Working with Code environments in texor

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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, the **texor** package uses a 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) falls back to normal verbatim.

1. verbatim :

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

2. boxedverbatim :

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

S series

S series code environement is defined in Rjournal.sty file. Most of these are extensions of verbatim environment and are represented as vanilla verbatim in HTML.

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. Examples are extensions of verbatim environment and are represented as vanilla verbatim in HTML.

    1. example :

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

    2. example* :

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

3   Code in Figure Environments

A small example of this is visble in 1. This is a common practice in Rnews articles as it used to add a boxed border around the code which looks attractive. However, in web articles there isn't much advantage to it.

```
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. This is why **texor** package requires atleast version 3 of pandoc.

4   Code in Table Environments

We can use code environments in a table using minipage environments. This is not a common practice among LaTeX article authors, but a few articles had such complex structures. So, as a example to demonstrate pandoc and **texor** package's capabilities, I have included a few of them.

    Table 2 is an example of 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`

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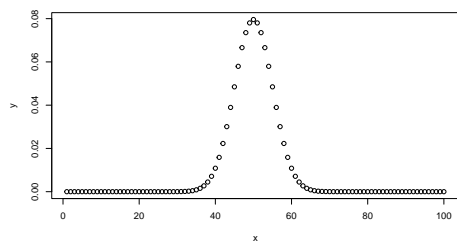
Code	Plot
 x <- 1:100 y <- dbinom(x,100,prob = 0.5) plot(x,y)	

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

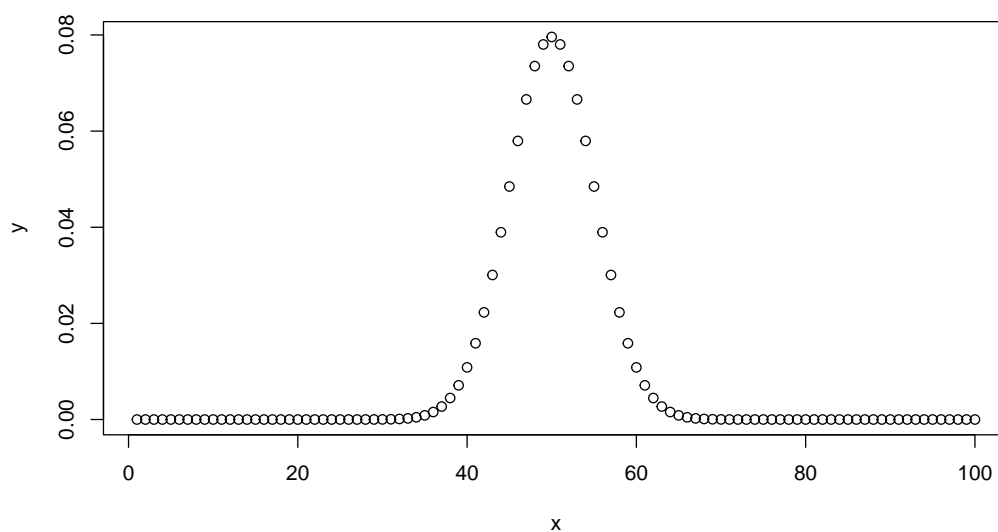Input :

```
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.
- Inline Code.
- Code in different environments like tables/figures.

Bibliography

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