Table package – diploma thesis

Jenis Josef, 2015

May 20, 2015

Abstract

New package intended for creation of tables in a different way than the usal TeX/LaTeX way.

1 Introduction

There are lots of packages for creating tables in TeX/LaTeX systems now. But lots of them are difficult for using. The usual TeX/LaTeX way, or if you want macros/commands, for this are very specific for these systems. And I know from my own experiences and from experiences of friends of mine, that it's a little bit difficult to get used to this way at the beginning.

So the vision was to create a new package with different commands, which are similar to commands in some other programing language, or better text markup language. And there is one clear choice – HTML. Almost everybody knows this language and almost everybody has some experiences with it. Even economics students, agriculture or some general high schools has some experiences with HTML from the classes. So I decided to build up this package based on HTML tags for tables. This package is independent on some other LaTeX packages and You can use it just in PlainTeX.

2 Using

2.1 Basic commands

This package should be designed to be user-friendly. That means, creation of tables should be as simple as possible. The first command You have to use is

```
\table[nofloat]{align}{caption}
```

First parameter is optional and only one option is allow – [nofloat]. Default environment is the floating one. By this parameter you can change this settings. The second patameter is mandatory and it's for settings of horizontal alignment. You can use values – left, right and center. Thel last parameter is also mandatory and it's a caption of the table.

Example of this command: \table[nofloat]{center}{Table of yields}

The second basic command is

```
\tablebody[width]{colums align}{body of the table}
```

First parameter is optional. You can define the widht of the table. Second parameter should contain characters like - l/r/c depends on what alignment You want to use (left/right/center). How many columns you want in the table, is how many characters do you need in this parameter. Third parameter contains the body of the table. Structure of this body is described below.
For example for a table with four columns aligned to the left, left, right and center: \tablebody{llrc}{tablebody}

Last from basic commands is

```
\endtable
```

This command is important for closing the floating environment etc.

2.2 Extended macros for the table customization

You can use some other commands between basic commands \table and \tablebody for more customization of a table. Some of them are more important and you will use them more or less in every table definition and some of them just in some speciall cases. This commands are:

- \bordertype[x]{border type} – you can define the style of the table. The first parameter is optional, the second one is mandatory. You can define the width of the border lines in the table by using the first parameter. In the second parameter you have to define the type of the lines. You can use four values: none/cross/verical/horizontal. None is table without all lines, cross means horizontal and vertical lines, options vertical and horizontal are just horizontal or vertical lines .
  Example: \bordertype[3pt]{cross}

- \striped[0–1] – if you will use this option, every second row in the table will have a grey background. Parameter of this macro is optional. If you will use the parameter, the shade of grey will be defined like a value of this parameter. You can use values between 0 and 1, where 0 is totally white, and 1 is totally black color. Default value is 0.2. You have to use this command before the macro – \bordertype

- \cellspaces{x} – you can define a spaces before and after the text in cells by using this command.
  Example: \cellspaces{5em}

- \rowsheight{x} – this command is used to definine the height of the rows in the table.
  Example: \rowsheight{16pt}

- \vertlinewidth{x} – command is used to definine the width of vertical lines.
  Example: \vertlinewidth{3pt}

- \ – horlinewidth{x} – command is used to definine the width of horizontal lines.
  Example: \ – horlinewidth{1pt}

2.3 Content of table body

Body of the table is the second parameter of the command

```
\tablebody{colums align}{body of the table}
```

As mentioned, the vision of the package was to use similar commands like the HTML ones. There are defined the following commands:

- \title{title} – this macro automatically merges all cells in the row and typesets the content of the parameter into this cell in bold text and aligned in center.

- \tr – macro for new row in table. It automatically adds also a line according on settings from command \borderline

- \trwithline – macro for a new row in a table with a line.

- \trwithcolor{0–1} – new table row with a grey background. Shade of grey color depends on the number in parameter – 0 is totally white, 1 is totally black.

- \th{content of the cell} – it's like a table head. Text in this cell is bold and centered.

- \td{content of the cell} – table cell.

- \tdalign{l/r/c} – table cell aligned to the left/right/center.

- \colspan{x}{l/r/c}{content of the cell} – You can merge x cells with this macro. Second parameter is for alignment of the cell. If You will use this command for merging for example three cells, you have to use two commands \td less in that row.

