

Working with Code environments in texor

by Abhishek Ulayil

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

1 Introduction

Pandoc naturally converts verbatim environment easily, however the redefinition of other commands such as `example`, `example*`, `Sinput` etc to verbatim does not work well in pandoc.

Hence `texor` package uses the stream editor to search find and replace matching code environments to verbatim before pandoc touches it.

This way the the code is not lost in conversion, also a pandoc extension is used to add attributes to the markdown code using `fenced_code_attributes`

Code Environment types are well summarized in the table 1

Code Environment Type					
Example	example	example*			
S.series	Sin	Sout	Sinput	Soutput	Scode
Special Verbatim	boxedverbatim				

Table 1: Code Environment support in texor

2 Environments

Verbatim Series

While verbatim is naturally supported in pandoc, other extensions of verbatim environment like `boxedverbatim` from `moreverb` package (Fairbairns, Duggan, Schöpf, Eijkhout, 2011).

1. verbatim :

```
print("Hello world")
```

2. boxedverbatim :

```
print("Hello world")
```

S series

S series code environment is defined in `Rjournal.sty` file.

1. Sinput :

```
print("Hello world")
```

2. Soutput :

```
[1] "hello world"
```

3. Sin :

```
print("Hello world")
```

4. Sout :

```
[1] "hello world"
```

Example series

Example series of code environment is defined in Rjournal.sty file.

1. example :

```
print("Hello world")
```

2. example* :

```
print("Hello world")
```

3 Code in Figure Environments

A small example of this is visible in [1](#)

```
code_in_figure <- function() {
  if (pandoc_version >= 3) {
    print("Code in Figure Supported")
  }
  else {
    print("code in Figure not supported")
  }
}
```

Figure 1: Example Code inside Figure environment

Pandoc v3 or greater ([Krewinkel, Lucero, 2023](#)) has a Figure object which allows non-image figures to be treated like one.

4 Code in Table Environments

We can use code environments in a table using minipage environments.

Table [2](#) is an example of code environments within a table.

Language	Function Defination Syntax
R	<pre>fun <- function(){ print("A function in R") return(0) }</pre>
Python	<pre>def fun(): print("A function in Python")</pre>
Lua	<pre>function fun() print("A function in Lua") end</pre>
C	<pre>int fun() { printf("A function in C"); return 0; }</pre>

Table 2: Code in a table

A similar arrangement can be had for figures/plots besides code environment. Table [3](#) demonstrates a table with code and figure.

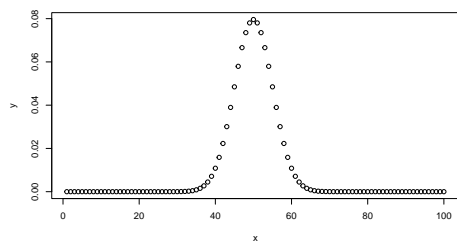
Code	Plot
<pre>x <- 1:100 y <- dbinom(x,100,prob = 0.5) plot(x,y)</pre>	

Table 3: Code and Plot side by side

5 Inline Code usage

Using inline code in LaTeX is possible using `\verb` command. It would be reproduced similarly, as a Inline code element.

```
\verb|x <- 1:100|
```

will be represented as `x <- 1:100` in Inline format.

6 Code chunks using Schunk

Code chunks within an Schunk environment to demonstrate Input/Output

Input :

```
print("Hello world")
```

Output :

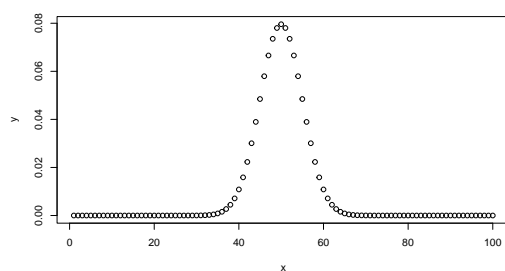
```
[1] "hello world"
```

Similar arrangement can be had for Plots as well using figure environment.

Input :

```
x <- 1:100
y <- dbinom(x,100,prob = 0.5)
plot(x,y)
```

Output :



7 Summary

In summary the **texor** package supports:

- Almost all code environments in RJournal.
- Code Highlight for R language.
- Inline Code.
- Code in different environments like tables/figures.

Bibliography

- A. Krewinkel and A. Lucero pandoc 3.0 Release notes *pandoc* 2023 URL <https://pandoc.org/releases.html#pandoc-3.0-2023-01-18> [p2]
- R. Fairbairns, A. Duggan, R. Schöpf and V. Eijkhout The moreverb package documentation CTAN 2011 URL <https://mirror.niser.ac.in/ctan/macros/latex/contrib/moreverb/moreverb.pdf> [p1]

Abhishek Ulayil
Student, Institute of Actuaries of India
Mumbai, India
ORCID: 0009-0000-6935-8690