unsetglyph{four}
64 \unsetglyph{five}
65 \unsetglyph{six}
66 \unsetglyph{seven}
67 \unsetglyph{eight}
68 \unsetglyph{nine}
69 \unsetglyph{colon}
70 \unsetglyph{semicolon}
71 \unsetglyph{exclamdown}
72 \unsetglyph{questiondown}
73 \unsetglyph{question}
74 \unsetglyph{bracketleft}
75 \unsetglyph{bracketright}
76 \unsetglyph{braceleft}
77 \unsetglyph{braceright}
78 \endmetrics
79 ⟨/mtx⟩
```

2.4 Style File

Now we are ready to work on the style file. First, some `fd` commands. They belong here rather than in a proper `fd` file because we want to add to the `mdput` files, not to overwrite them:

```
80 ⟨∗style⟩
81 \InputIfFileExists{ot1mdput.fd}{}{\ClassError{mdputu}{You do not have
82     mathdesign package installed!}}
83 \InputIfFileExists{t1mdput.fd}{}{\ClassError{mdputu}{You do not have
84     mathdesign package installed!}}
85 \DeclareFontShape{OT1}{mdput}{m}{si}{
86    <-> s * [0.92] mdputuri7t
87 }{}
88 \DeclareFontShape{OT1}{mdput}{bx}{si}{
89    <-> s * [0.92] mdputubi7t
```

```
90 }{}
91 \DeclareFontShape{OT1}{mdput}{b}{si}{<-> ssub * mdputu/bx/si}{}
92 \DeclareFontShape{T1}{mdput}{m}{si}{
93     <-> s * [0.92] mdputuri8t
94 }{}
95 \DeclareFontShape{T1}{mdput}{bx}{si}{
96     <-> s * [0.92] mdputubi8t
97 }{}
98 \DeclareFontShape{T1}{mdput}{b}{si}{<->ssub * mdputu/bx/si}{}
```

Now we are ready for font changing commands.

\sishape   First, the declaration:

```
99 \DeclareRobustCommand\sishape{%
100    \not@math@alphabet\itshape\mathit
101    \fontshape{si}\selectfont}
```

\textsi   And the command:

```
102 \DeclareTextFontCommand{\textsi}{\sishape}
```

\specialdigits   This macro checks whether the current shape is italics; if yes, it switches to special italics

```
103 \def\specialdigits{\def\itdefault{si}}
```

```
104 ⟨/style⟩
```

Change History

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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.