LaTeX::Table

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Abstract

LaTeX::Table is a Perl module that provides functionality for an intuitive and easy generation of LaTeX tables. It ships with some predefined good looking table styles. This module supports multipage tables via the `xtab` package and publication quality tables with the `booktabs` package. It also supports the `tabularx` package for nicer fixed-width tables. Furthermore, it supports the `colortbl` package for colored tables optimized for presentations.

1 Installation

You can install it with the `cpan` command.

```
$ cpan LaTeX::Table
```

Alternatively, download it from **http://search.cpan.org/dist/LaTeX-Table/** and install in manually:

```
$ tar xvfz LaTeX-Table-VERSION.tar.gz
$ perl Build.PL
$ ./Build test
$ ./Build install
```

2 Examples

2.1 Large Columns

The first basic example is a small table with two larger columns. LaTeX::Table automatically sets the column to `p{5cm}` when a cell in a column has more than 30 characters. LaTeX generates the nice Table 1.

```
my $header = [ [ 'Character', 'Fullname', 'Voice' ], ];
my $data = [
    [ 'Homer', 'Homer Jay Simpson',                   'Dan Castellaneta', ],
    [ 'Marge', 'Marjorie Simpson (n e Bouvier)', 'Julie Kavner', ],
    [ 'Bart',  'Bartholomew Jojo Simpson',           'Nancy Cartwright', ],
    [ 'Lisa',  'Elizabeth Marie Simpson',            'Yeardley Smith', ],
    [   'Maggie',
        'Margaret Simpson',
        'Elizabeth Taylor, Nancy Cartwright, James Earl Jones,'
          . 'Yeardley Smith, Harry Shearer',
```

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeardley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones,Yeardley Smith, Harry Shearer

Table 1: LaTeX paragraph column attribute.

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeardley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones,Yeardley Smith, Harry Shearer

Table 2: tabularx X column attribute.

```
    ],
];
$table = LaTeX::Table->new(
    {   header      => $header,
        data        => $data,
        label       => 'wrap1',
        caption     => 'LaTeX paragraph column attribute.',
    }
);
```

We can use the `tabularx` package to find better column widths than the default 5cm. See Table 2 for the results.

```
$table = LaTeX::Table->new(
    {   header              => $header,
        data                => $data,
        label               => 'wrap2',
        width               => '0.9\textwidth',
        width_environment   => 'tabularx',
        caption             => 'tabularx X column attribute.',
    }
);
```

2.2   Table rotate

Table 3 demonstrates the table sideways feature. Requires the `rotating` package.

```
$table = LaTeX::Table->new(
    {   header              => $header,
        data                => $data,
        label               => 'rotate',
        width               => '0.9\textwidth',
        width_environment   => 'tabularx',
        environment         => 'sidewaystable',
        caption             => 'tabularx X column attribute.',
    }
);
```

2.3   Table resize

In Tables 4 and 5, the resizebox feature was used to get the desired width (and height in the second example). Requires the `graphicx` package.

```
$table = LaTeX::Table->new(
    {   header              => $header,
        data                => $data,
        label               => 'resize',
        resizebox           => [ '0.6\textwidth' ],
        caption             =>
        'scaled to 0.6\textwidth with a resizebox (graphicx package)',
    }
);

$table->set_resizebox([ '300pt', '120pt' ]);
```

2.4   Table width, tabular* environment

Table 6 demonstrates a fixed-width table in the `tabular*` environment. Here, the space between the columns is filled with spaces.

```
$table = LaTeX::Table->new(
    {   header              => $header,
        data                => $data,
        label               => 'width',
        width               => '0.7\textwidth',
        caption             => '0.7 of textwidth',
    }
);
```

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeardley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones, Yeardley Smith, Harry Shearer

Table 3: tabularx X column attribute.

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeardley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones,Yeardley Smith, Harry Shearer

Table 4: scaled to 60% of the text width

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeardley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones,Yeardley Smith, Harry Shearer

Table 5: scaled to a size of 300pt x 120pt

Animal	Description	Price
Gnat	per gram	13.651
	each	0.012
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 6: 0.7 of textwidth

2.5 Callback functions

Callback functions are an easy way of formatting the cells. Note that the prices for Gnat are rounded:

```
my $header = [
    [   Item:2c   ,           ],
    [   \cmidrule(r){1-2}   ],
    [   Animal   ,   Description   ,   Price   ]
];

my $data = [
    [   Gnat   ,           per gram ,    1 3 .651       ],
    [          ,           e a c h   ,        0 .012    ],
    [   Gnu    ,           stuffed   ,    9 2 .59       ],
    [   Emu    ,           stuffed   ,    3 3 .33       ],
    [   Armadillo   ,      frozen    ,       8 .99      ],
];

my $table = LaTeX::Table->new(
        {
        filename     =>   prices.tex   ,
        maincaption =>   Price List   ,
        caption      =>   Try our special offer today!   ,
        label        =>   table:prices   ,
        position     =>   h t b   ,
        header       => $header,
        data         => $data,
        callback     => sub {
            my ($row, $col, $value, $is_header ) = @_;
            if ($col == 2 && $!is_header) {
                $value = format_price($value, 2,         );
            }
            return $value;
        },
});
```

2.6 Top Captions

Tables can be placed on top of the tables with `caption_top => 1`. See Table 8. Note that the standard LaTeX macros are optimized for bottom captions. Use something like

```
\usepackage[tableposition=top]{caption}
```

to fix the spacing. Alternatively, you could fix the spacing by yourself by providing your own command(s) (Table 9):

```
$table->set_caption_top(
'\setlength{\abovecaptionskip}{0pt}\setlength{\belowcaptionskip}{10pt}\caption'
);
```

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 7: Price List. Try our special offer today!