- \rowspan{x}{u/c/d}{content of the cell} – this command is for megring cells in one column. Macros has also three mandatory parameters. First one is for declaring how many cells do you want to merge. You can define the vertical alignment by the second parameter and the third one should be the content of the cell.
  Example: \rowspan{3}{c/}{Content}. For using this command (for merging three cells in the column) you have to use command \td{} with emtpy content in two rows above.

- \trcustom{definition of horizontal lines} – You can use this command if you want to typeset horizontal lines just for some columns. In the parameter can be command – \cline for columns when You want to have a line or \noline for columns where You don't want to have a horizontal line. Example: \trcustom{\cline \noline \cline} for having horizontal line just in first and third column.

2.4 Some other commands

Package provides some more commands.

```
\longtable\{columns align}{caption}{body of the table}
```

It's a command for a table longer than one page. All parameters are mandatory. This table has specific environment and configuration so no more commands are needed there. Just commands for definition of table body (\tr, \th).

```
\spacesaroudtable{x}
```

You can define spaces above and below the table. Default value is – 0.5 cm.

```
\tablecaptions{caption name}
```

You can define the caption of the tables. For example Tab. Table. or whatever you want.

3 Examples

```
\table{center}{Elementary table}
\bordertype{cross}

\tablebody{ccr}{
    \tr
        \title{My purchases}
    \tr
        \th{Month}
        \th{Goods}
        \th{Price}
    \tr
        \td{January}
        \td{Laptop}
        \td{15000 CZK}
    \tr
        \td{February}
        \td{Skate}
        \td{2000 CZK}
```

```
    \tr
        \td{June}
        \td{Bicycle}
        \td{7500 CZK}
}
\endtable
```

Tab 6. Elementary table

My purchases		
Month	**Goods**	**Price**
January	Laptop	15000 CZK
February	Skate	2000 CZK
June	Bicycle	7500 CZK

```
\table{center}{Table with some horizontal lines}
\bordertype{none}
\tablebody{ccr}{
    \trwithline
        \th{Month}
        \th{Goods}
        \th{Price}
    \trwithline
        \td{January}
        \td{Laptop}
        \td{15000 CZK}
    \tr
        \td{February}
        \td{Skate}
        \td{2000 CZK}
    \tr
        \td{June}
        \td{Bicycle}
        \td{7500 CZK}
    \trwithline
}
\endtable
```

Tab 7. Table with some horizontal lines

Month	Goods	Price
January	Laptop	15000 CZK
February	Skate	2000 CZK
June	Bicycle	7500 CZK

```
\longtable{ccc}{Some long table}{
        \th{Title of 1th column}
        \th{Title of 2nd column}
        \th{Title of 3rd column}
    \tr
        \td{data}
        \td{data}
        \td{data}
    \tr
        \td{data}
        \td{data}
        \td{data}
    \tr
    ..some more data...

\table{right}{Table with defined widht of a table, widht of lines, height of rows and spaces
\bordertype[2pt]{cross}
%\vertlinewidth{2pt}
%\horlineheight{2pt}
\rowsheight{15pt}
\cellspaces{1cm}

\tablebody[12cm]{ccr}{
    \tr
        \th{Month}
        \th{Goods}
        \th{Price}
    \tr
        \td{January}
        \td{Laptop}
        \td{15000 CZK}
}
\endtable
```

Tab 8. Tabulka with defined widht of a table, widht of lines, height of rows and spacese in the cells

Month	Goods	Price
January	Laptop	15000 CZK

```
\table{left}{Striped table}
\striped[0.6]
\bordertype{none}
\tablebody{ccr}{
    \tr
        \th{Month}
        \th{Goods}
        \th{Price}
    \trwithline
        \td{January}
        \td{Laptop}
        \td{15000 CZK}
    \tr
        \td{February}
        \td{Skate}
        \td{2000 CZK}
    \tr
        \td{June}
        \td{Bicycle}
        \td{7500 CZK}
    \tr
        \td{June}
        \td{Bicycle}
        \td{7500 CZK}
    \tr
        \td{June}
        \td{Bicycle}
        \td{7500 CZK}
}
\endtable
```

Tab 9. Striped table

Month	Goods	Price
January	Laptop	15000 CZK
February	Skate	2000 CZK
June	Bicycle	7500 CZK
June	Bicycle	7500 CZK
June	Bicycle	7500 CZK