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 redefination 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*	smallexample		
S.series	Sin	Sout	Sinput	Soutput	Scode
Special Verbatim	smallverbatim	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. smallverbatim :
   print("Hello world")
3. boxedverbatim :
   print("Hello world")

S series

S series code environement 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. smallexample :
```
print("Hello world")
```

3 Code in Figure Environments

A small example of this is visble 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 table with code environments within a table.

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

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.
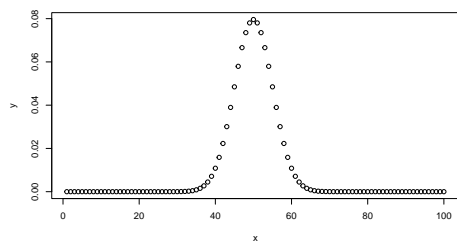
Code	Plot

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

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 repoduced 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 :
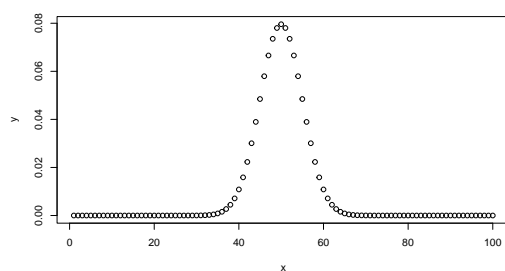
```
print("Hello world")
```

Output :

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

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

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.
- Code blocks inside Figure environment with captions.
- Inline Code.

Bibliography

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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