



OPmac – A powerful lightweight plain T_EX package

<http://petr.olsak.net/opmac-e.html>

Do you use **plain T_EX** or **L^AT_EX** for your mathematical texts? **Plain T_EX** is much more simple. And **OPmac** keeps all substantial **L^AT_EX** features without **L^AT_EX** complexity. The main credo of **OPmac** macro package is

Simplicity is Power

```
\documentclass{book}
\usepackage[utf8]{inputenc}
\usepackage[T1]{fontenc}
\usepackage{amsmath}
\usepackage{amssymb}
\usepackage{xcolor}
\usepackage{url}
\usepackage{hyperref}
\usepackage{biblatex}
\usepackage{listings}
\usepackage{graphicx}
\usepackage{geometry}
\usepackage{lastpage}
\usepackage ...
```



```
\input opmac
```

Thousands of pages of documentation



16 pages of documentation*

Hundreds of thousands of code lines
in tens of various package files



One macro file with 1700 lines

You can compare **L^AT_EX** and **plain T_EX** syntax:

```
\begin{equation}
f(x) =
\begin{cases}
-1 & \text{for } x \geq 0, \\
0 & \text{otherwise.}
\end{cases}
\end{equation}
```



```
$$
f(x) = \cases{ -1 & for $x\ge 0$, \cr
              0 & otherwise.} \eqmark
$$
```

Features:

- Inserting images
- Autogenerating table of contents
- Support of bibliography citations
- Generating index
- Nested numbered / non-numbered lists
- Simple way to set margins and paper size
- Colors
- Internal and external hyperlinks
- Multilingual support
- ...
- Creating tables
- Cross references
- Direct access to .bib without any external program
- Sorting index without any external program
- Simple way to change font size
- \mathcal{M} S-T_EX symbols

Availability: **OPmac** is included in new T_EX distributions (T_EXlive, mikT_EX) since 2013. It is a part of **C_Splain** package at CTAN. **C_Splain** is a small extension of plain T_EX. It provides UTF-8 input in pdfT_EX (by encT_EX extension) and preloads Czech and Slovak fonts as default. Simple but powerful font selection system for various other font families is available.

Processing: You can run the command `pdfcsplain document` or `pdftex document`. You can use LuaT_EX or XeT_EX too.

Additional: Many tens of other additional **L^AT_EX** packages can be implemented by few lines of code, see <http://petr.olsak.net/opmac-tricks-e.html>.

* Of course, you need to know the basics of plain T_EX. See chapters 1 to 6 of the book P. Olšák: *T_EX pro pragmatiky* (in Czech, <http://petr.olsak.net/tpp.html>) or M. Doob: A Gentle Introduction to T_EX (English, <http://www.ctan.org/tex-archive/info/gentle>)

```

1 \input opmac
2
3 \margins/1 a5 (1,1,1,1.4)cm % A5 paper + 1cm margins
4 \typosize[9/10.5] % 9pt font / 10.5pt baselineskip
5 \parindent=10pt % typesetting parameters
6 \hyperlinks \Blue\Blue % active hyperlinks
7 \activettchar % in-text verbatim by "..."
8 \def\inthook{\localcolor\Red} % in-text verbatim Red
9
10 \tit Demonstration
11
12 \nonum\notoc\sec Contents
13
14 \maketoc % Table of Contents is auto-generated here
15
16 \sec Lists
17
18 The lists have to be surrounded by "\beginitems"
19 and "\enditems" sequences.
20
21 \beginitems
22 * First item.
23 * Second item.
24 \beginitems \style i
25 * Nested item list,
26 * numbered by roman numerals.
27 \enditems
28 * Last item.
29 \enditems
30
31 \secc Title of Subsection
32
33 The subsection text\dots
34
35 \sec References
36
37 There is a numbered equation.
38 The number is auto-generated by "\eqmark" sequence.
39 $$\label{my-eq}
40 a^2 + b^2 = c^2 \eqmark
41 $$
42 We can refer to Equation\ref{my-eq}
43 on page\pgref{my-eq}.
44 We can refer to Table\ref{my-tab} in
45 Section\ref{tab-sec} too. And Figure\ref{my-pic}
46 is on page\pgref{my-pic}.
47
48 \sec Hyperlinks
49
50 You can refer to \url{http://petr.olsak.net} using "\url".
51 Or use "\ulink" if the raw URL needs to be hidden:
52 \ulink{http://www.olsak.net/opmac-e.html}{OPmac page}.
53 The parameter text is colorized and it becomes
54 an active link if the "\hyperlinks" sequence
55 is used at the beginning of the document.
56 Internal links are activated too.
57
58 \label{tab-sec}
59 \sec Tables
60
61 The "\table" sequence can be used
62 instead of "low level" "\halign".
63 The following table is framed by "\frame" sequence
64 in order to get a double frame.
65
66 \label{my-tab}
67 \medskip
68 \caption/t Testing table.
69 \smallskip\nobreak
70 \centerline{%
71 \frame{\table{\r|c|l|}{\crl
72 \bf Title A & \bf Title B & \bf Title C \crl
73 first & second & third \cr
74 next & text & last \crl}}}
75
76 \sec Images
77
78 The images (PDF, JPG, PNG, TIFF) can be inserted
79 by "\inspic" sequence. The "\label" and "\caption/f"
80 can be added if you need to refer to a figure.
81
82 \centerline {\picwidth=2.7cm \inspic ring.png }
83 \label{my-pic}
84 \nobreak
85 \caption/f The nonempty ideal of a simple ring --
86 the ring itself.
87
88 \sec Verbatim
89
90 In-text verbatim is surrounded by the character declared
91 by "\activettchar" sequence. The listing can be surrounded
92 by "\begtt" and "\endtt" sequences
93 \begtt
94 This is verbatim.
95 All characters are printed $$, \, # etc.
96 \endtt
97 or it can be included by "\verbininput" from external file.
98
99 \verbininput (95-97) opmac-demo.tex
100
101 \sec Math
102
103 The Math alphabets
104 "\mit", "\cal", "\script", "\frak", "\bbchar", "\bi"
105 are provided. For example:
106 $$
107 {\bi A} = \pmatrix {\cal C & \script C \cr
108 \frak M & \bbchar R }.
109 $$
110 Hundreds of AMS symbols are available:
111 $\sphericalangle$, $\Finv$, $\boxplus$, $\Cup$, $\Cap$, $\ldots$
112
113 \sec Others
114
115 The "\typosize" or "\typoscale" sequences set the size
116 and baselineskip of used fonts (including math fonts).
117 The "\fnote" generates a footnote\footnote{Like this} and
118 "\mnote" generates a margin note.
119 The "\margins" sets margins and paper dimensions.
120 The "\cite" sequence can be used for bibliographic citations.
121 The "\bib" sequence creates one bibliography record. Or
122 you can use "\usebib" for direct access to the {\tt.bib} files.
123 The list of features does not end here\dots
124
125 \bye

