

# Using tabular figures with L<sup>A</sup>T<sub>E</sub>X

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## 1 Introduction

51 51 Traditionally, there has been no distinction between proportional figures (0123456789) and tabular figures (0123456789) in L<sup>A</sup>T<sub>E</sub>X. Effectively, the fonts commonly in use with L<sup>A</sup>T<sub>E</sub>X only include figures of uniform width. This is why, with fonts like Minion Pro, which use proportional figures by default, you have to specifically adapt your document class or even the L<sup>A</sup>T<sub>E</sub>X kernel to employ tabular figures in the right places: the table of contents, enumerations or other material where numbers should line up vertically. The tabfigures package tries to assist you in the most common situations.

## 2 Usage

This package is a collection of patches that inject `\tbfigures` into the involved formatting commands in the right places. You can load this package by putting

```
\usepackage[options]{tabfigures}
```

in the preamble of your document. The options, which are described in the next sections, control which patches are used. (If no options are specified, the package has no effect.) Throughout this document, tabular figures are colored green.

## 3 Options

toc The `toc` option controls whether tabular figures are used for the numbering and page numbers in the table of contents, the list of tables/figures, and similar lists.

<b>4</b>	<b>Moving Information Around</b>	<b>65</b>
4.1	The Table of Contents . . . . .	66
4.2	Cross-References . . . . .	67

eqno The `eqno` option enables tabular figures in equation numbers.

$$\begin{array}{lll} x = y & X = Y & a = b + c \quad (19) \\ x' = y' & X' = Y' & a' = b \quad (20) \\ x + x' = y + y' & X + X' = Y + Y' & a'b = c'b \quad (21) \end{array}$$

`enum` The `enum` option turns on tabular figures in enumerations.

39. The world's fastest supercomputer will have its speed measured in "petaflops", which represent 1,000 trillion calculations per second.
40. The medical name for the part of the brain associated with teenage sulking is "superior temporal sulcus".
41. Some Royal Mail stamps, which of course carry the Queen's image, are printed in Holland.

`bib` The `bib` option activates tabular figures for the labels in the bibliography.

- [19] Leslie Lamport. *TEX: A Document Preparation System*. Addison-Wesley, Reading, MA, 2nd Edition, 1994.
- [20] American Mathematical Society. User's Guide for the `amsmath` Package (Version 2.0). Revised, 2002.
- [21] BBC News. 100 Things We Didn't Know Last Year. 28 December 2006.

(The previous examples have been taken from these sources.)

`lineno` The `lineno` option enables tabular figures for line numbers. Only the `doc` package is supported for now; support for other line-numbering packages is planned.

```
49 \DeclareOption{eqno}{%
50   \AtBeginDocument{%
51     \ifpackageloaded{amsmath}{%
```

## 4 Compatibility

To have any effect, this package relies on the existence of a command `\tbfigures` to switch to tabular figures. For instance, the `MinionPro` package defines this command. (More precisely, the `fontaxes` package, which is included by `MinionPro`, defines this command).

This package has been designed to work with the default settings of the standard document classes `article`, `report` and `book`, their KOMA-Script counterparts, the `memoir` class, the `amsmath` package, and the standard bibliographic styles `numeric` and `alphabetic` of `biblatex` v0.6a.

## 5 Implementation

Ease patching of commands. We store the original meaning of `\cmd` in a safe place and access it later (in the redefinition) with `\tabfig@cmd`.

```
1 (*package)
2 \newcommand*\tabfig@[1]{\tabfig@@\expandafter\cdr\string #1\@nil}
3 \newcommand*\tabfig@[1]{\csname \tabfig@{#1}\endcsname}
4 \newcommand*\tabfig@name{}
5 \newcommand*\tabfig@save[1]{%
6   \edef\tabfig@name{\expandafter\expandafter\expandafter
7     \noexpand\tabfig@{#1}}%
8   \expandafter\newcommand\tabfig@name{}%
9   \expandafter\let\tabfig@name #1%
10 }
```

Just a shorthand.

```
11 \newcommand*\tabfig@def[1]{%
12   \tabfig@save{#1}%
13   \def#1%
14 }
```

Patch `\l@{level}` commands. These commands always take two arguments, the second of which is the page number.

```
15 \newcommand*\tabfig@pname{}
16 \newcommand*\tabfig@patch@l[1]{%
17   \ifundefined{l@#1}{}{%
18     \edef\tabfig@pname{\expandafter\noexpand\csname l@#1\endcsname}%
19     \expandafter\tabfig@save\tabfig@pname
20     \expandafter\edef\tabfig@pname##1##2{%
21       \noexpand\tabfig@
22       \expandafter\noexpand\tabfig@pname
23       {##1}\noexpand\tabfig@font ##2}%
24     }%
25   }%
26 }
```

