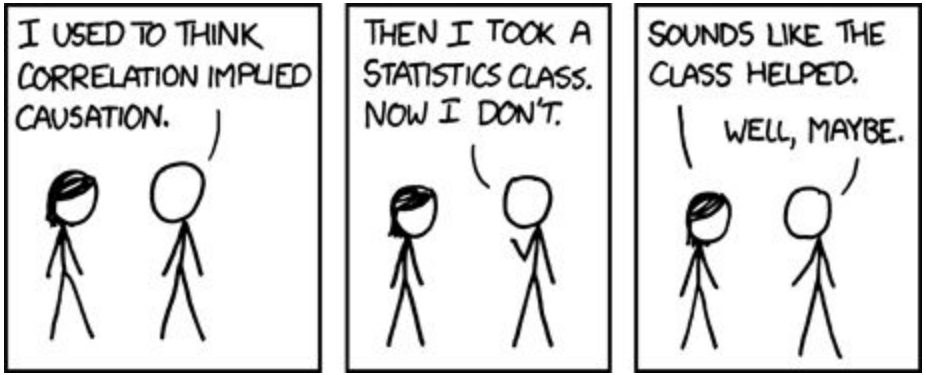
14 JUNE 2018

Herman Teirlinck,
01.05 - Isala Van Diest

What have I done?!?

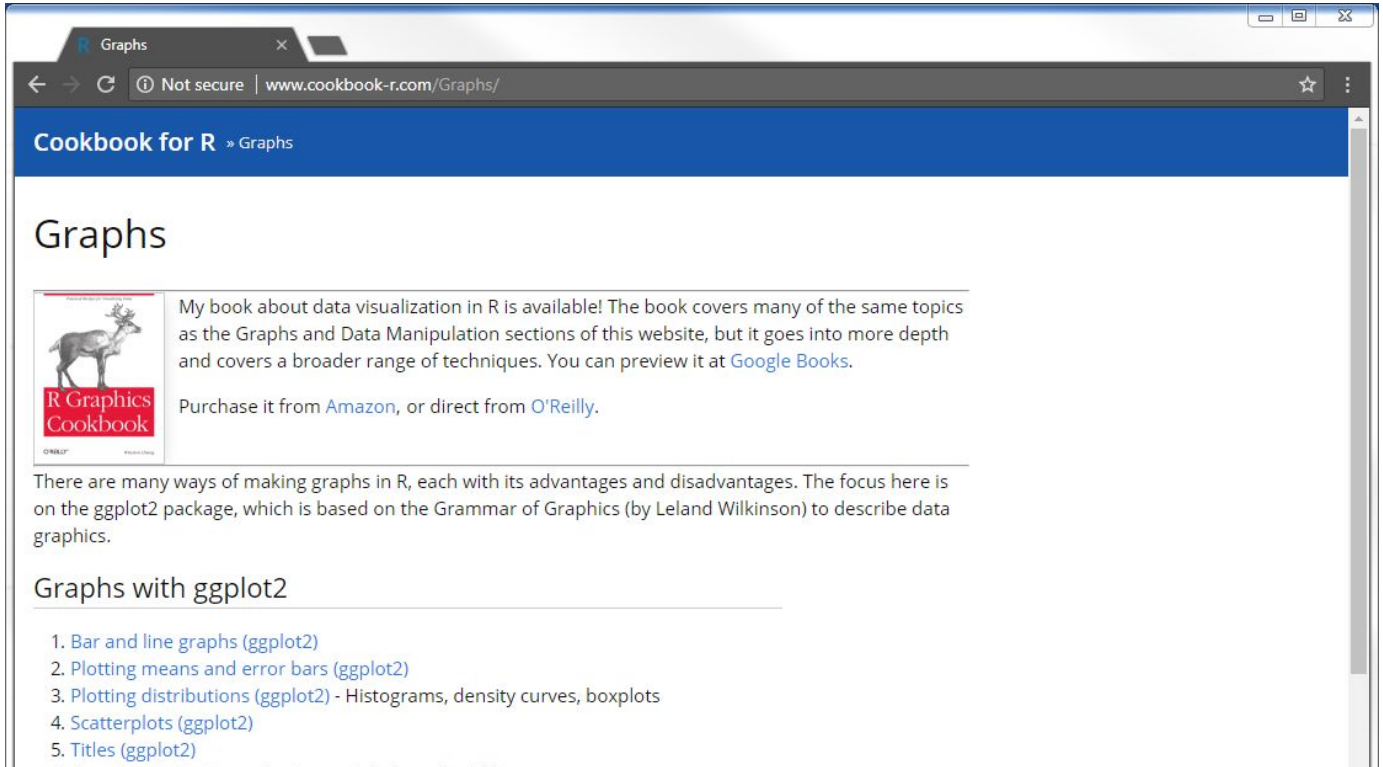
```
library(RXKCD)
library(dplyr)

searchXKCD("statistics") %>%
    filter(stringr::str_detect(stringr::str_to_lower(title),
           "correlation")) %>%
    pull(num) %>%
    getXKCD()
```



