R Markdown Template

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This document is a template that you can use to produce documents with Rmarkdown. This is my abstract. It is good practice for academic papers to offer an abstract to the reader.

Table of Contents

# Word count

You can include a word count in various ways. Here are two alternatives:

This code installs and loads the required packages and save the words counted:

#install.packages("devtools")  
#library("devtools")  
#devtools::install\_github("benmarwick/wordcountaddin", type = "source", dependencies = T)  
library("wordcountaddin")  
wordcount <- wordcountaddin::word\_count( )

**Word count:** 668

Word count (alternative): 896

Rendered at 06 March, 2024

# Citations

For example, with @Kirchkamp2018Using, you can cite Kirchkamp ([2018](#ref-Kirchkamp2018Using)). Setting brackets allows you to manipulate the appearance:

* [@Kirchkamp2018Using] becomes ([Kirchkamp 2018](#ref-Kirchkamp2018Using)) and
* @Kirchkamp2018Using[p. 4] becomes Kirchkamp ([2018, 4](#ref-Kirchkamp2018Using)).

Webpages can be also cited and put in the reference list:

* [Google](www.google.de) becomes a hyperlink [Google](www.google.de),
* However, when writing academically you should always put sources into the reference list like this: [Google](www.google.de) is a popular online search enginge (see [Google 2023](#ref-Google2023Google)).

# Always set your working directory.

setwd("/home/sthu/Dropbox/hsf/github/courses/rmd/")

# Headers

# H1  
## H2  
### H3  
#### H4  
##### H5  
###### H6  
  
Alternatively, for H1 and H2, an underline-ish style:  
  
Alt-H1  
======  
  
Alt-H2  
------

# H1

## H2

### H3

#### H4

##### H5

###### H6

# R Markdown cheatsheet

## Horizontal rules

## Emphasis

**This is bold text**

**This is bold text**

*This is italic text*

*This is italic text*

~~Strikethrough~~

## Lists

Unordered

* Create a list by starting a line with +, -, or \*
* Sub-lists are made by indenting 2 spaces:
  + Marker character change forces new list start:
    - Ac tristique libero volutpat at
    - Facilisis in pretium nisl aliquet
    - Nulla volutpat aliquam velit
* Very easy!

Ordered

1. Lorem ipsum dolor sit amet
2. Consectetur adipiscing elit
3. Integer molestie lorem at massa
4. You can use sequential numbers…
5. …or keep all the numbers as 1.

Start numbering with offset:

1. foo
2. bar

## Code

Inline code

Indented code

// Some comments  
line 1 of code  
line 2 of code  
line 3 of code

Block code “fences”

Sample text here...

Syntax highlighting

var foo = function (bar) {  
 return bar++;  
};  
  
console.log(foo(5));

## R Code Chunks

Please consider the introduction [here](https://bookdown.org/yihui/rmarkdown/r-code.html).

norm <- rnorm(100, mean = 0, sd = 1)

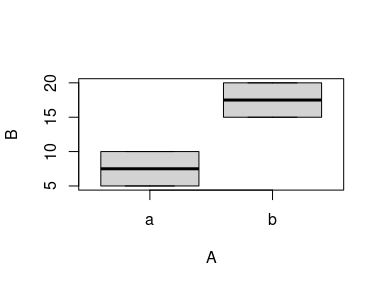
## A B  
## 1 a 5  
## 2 a 10  
## 3 b 15  
## 4 b 20

library(dplyr)

A <- c("a", "a", "b", "b")  
B <- c(5, 10, 15, 20)  
dataframe <- data.frame(A, B)  
print(dataframe)

## A B  
## 1 a 5  
## 2 a 10  
## 3 b 15  
## 4 b 20

boxplot(B~A,data=dataframe)



library("tidyverse")

To show the data in an interactive environment you can use the following code:

library("rmarkdown")  
paged\_table(mtcars)

## Tables

| Option | Description |
| --- | --- |
| data | path to data files to supply the data that will be passed into templates. |
| engine | engine to be used for processing templates. Handlebars is the default. |
| ext | extension to be used for dest files. |

Right aligned columns

| Option | Description |
| --- | --- |
| data | path to data files to supply the data that will be passed into templates. |
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| ext | extension to be used for dest files. |

| Plant | Temp. | Growth |
| --- | --- | --- |
| A | 20 | 0.65 |
| B | 20 | 0.95 |
| C | 20 | 0.15 |

## Links

[link text](http://dev.nodeca.com)

[link with title](http://nodeca.github.io/pica/demo/)

Autoconverted link <https://github.com/nodeca/pica> (enable linkify to see)

## Images



This is a smaller picture of me



This is Prof. Dr. Stephan Huber[[1]](#footnote-52)

## Formulas

When , there are two solutions to and they are

## [Footnotes](https://github.com/markdown-it/markdown-it-footnote)

Footnote 1 link[[2]](#footnote-57).

Footnote 2 link[[3]](#footnote-58).

Inline footnote[[4]](#footnote-59) definition.

Duplicated footnote reference[[5]](#footnote-60).

## Citing Papers

You can cite papers like that: The book [*R for Data Science*](https://r4ds.had.co.nz/) by Wickham and Grolemund ([2018](#ref-Wickham2018R)) is a good one. I am the author of Huber and Rust ([2016](#ref-Huber2016Calculate)).

In order to be able to do that you need to save the references in the reference.bib file that I mentioned in the header. I highly recommend using a bibliography manager such as <www.jabref.org> that allows to save and manage allbibliography entries.

## Render everything

If you separately run this code, it will render the file and produce all the different formats that are mentioned in the preamble. Here the following file formats will be generated: pdf, html, and word.

setwd("/home/sthu/Dropbox/hsf/github/courses/rmd/")  
rmarkdown::render("rmarkdown-template.Rmd", "all")

# Literature

Google. 2023. “Google Search.” Accessed January 30, 2023. <https://www.google.com/>.

Huber, Stephan, and Christoph Rust. 2016. “Calculate Travel Time and Distance with OpenStreetMap Data Using the Open Source Routing Machine (OSRM).” *The Stata Journal* 16 (2): 416–23.

Kirchkamp, Oliver. 2018. “Using Graphs and Visualising Data.” Retrieved January 30, 2023. <https://www.kirchkamp.de/oekonometrie/pdf/gra-p.pdf>.

Wickham, Hadley, and Garrett Grolemund. 2018. *R for Data Science: Import, Tidy, Transform, Visualize, and Model Data*. Sebastopol, CA: O’Reilly.

1. Picture is taken from <https://sites.google.com/view/stephanhuber> [↑](#footnote-ref-52)
2. Footnote **can have markup**

   and multiple paragraphs. [↑](#footnote-ref-57)
3. Footnote text. [↑](#footnote-ref-58)
4. Text of inline footnote [↑](#footnote-ref-59)
5. Footnote text. [↑](#footnote-ref-60)