

My very own Rmarkdown cheat sheet

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Abstract

Place holder

1 Introduction

Here live several examples on how to write stuff in Rmarkdown, with no apparent organisation. They are here to help you write a paper using only Rmarkdown and discard every other software away.

1.1 Smaller headlines

There are 4 in total, just add more “#”

1.1.1 Three dash headline

1.1.1.1 The smallest headline

2 Specific text

Microsoft uses buttons, LaTeX uses functions and Rmarkdown uses symbol shortcut to write specific text:

*I write in italic using ** around the expression (`_` works too)

Bold is a possibility too using **

In `text code` such as a variable or a function() is done using `'`

Subscripts uses `~` and superscripts `^`, e.g. `H~3~PO^2+^` renders H_3PO^{2+}

And when you want to use any of these symbols verbatim, one needs to add `"\"` in front

`#, *, '`

block quotes using `>`

list of items

1. one

2. two

- not marked
- more not marked

Rmarkdown can also handle LaTeX functions such as `"\newpage"`

3 Math symbols

Mathematics are done using the `$` symbol around the expression. It can be used in line $X = Y + 1$ or separate and centered using `$$`

$$\alpha = e^{\beta}$$

Specific letters such as α (written `α`) must be written in the math environment. The syntax is the same as LaTeX and can be found on https://www.overleaf.com/learn/latex/List_of_Greek_letters_and_math_symbols

4 Citations

Citation are handled using a `.bib` file, generated by your favorite reference manager (Rmarkdown not doing yet unfortunately) Add the file path to the YAML at the head of the document (bibliography: myLibrary.bib)

In text citations are done using `@` and using the unique code linking to your reference. In my case it looks like “firstAuthor_firstWord_year” but it is user dependent.

(Andersen 2019) = [`@andersen_fish_2019`]

(Andersen 2019; Blanchard et al. 2014) = [`@andersen_fish_2019; @blanchard_evaluating_2014`]

Blanchard et al. (2014) = `@blanchard_evaluating_2014`

(See Andersen 2019 for details.) = [`See @andersen_fish_2019 for details.`]

The style of the citations is often journal specific. Fortunately, journals provide `.csl` files of their own styling, which can be found on <https://www.zotero.org/styles>. Dowload the file and give the path to Rmarkdown in the YAML using “`csl: myStyle.csl`”

References will be added at the end of the document. Just add a “`#References`” at the end.

5 Inserting code blocks

Ctrl + Alt + i is the shortcut to insert a code chunk. Useful options are

echo: if TRUE, display code chunk

eval: if TRUE, run the chunk

include: if TRUE, include chunk in doc

message: if TRUE, display code messages

warning: if TRUE, display code warnings

6 Figures

Figures are added using ! [caption] (filePath.jpg)

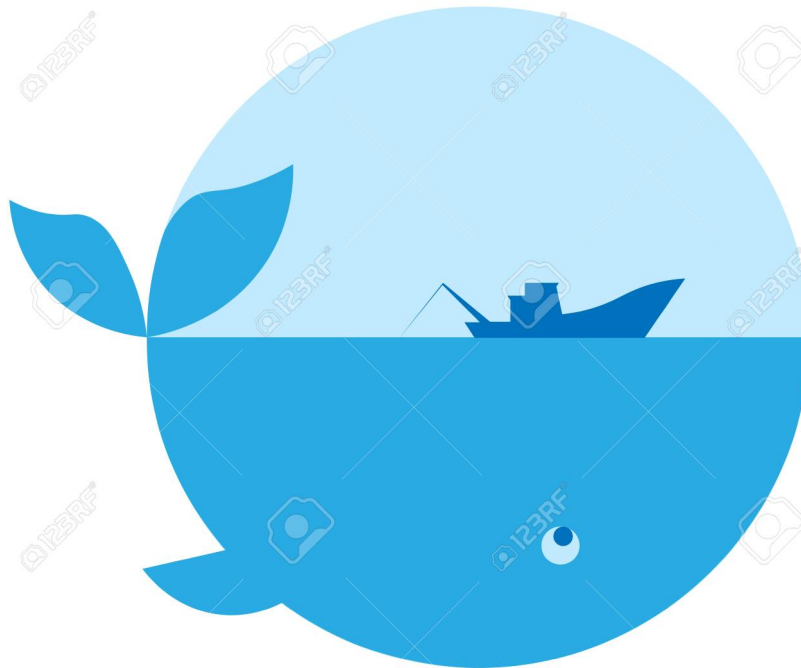


Figure 1: Caption about George

For more control over the figure, one can use `knitr::include_graphics()`

7 Tables

Tables such as data frame are easily displayed using `knitr::kable()`

```
knitr::kable(head(mtcars))
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21.0	6	160	110	3.90	2.620	16.46	0	1	4	4
Mazda RX4 Wag	21.0	6	160	110	3.90	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.320	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.440	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.460	20.22	1	0	3	1

It's so simple that it's easier to create a data frame first to make a table, than to make a table directly.

Table 1: parameters' description

parameter	description
w_inf	asymptotic weighth
w_mat	maturation weight
beta	preferred predator/prey mass ratio

```
param_description <- data.frame("parameter" = c("w_inf","w_mat","beta"),
                                "description" = c("asymptotic weighth",
                                                  "maturation weight",
                                                  "preferred predator/prey mass ratio")
                                )
```

```
knitr::kable(param_description, caption = "parameters' description")
```

8 The neat stuff

8.1 Auto-numbering and cross-referencing

This is done using the R package bookdown.