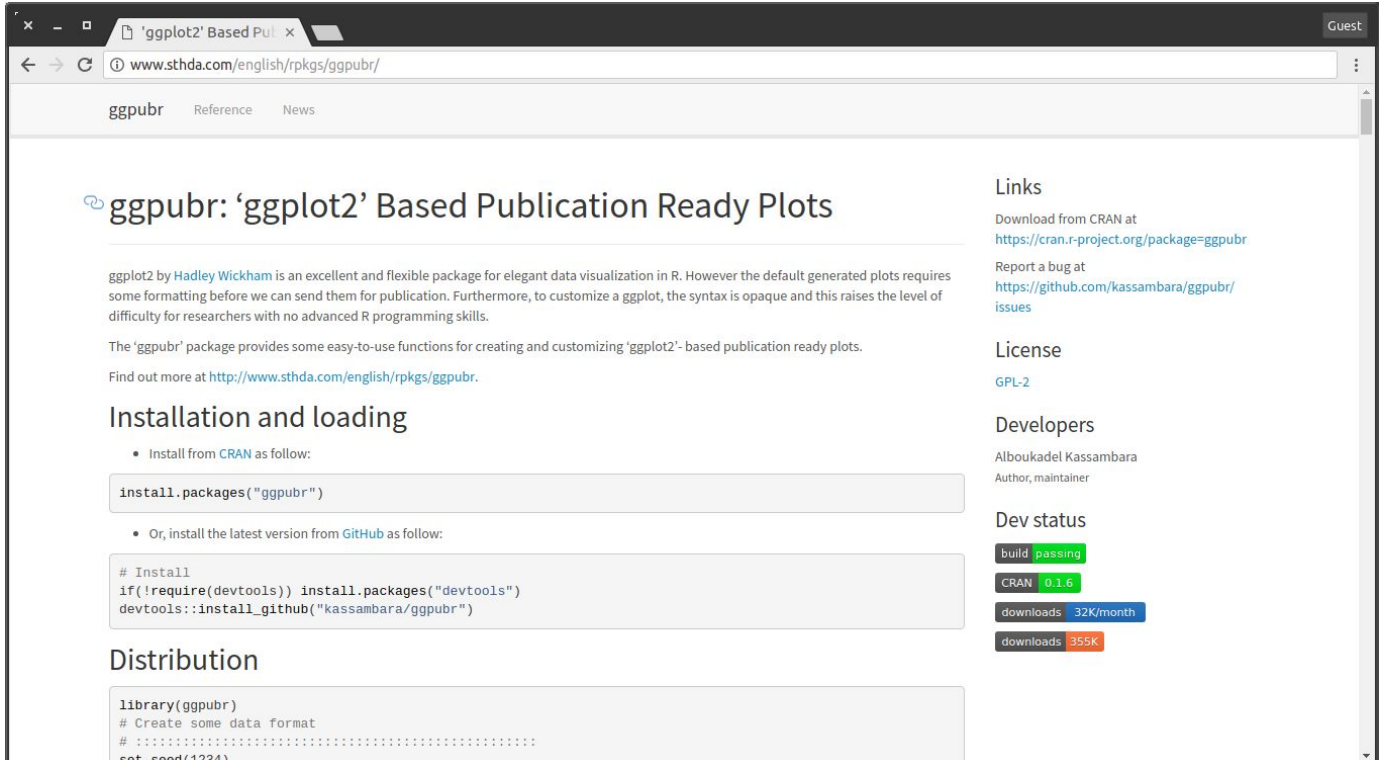
Note:
https://cran.r-project.org/web/packages/RXKCD/index.html