```

Demonstration

Contents

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1.1 Title of Subsection	1
2 References	1
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1 Lists

The lists have to be surrounded by `\beginitems` and `\enditems` sequences.

- First item.
- Second item.
 - (i) Nested item list,
 - (ii) numbered by roman numerals.
- Last item.

1.1 Title of Subsection

The subsection text...

2 References

There is a numbered equation. The number is auto-generated by `\eqmark` sequence.

$$a^2 + b^2 = c^2 \quad (1)$$

We can refer to Equation (1) on page 1. We can refer to Table 4.1 in Section 4 too. And Figure 5.1 is on page 2.

3 Hyperlinks

You can refer to <http://petr.olsak.net> using `\url`. Or use `\ulink` if the raw URL needs to be hidden: `OPmac page`. The parameter text is colorized and it becomes an active link if the `\hyperlinks` sequence is used at the beginning of the document. Internal links are activated too.

1

4 Tables

The `\table` sequence can be used instead of "low level" `\halign`. The following table is framed by `\frame` sequence in order to get a double frame.

Table 4.1 Testing table.

Title A	Title B	Title C
first	second	third
next	text	last

5 Images

The images (PDF, JPG, PNG, TIFF) can be inserted by `\inspic` sequence. The `\label` and `\caption/f` can be added if you need to refer to a figure.



Figure 5.1 The nonempty ideal of a simple ring – the ring itself.

6 Verbatim

In-text verbatim is surrounded by the character declared by `\activettchar` sequence. The listing can be surrounded by `\begtt` and `\endtt` sequences

This is verbatim.
All characters are printed \$\$, \, # etc.

or it can be included by `\verbininput` from external file.

```

95 All characters are printed $$, \, # etc.
96 \endtt
97 or it can be included by "\verbininput" from external file.

```

7 Math

The Math alphabets `\mit`, `\cal`, `\script`, `\frak`, `\bbchar`, `\bi` are provided. For example:

$$A = \begin{pmatrix} \mathcal{C} & \mathscr{C} \\ \mathfrak{M} & \mathbb{R} \end{pmatrix}.$$

Hundreds of AMS symbols are available: \triangleleft , \triangleup , \boxplus , \cup , \cap , \ldots

8 Others

The `\typosize` or `\typoscale` sequences set the size and baselineskip of used fonts (including math fonts). The `\fnote` generates a footnote¹⁾ and `\mnote` generates a margin note. The `\margins` sets margins and paper dimensions. The `\cite` sequence can be used for bibliographic citations. The `\bib` sequence creates one bibliography record. Or you can use `\usebib` for direct access to the `.bib` files. The list of features does not end here...

¹⁾ Like this