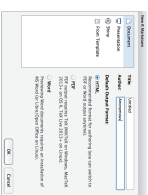


R Markdown :: CHEAT SHEET

What is R Markdown?



Workflow



- 1 **Open a new .Rmd file at File** ► New File ► R Markdown. Use the wizard that opens to pre-populate the file with a template
- 2 **Write document** by editing template
- 3 **Knit document to create report**; use knit button or `render()` to knit
- 4 **Preview Output** in IDE window
- 5 **Publish** (optional) to web server
- 6 **Examine build log** in R Markdown console
- 7 **Use output file** that is saved along side .Rmd

Embed code with knitr syntax

INLINE CODE
Insert with `'r<code>'`. Results appear as text without code.
Built with `'r<getReversion()>'` → Built with 3.2.3

```
CODE CHUNKS  
One or more lines surrounded with '{r}' and options within curly braces, after r. Insert with getReversion()
```

IMPORTANT CHUNK OPTIONS

- cache** - cache results for future knits (default = FALSE)
- cache.path** - directory to save cached results in (default = "cache/")
- child** - file(s) to knit and then include (default = NULL)
- collapse** - collapse all output into single block (default = FALSE)
- comment** - prefix for each line of results (default = ##)

File path to output document
Find in document
Publish button to accounts at pubs.com, shinyapps.io
R Markdown Connect
Reload document

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents.

summary (cars)	speed	dist
##	Min. : 4.0	Min. : 2.00
##	1st Qu.: 12.0	1st Qu.: 26.00
##	Median : 15.0	Median : 36.00
##	Mean : 15.4	Mean : 42.98
##	3rd Qu.: 19.0	3rd Qu.: 56.00
##	Max. : 25.0	Max. : 120.00

For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

render

Use `knitr::render()` to render/knit at cmd line. Important args:

input	output_options	output_file	output_dir
- file to render	List of render options (as in YAMl)		

params	envir	encoding
- list of params to use	- environment to evaluate code chunks in	- of input file

CODE CHUNKS
Set with knitr: `opts_chunk$set()`, e.g.
`'{r echo=TRUE}'`
`getReversion()`

dependson - chunk dependencies for caching (default = NULL)

echo - Display code in output document (default = TRUE)

engine - code language used in chunk (default = R)

error - Display error messages in doc (TRUE) or stop render when errors occur (FALSE) (default = FALSE)

eval - Run code in chunk (default = TRUE)

Options not listed above: `R.options`, `ansi.opts`, `autodep`, `background`, `cache.comments`, `cache.lazy`, `cache.rebuild`, `cache.vars`, `dev`, `dev.args`, `dpi`, `engine.opts`, `engine.path`, `fig.asp`, `fig.env`, `fig.ext`, `fig.keep`, `fig.lp`, `fig.path`, `fig.pos`, `fig.process`, `fig.retina`, `fig.scap`, `fig.show`, `fig.showtext`, `fig.subcap`, `interval`, `out.extra`, `out.height`, `out.width`, `prompt`, `puil`, `relabel`, `renderer`, `size`, `split`, `tidy.opts`

fig.align - 'left', 'right', or 'center' (default = 'center')

fig.cap - figure caption as character string (default = NULL)

fig.height, **fig.width** - Dimensions of plots in inches

highlight - highlight source code (default = TRUE)
include - include chunk in doc after running (default = TRUE)

message - display code messages in document (default = TRUE)

results (default = "markup")
"asis" - passthrough results
"hide" - do not display results
"hold" - put all results below all code
tidy - tidy code for display (default = FALSE)
warning - display code warnings in document (default = TRUE)

.rmd Structure

YAML Header
Optional section of render (e.g. pandoc) options written as keyvalue pairs (YAML).
At start of file
Between lines of ---
Text
Narration formatted with markdown, mixed with:
Code chunks
Chunks of embedded code. Each chunk: Begins with `'{r}'`
ends with `'}'`

R Markdown will run the code and append the results to the doc. It will use the location of the .Rmd file as the **working directory**

Parameters

- Parameterize your documents to reuse with new inputs (e.g. data, values, etc)
1. **Add parameters** - Create and set parameters in the header as sub-values of params
 2. **Call parameters** - Call parameter values in code as `params$<name>`
 3. **Set parameters** - Set values with knitr with parameters or the params argument of `render()`:
`render("doc.Rmd", params = list(n = 1, d = as.Date("2015-01-01")))`

Interactive Documents

- Turn your report into an interactive Shiny document in 4 steps
1. Add runtime: `shiny` to the YAML header.
 2. Call Shiny input functions to embed input objects.
 3. Call Shiny render functions to embed reactive output.
 4. Render w `knitr::run` or click Run Document in RStudio IDE

```
output.html document  
runtime: shiny  
...  
{r echo = FALSE}  
knitr::input("n")  
"How many cars?", 5)  
renderTable(  
  head(cars, inputs$n)  
)
```

How many cars?	speed	dist
1	4.00	2.00
2	4.00	10.00
3	7.00	4.00
4	7.00	22.00
5	8.00	16.00

Embed a complete app into your document with `shiny::shinyAppDir()`

Publish on RStudio Connect, to share R Markdown documents securely, schedule automatic updates, and interact with parameters in real time.
www.rstudio.com/products/connect/

