Package `dblfont`[*]

F. Bosisio

E-mail: `fbosisio@bigfoot.com`

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Abstract

Documentation for the package `dblfont`.

1 Introduction

This package provides the font "`\DblFont`" (font `msbm10`), which corresponds to the so called blackdoard-bold symbols.

2 The options

For each uppercase letter "`X`" a corresponding "`X`" and "`XX`" options exist: they declare the commands "`\X`" and "`\XX`" which both generate the letter `X` in `DblFont`. If a command named "`\X`" or "`\XX`" already exists in LaTeX, its definition is first saved in "`\BackDoubleX`" or "`\BackDoubleXX`", respectively.

Also a "`RT`" option exists: it declares the "`\RT`" command, which generates the two letters `RT` in `DblFont` (used for the Raviart-Thomas spaces).

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3   Implementation

```
1 %%
2 \NeedsTeXFormat{LaTeX2e}[1995/12/01]
3 \ProvidesPackage{\FileName}[\filedate\space v\fileversion\space\filedescr]
```

The font "\DblFont" is loaded, if not already done.

```
4 %%
5 \newfont{\DblFont}{msbm10 scaled \magstep1}
```

The "\DeclareDblFontSymbol" has one argument which is used both as the command name to define and as the output it should generate (in \DblFont). The "\csname #1 \endcsname" sequence adds a backslash in front of the argument, to get the command name.

```
6 %%
7 \newcommand*\DeclareDblFontSymbol[1]{%
8 \expandafter\newcommand*\csname #1\endcsname{\ensuremath{\mathbb{#1}}}%
9 }
```

The "\dECL@REdBLfONTsYMBOL" has one argument which is used both as the command name to define (doubled) and as the output it should generate (in \DblFont). The "\csname #1#1 \endcsname" sequence adds a backslash in front of the argument and doubles it, to get the command name.

```
10 \newcommand*\dECL@REdBLfONTsYMBOL[1]{%
11 \expandafter\newcommand*\csname #1#1\endcsname{\ensuremath{\mathbb{#1}}}%
12 }
```

The command "\BackUpL@texCmd{<X>}" saves the command "\<X>" in the macro "\BackDouble<X>" and then undefines "\<X>", so that a "\newcommand*\<X>{..}" can be used to redefine it.

```
13 %%
14 \newcommand*\BackUpL@texCmd[1]{%
15 \expandafter\let\csname BackDouble#1\endcsname=\csname #1\endcsname%
16 \expandafter\let\csname #1\endcsname\undefined%
17 \typeout{*** Command name ``#1'' has been replaced by ``BackDouble#1''! ***}%
18 }
```

An option exists for each uppercase letter: it declares the command "\X" which generates the letter X in DblFont, where X denotes the letter under consideration. If a command named "\X" already exists in LaTeX, its definition is saved in "\BackDoubleX", before being redefined.

```
19 %%
20 \DeclareOption{A}{\DeclareDblFontSymbol{A}}
21 \DeclareOption{B}{\DeclareDblFontSymbol{B}}
```

```
22 \DeclareOption{C}{\DeclareDblFontSymbol{C}}
23 \DeclareOption{D}{\DeclareDblFontSymbol{D}}
24 \DeclareOption{E}{\DeclareDblFontSymbol{E}}
25 \DeclareOption{F}{\DeclareDblFontSymbol{F}}
26 \DeclareOption{G}{\DeclareDblFontSymbol{G}}
27 \DeclareOption{H}{\BackUpL@texCmd{H} \DeclareDblFontSymbol{H}}
28 \DeclareOption{I}{\DeclareDblFontSymbol{I}}
29 \DeclareOption{J}{\DeclareDblFontSymbol{J}}
30 \DeclareOption{K}{\DeclareDblFontSymbol{K}}
31 \DeclareOption{L}{\BackUpL@texCmd{L} \DeclareDblFontSymbol{L}}
32 \DeclareOption{M}{\DeclareDblFontSymbol{M}}
33 \DeclareOption{N}{\DeclareDblFontSymbol{N}}
34 \DeclareOption{O}{\BackUpL@texCmd{O} \DeclareDblFontSymbol{O}}
35 \DeclareOption{P}{\BackUpL@texCmd{P} \DeclareDblFontSymbol{P}}
36 \DeclareOption{Q}{\DeclareDblFontSymbol{Q}}
37 \DeclareOption{R}{\DeclareDblFontSymbol{R}}
38 \DeclareOption{S}{\BackUpL@texCmd{S} \DeclareDblFontSymbol{S}}
39 \DeclareOption{T}{\DeclareDblFontSymbol{T}}
40 \DeclareOption{U}{\DeclareDblFontSymbol{U}}
41 \DeclareOption{V}{\DeclareDblFontSymbol{V}}
42 \DeclareOption{W}{\DeclareDblFontSymbol{W}}
43 \DeclareOption{X}{\DeclareDblFontSymbol{X}}
44 \DeclareOption{Y}{\DeclareDblFontSymbol{Y}}
45 \DeclareOption{Z}{\DeclareDblFontSymbol{Z}}
```