```
library(bookdown)
```

```
plot(mtcars$mpg,mtcars$cyl)
```

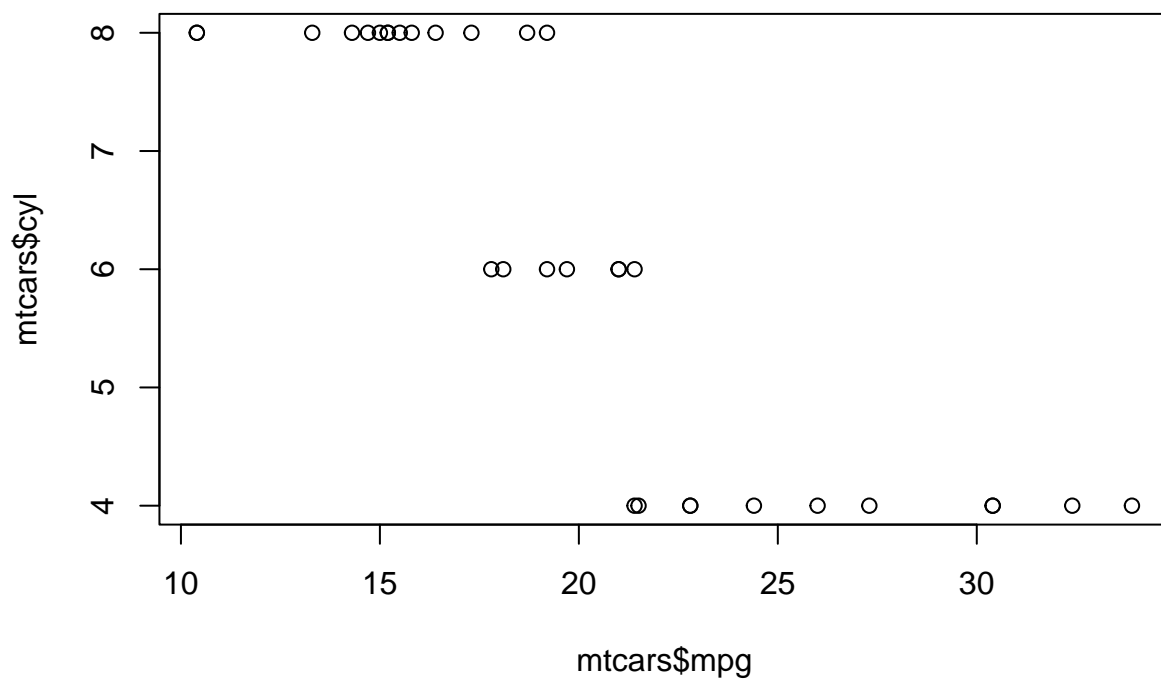


Figure 2: a plot about cars' cylinders

Figure 2 is rad. Table 1 is not bad either.

This reference is done automatically using `\ @ ref(label)`, where `label` is the name of the code-chunk referenced with its float identity, i.e the previous figure's label is `fig:cars` and the table's label is `tab:params`

8.2 Using variables in text

```
head(mtcars)
```

##	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
## Mazda RX4	21.0	6	160	110	3.90	2.620	16.46	0	1	4	4
## Mazda RX4 Wag	21.0	6	160	110	3.90	2.875	17.02	0	1	4	4
## Datsun 710	22.8	4	108	93	3.85	2.320	18.61	1	1	4	1
## Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
## Hornet Sportabout	18.7	8	360	175	3.15	3.440	17.02	0	0	3	2
## Valiant	18.1	6	225	105	2.76	3.460	20.22	1	0	3	1

The number of cylinders of Mazda RX4 is 6. The previous sentence verbatim is actually:

The number of cylinders of “`r rownames(mtcars)[1]`” is “`r mtcars[1,2]`” (just need to replace “ with ‘)

8.3 Remember to checkout the YAML

other stuff?

9 Cheat sheets

<https://www.markdownguide.org/cheat-sheet> <https://bookdown.org/yihui/rmarkdown-cookbook/basics.html>

References

Andersen, Ken H. 2019. *Fish Ecology, Evolution, and Exploitation A New Theoretical Synthesis*. Princeton University Press.

Blanchard, Julia L., Ken H. Andersen, Finlay Scott, Niels T. Hintzen, Gerjan Piet, and Simon Jennings. 2014. "Evaluating Targets and Trade-Offs Among Fisheries and Conservation Objectives Using a Multispecies Size Spectrum Model." Edited by Andre Punt. *Journal of Applied Ecology* 51 (3): 612–22. <https://doi.org/10.1111/1365-2664.12238>.