Table 8: Try our special offer today!

ITEM		
ANIMAL	**DESCRIPTION**	**PRICE**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

2.7 Custom Themes

Table 10 displays our example table with the *NYC* theme, which is meant for presentations (with LaTeX Beamer for example). You can change the theme by copying it, changing it and then storing it in `custom_themes`. Admire the resulting Table 11.

```
my $nyc_theme = $table->get_available_themes->{'NYC'};
$nyc_theme->{'DEFINE_COLORS'}        =
          '\definecolor{latextablegreen}{RGB}{93,127,114}';
$nyc_theme->{'HEADER_BG_COLOR'}      = 'latextablegreen';
$nyc_theme->{'DATA_BG_COLOR_ODD'}    = 'latextablegreen!25';
```

Table 9: Try our special offer today!

ITEM		
ANIMAL	**DESCRIPTION**	**PRICE**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

```
$nyc_theme->{'DATA_BG_COLOR_EVEN'}  = 'latextablegreen!10';

$table->set_custom_themes({ CENTRALPARK => $nyc_theme });
$table->set_theme('CENTRALPARK');
```

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 10: Try our special offer today!

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 11: Try our special offer today!

2.8 Multicolumns

If you want tables with vertical lines (are you sure?) you should use our shortcut
to generate them. They are not only much less typing work, but they also
automatically add the vertical lines, see Table 12.

```
$header = [ [ 'A:3c' ] , [ 'A:2c', 'B' ], ['A', 'B', 'C' ], ];
$data = [ [ '1', 'w', 'x' ], [ '2', 'c:2c' ], ];

$table = LaTeX::Table->new(
    {   header               => $header,
        data                 => $data,
        theme                => 'Dresden',
    }
);
```

2.9 Headers

If you don't need headers, just leave them undefined (see Table 13). If you
want that the first column looks like a header, you can define this with the
columns_like_header Option (Table 14 and Table 15).

	A	
	A	**B**
A ‖	**B**	**C**
1	w	x
2	c	

Table 12: Multicolumns made easy . . .

Gnat	per gram	13.651
	each	0.012
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 13: Headers are not mandatory

```
$table = LaTeX::Table−>new(
    {
    caption     => 'Headers are not mandatory',
    label       => 'table:noheader',
    data        => $data,
});
```

3 Version

Generated with LaTeX::Table Version 0.9.2

Gnat	per gram	13.651
	each	0.012
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 14: We can format columns with the theme header definition

A		
	A	B
A	B	C
Gnat	per gram	13.651
	each	0.012
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 15: We can format columns with the theme header definition

A Themes

For each theme, two example tables are shown, one of type *std*, the standard LaTeX table, and one of type *xtab*. Note that the first and second column is left justified because these columns contain only strings, whereas the third column is a number column and therefore right justified.

A.1 Berlin Theme

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 16: **Price List.** Try our special offer today!

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
Continued on next page		

Item		
Animal	Description	Price
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 17: **Price List.** Try our special offer today!

A.2   Dresden Theme

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 18: **Price List.** Try our special offer today!

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
Continued on next page		

Item		
Animal	**Description**	**Price**
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 19: **Price List.** Try our special offer today!

A.3 Houston Theme

Item		Price
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 20: **Price List.** Try our special offer today!

Item		Price
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
Continued on next page		

Item		
Animal	**Description**	**Price**
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 21: **Price List.** Try our special offer today!

A.4 Miami Theme

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 22: **Price List.** Try our special offer today!

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01

Continued on next page

Item		
Animal	**Description**	**Price**
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 23: **Price List.** Try our special offer today!

A.5 NYC Theme

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 24: Price List. Try our special offer today!

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Continued on next page		

Item		
Animal	Description	Price
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 25: Price List. Try our special offer today!

A.6 Paris Theme

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 26: **Price List.** Try our special offer today!

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01

Item		
Animal	**Description**	**Price**
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 27: **Price List.** Try our special offer today!

A.7 Zurich Theme

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 28: Price List. Try our special offer today!

Item		
Animal	**Description**	**Price**
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33

Item		
Animal	**Description**	**Price**
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 29: Price List. Try our special offer today!

A.8   plain Theme

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 30: Price List. Try our special offer today!

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01

Continued on next page

Item		
Animal	Description	Price
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 31: Price List. Try our special offer today!