**My very own Rmarkdown cheat sheet**

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October 06, 2021

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 H3PO2+

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 or separate and centered using $$

Specific letters such as (written $\alpha$) 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](#ref-andersen_fish_2019)) = [@andersen\_fish\_2019]

([Andersen 2019](#ref-andersen_fish_2019); [Blanchard et al. 2014](#ref-blanchard_evaluating_2014)) = [@andersen\_fish\_2019; @blanchard\_evaluating\_2014]

[Blanchard et al.](#ref-blanchard_evaluating_2014) ([2014](#ref-blanchard_evaluating_2014)) = @blanchard\_evaluating\_2014

(See [Andersen 2019](#ref-andersen_fish_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

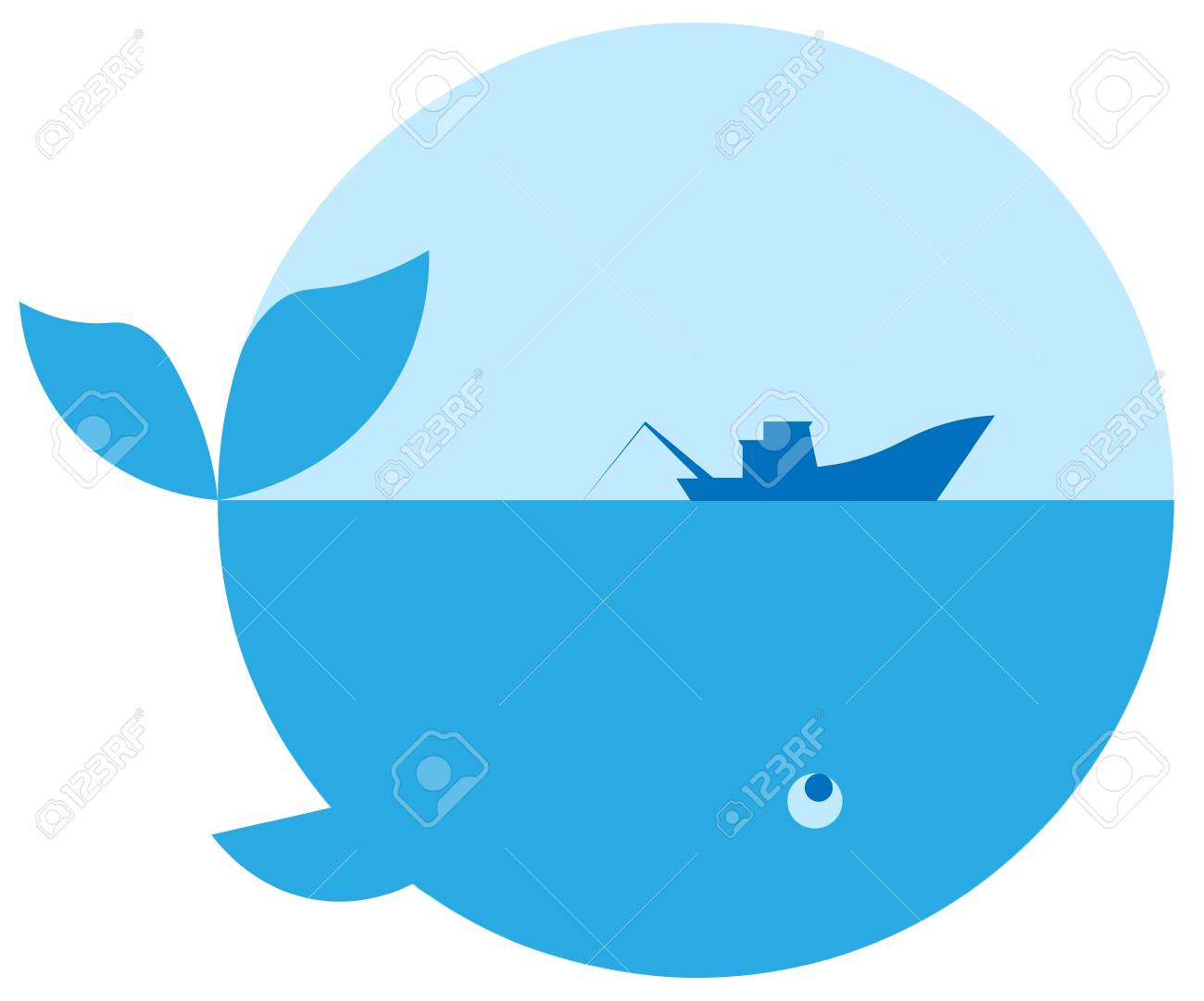
include: if TRUE, include chunk in doc

message: if TRUE, display code messages

warning: if TRUE, display code warnings

# 6 Figures

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



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.

param\_description <- data.frame("parameter" = c("w\_inf","w\_mat","beta"),  
 "description" = c("asymptotic weigth",  
 "maturation weight",  
 "preferred predator/prey mass ratio")  
)

knitr::kable(param\_description, caption = "parameters' description")

Table 7.1: parameters’ description

|  |  |
| --- | --- |
| parameter | description |
| w\_inf | asymptotic weigth |
| w\_mat | maturation weight |
| beta | preferred predator/prey mass ratio |

# 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)

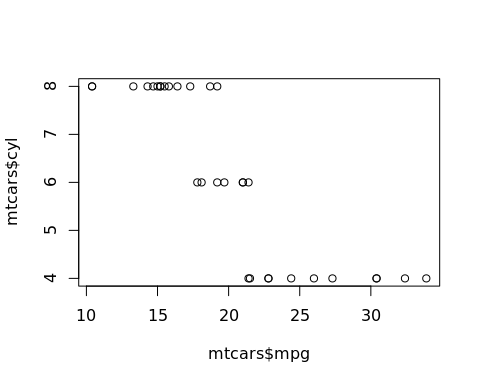


Figure 8.1: a plot about cars’ cylinders

Figure 8.1 is rad. Table 7.1 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 ’)

general formating user latex packages, headers and csl

other?

cheat sheet: <https://www.markdownguide.org/cheat-sheet>

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>.