An option "XX" exists for each uppercase letter "X": it declares the command "\XX" which generates the letter X in DblFont. If a command named "\XX" already exists in LaTeX, its definition is saved in "\BackDoubleXX", before being redefined.

```
46 %%
47 \DeclareOption{AA}{\dECL@REdBLfONTsYMBOL{A}}
48 \DeclareOption{BB}{\dECL@REdBLfONTsYMBOL{B}}
49 \DeclareOption{CC}{\dECL@REdBLfONTsYMBOL{C}}
50 \DeclareOption{DD}{\dECL@REdBLfONTsYMBOL{D}}
51 \DeclareOption{EE}{\dECL@REdBLfONTsYMBOL{E}}
52 \DeclareOption{FF}{\dECL@REdBLfONTsYMBOL{F}}
53 \DeclareOption{GG}{\dECL@REdBLfONTsYMBOL{G}}
54 \DeclareOption{HH}{\dECL@REdBLfONTsYMBOL{H}}
55 \DeclareOption{II}{\dECL@REdBLfONTsYMBOL{I}}
56 \DeclareOption{JJ}{\dECL@REdBLfONTsYMBOL{J}}
57 \DeclareOption{KK}{\dECL@REdBLfONTsYMBOL{K}}
58 \DeclareOption{LL}{\dECL@REdBLfONTsYMBOL{L}}
59 \DeclareOption{MM}{\dECL@REdBLfONTsYMBOL{M}}
60 \DeclareOption{NN}{\dECL@REdBLfONTsYMBOL{N}}
```

```
61 \DeclareOption{OO}{\dECL@REdBLfONTsYMBOL{O}}
62 \DeclareOption{PP}{\dECL@REdBLfONTsYMBOL{P}}
63 \DeclareOption{QQ}{\dECL@REdBLfONTsYMBOL{Q}}
64 \DeclareOption{RR}{\dECL@REdBLfONTsYMBOL{R}}
65 \DeclareOption{SS}{\BackUpL@texCmd{SS} \dECL@REdBLfONTsYMBOL{S}}
66 \DeclareOption{TT}{\dECL@REdBLfONTsYMBOL{T}}
67 \DeclareOption{UU}{\dECL@REdBLfONTsYMBOL{U}}
68 \DeclareOption{VV}{\dECL@REdBLfONTsYMBOL{V}}
69 \DeclareOption{WW}{\dECL@REdBLfONTsYMBOL{W}}
70 \DeclareOption{XX}{\dECL@REdBLfONTsYMBOL{X}}
71 \DeclareOption{YY}{\dECL@REdBLfONTsYMBOL{Y}}
72 \DeclareOption{ZZ}{\dECL@REdBLfONTsYMBOL{Z}}
```

A further option is for Raviart-Thomas spaces: it declares the command "`\RT`" which generates the two letters `RT` in `DblFont`

```
73 %
74 \DeclareOption{RT}{\DeclareDblFontSymbol{RT}}
```

Finally, the user option are parsed, thereby defining the corresponding commands.

```
75 %
76 \ProcessOptions
```

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Change History