

# Working with table environments in texor

by Abhishek Ulayil

**Abstract** This is a small sample article to demonstrate usage of **texor** to convert table environments.

## 1 Introduction

Tables are commonly used in R Journal articles to display data in a tabular format. However, there are differences in the way tables are handled by LaTeX and HTML. LaTeX tables have more customization and are usually optimized for printing, whereas the web articles need tables optimized for varying sizes of media. Pandoc converts most of the tables somewhat easily, but is unable to do well with table customization packages and complex tables. The **texor** packages uses the pandoc extensions `simple_tables` and `pipe_tables` to tackle these difficult cases.

## 2 Generic tables

Normal LaTeX tables will be converted just fine, even if they include a some math and other elements. However, note that the conversion will be done to traditional or pandoc-style markdown rather than R Markdown with the `knitr::kable()` function. Also any graphic commands or specific font characters will not be supported.

Graphics Format	LaTeX	Markdown	R Markdown	HTML
PNG	Yes	Yes	Yes	Yes
JPG	Yes	Yes	Yes	Yes
PDF	Yes	No	No	No
SVG	No	Yes	Yes	Yes
Tikz	Yes	No	Yes	No
Algorithm	Yes	No	No	No

**Table 1:** Image format support in various markup/typesetting languages.

## 3 Multicolumn tables

EXAMPLE	X		Y	
	1	2	1	2
EX1	X11	X12	Y11	Y12
EX2	X21	X22	Y21	Y22
EX3	X31	X32	Y31	Y32
EX4	X41	X42	Y41	Y42
EX5	X51	X52	Y51	Y52


**Table 2:** An example table using `multicolumn`

Table 2 illustrates a table that uses the `multicolumn` command, which the **texor** package can handle through subroutines and pre-processing steps to transform the LaTeX code.

Also note that the stream editor is used to rename `table*` environment to `table` environment because the HTML format is single column, so the asterisk indicating that the table should be drawn over the full width of the page is redundant in this case. – TODO : include more details about `MultiRow` and `tablenotes`

## 4 Complex tables

A complex table with various other elements like figures, math, code and so on, are also supported by **texor**.

Inline Format	LaTeX Support	Web Support	Rendering
Text	Yes	Yes	Hello
Image	Yes	Yes	
CodeBlock	Yes	Yes	<pre>x &lt;- 1:100 y &lt;- dbinom(x,100,prob = 0.5) plot(x,y)</pre>
Math	Yes	Yes	$e = mc^2$
Link	Yes	Yes	<a href="#">Google</a>
Nested Table	Yes	No	NaN

**Table 3:** Image format support in various markup/typesetting languages

index	A	B	C	D	E	F	G	H
1	359.00	NaN	5796.00	0.00	16.14	1.00	NaN	0.00
2	25.73	0.00	1029.20	NaN	40.00	0.68	0.00	0.00
2.1	26.26	0.00	13.40	0.00	2.14	0.68	0.00	NaN
2.2	32.06	20.06	47.64	0.04	1.80	0.68	0.01	NaN
2.3	51.94	420.27	21.17	0.20	1.77	0.74	0.05	NaN
2.4	40.62	30.44	0.90	0.57	1.44	1.31	0.24	NaN
...	...	...	...	...	...	...	...	...

index	I	J	K	L	M	N	O
1	0.00	-1.73	0.00	0.00	0.00	0.00	NaN
2	0.21	-33.41	0.00	0.11	0.00	NaN	-197.85
2.1	0.24	-24.00	0.00	0.15	NaN	0.06	-70.46
2.2	0.6	-19.42	0.00	0.15	0.00	0.11	-16.48
2.3	0.75	-31.77	0.00	0.18	0.01	0.37	-0.82
2.4	0.26	-1.89	0.1	0.55	0.70	0.22	-6.55
...	...	...	...	...	...	...	...

**Table 4:** A dummy research data

## 5 Wide tables

As for the inclusion of wide tables, they are represented as multiple tables with the first table housing the caption at the top. The numbering and references will be the same as LaTeX.

Here is a reference to Table 4 and Table 5.

## 6 Limitations

Limitations of the `texor` package in table handling includes:

- Usage of custom graphics/ characters like `\circ` will not render in HTML properly.(using it in inline math might work).
- Inclusion of code blocks might not always work and it is best avoided.
- Currently only `\` is supported as the row end command/marker
- Some table commands/environments might not work as expected.
- Nested tabular environments will not work as expected.
- Colored backgrounds in tables are not supported yet.

Package	Commits	Version	Last Updated
<code>texor</code>	260	1.1.0	28-Jul-2023
<code>rebib</code>	76	0.2.4	29-Jul-2023
<code>rjtools</code>	314	1.0.11	30-Jul-2023
<code>rmarkdown</code>	3189	2.23	31-Jul-2023

**Table 5:** A dummy summary of a few CRAN packages

## 7 Summary

In summary the `texor` package supports:

- Some common table environments.
- Wide tables.
- Some tables with `multicolumn` commands.
- Environments such as `figure/code` in tables.

*Abhishek Ulayil*

*Student, Institute of Actuaries of India*

*Mumbai, India*

*ORCID: 0009-0000-6935-8690*