Debugging.

```
27 \newif\iftabfig@debug \tabfig@debugfalse
28 \DeclareOption{debug}{\tabfig@debugtrue}
```

### 5.1 Equation numbers

We distinguish between the two most frequent cases: `amsmath` and standard  $\text{\LaTeX}$ . All of the following patches work by injecting `\tabfig@font` in the right place. They try to do this as robustly as possible by reusing the original definition.

```
29 \DeclareOption{eqno}{%
30   \AtBeginDocument{%
31     \@ifpackageloaded{amsmath}{%
32       \tabfig@def\maketag@@@#1{\tabfig@\maketag@@{\tabfig@font #1}}%
33     }{%
```

```

34     \CheckCommand*\@eqnnum{{\normalfont \normalcolor (\theequation)}}%
35     \def\@eqnnum{{\normalfont \tabfig@font \normalcolor (\theequation)}}%
36   }%
37 }%
38 }

```

## 5.2 Table of contents

And similar lists such as list of figures and list of tables.

```

39 \DeclareOption{toc}{%
40   \AtBeginDocument{%

```

Generic. First two command that are using in formatting the lists by default.

```

41   \tabfig@def\@dottedtocline#1#2#3#4#5{%
42     \tabfig@\@dottedtocline{#1}{#2}{#3}{#4}{\tabfig@font #5}%
43   }%
44   \tabfig@def\@numberline#1{%
45     \tabfig@\@numberline{\tabfig@font #1}%
46   }%

```

Then a bunch of `\l@{level}` commands for usually available entry types, which might not use the commands from above.

```

47   \tabfig@patch@l{part}%
48   \tabfig@patch@l{chapter}%
49   \tabfig@patch@l{section}%
50   \tabfig@patch@l{subsection}%
51   \tabfig@patch@l{subsubsection}%
52   \tabfig@patch@l{paragraph}%
53   \tabfig@patch@l{subparagraph}%
54   \tabfig@patch@l{figure}%
55   \tabfig@patch@l{table}%

```

Special support for parts and chapters in memoir.

```

56   \@ifclassloaded{memoir}{%
57     \tabfig@def\cftchapterpresnum{\tabfig@font \tabfig@\cftchapterpresnum}%
58     \tabfig@def\cftpartpresnum{\tabfig@font \tabfig@\cftpartpresnum}%
59   }{}%
60 }%
61 }

```

## 5.3 Enumerations

Labels in enumerations.

```

62 \DeclareOption{enum}{%
63   \AtBeginDocument{%
64     \tabfig@def\labelenumi{\tabfig@font \tabfig@\labelenumi}%
65     \tabfig@def\labelenumii{\tabfig@font \tabfig@\labelenumii}%
66     \tabfig@def\labelenumiii{\tabfig@font \tabfig@\labelenumiii}%
67     \tabfig@def\labelenumiv{\tabfig@font \tabfig@\labelenumiv}%
68   }%

```

```
69 }
```

## 5.4 Bibliography

Labels in the bibliography.

```
70 \DeclareOption{bib}{%
71   \AtBeginDocument{%
72     \tabfig@def\@biblabel{\tabfig@font \tabfig@\@biblabel}%
73     \@ifpackageloaded{biblatex}{%
74       \DeclareFieldFormat{labelnumberwidth}{\mkbibbrackets{\tabfig@font #1}}%
75       \DeclareFieldFormat{labelalphawidth}{\mkbibbrackets{\tabfig@font #1}}%
76     }{}%
77   }%
78 }
```

## 5.5 Line numbers

```
79 \DeclareOption{lineno}{%
80   \AtBeginDocument{%
81     \@ifpackageloaded{doc}{%
82       \CheckCommand*\theCodelineNo{%
83         \reset@font\scriptsize\arabic{CodelineNo}}%
84       \def\theCodelineNo{%
85         \reset@font\tabfig@font\scriptsize\arabic{CodelineNo}}%
86     }{}%
87   }%
88 }
89 \ProcessOptions\relax
```

## 5.6 Auxiliary macros

This command is used for switching to tabular figures. This can be redefined to allow debugging, disabling, etc.

```
90 \newcommand*\tabfig@font{\tbfigures}
```

Visual debugging: Set tabular figures (produced by this package) in green.

```
91 \iftabfig@debug
92   \RequirePackage{xcolor}%
93   \colorlet{tabfig@debug}{green!50!black}%
94   \renewcommand\tabfig@font{\tbfigures\color{tabfig@debug}}%
95 \fi
```

Check if figure versions are supported at all. If not, we cannot do anything useful.

```
96 \AtBeginDocument{%
97   \ifundefined{tbfigures}{%
98     \PackageWarning{tabfigures}{There is no command
99       \string\tbfigures\space to support tabular figures}%
100     \let\tabfig@font\@empty
101   }{}%
102 }
103 \</package>
```