Recap last coding club

http://www.cookbook-r.com/Graphs/



http://www.sthda.com/english/rpkgs/ggpubr/



REPORTS

R Markdown Cheat Sheet

learn more at rmarkdown.rstudio.com

rmarkdown 0.2.50 Updated: 8/14

RStudio

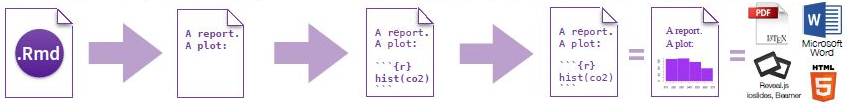
1. Workflow R Markdown is a format for writing reproducible, dynamic reports with R. Use it to embed R code and results into slideshows, pdfs, html documents, Word files and more. To make a report:

i. Open - Open a file that uses the .Rmd extension.

ii. Write - Write content with the easy to use R Markdown syntax

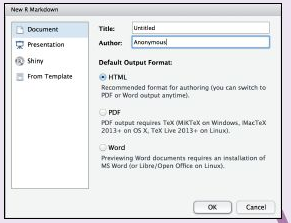
iii. Embed - Embed R code that creates output to include in the report

iv. Render - Replace R code with its output and transform the report into a slideshow, pdf, html or ms Word file.



2. Open File Start by saving a text file with the extension .Rmd, or open an RStudio Rmd template

- In the menu bar, click **File ▸ New File ▸ R Markdown…**
- A window will open. Select the class of output you would like to make with your .Rmd file
- Select the specific type of output to make with the radio buttons (you can change this later)
- Click OK



3. Markdown Next, write your report in plain text. Use markdown syntax to describe how to format text in the final report.

syntax

```
Plain text
End a line with two spaces to start a new paragraph.
*italics* and _italics_
**bold** and __bold__
superscript^2^
~~strikethrough~~
[link](www.rstudio.com)

# Header 1

## Header 2

### Header 3

#### Header 4

##### Header 5

###### Header 6

endash: --
emdash: ---
ellipsis: ...
inline equation: $A = \pi*r^{2}$
image: ![](path/to/smallorb.png)

horizontal rule (or slide break):

***

> block quote

* unordered list
* item 2
    + sub-item 1
    + sub-item 2

1. ordered list
2. item 2
    + sub-item 1
    + sub-item 2

Table Header  | Second Header
------------- | -------------
Table Cell    | Cell 2
Cell 3        | Cell 4
```

becomes

Plain text
End a line with two spaces to start a new paragraph.
italics and *italics*
bold and **bold**
superscript^2
~~strikethrough~~
link

Header 1
Header 2
Header 3
Header 4
Header 5
Header 6

endash: –
emdash: —
ellipsis: …
inline equation: $A = \pi * r^2$
image:
horizontal rule (or slide break):

> block quote

- unordered list
- item 2
    - sub-item 1
    - sub-item 2

1. ordered list
2. item 2
    - sub-item 1
    - sub-item 2

Table Header	Second Header
Table Cell	Cell 2
Cell 3	Cell 4

4. Choose Output Write a YAML header that explains what type of document to build from your R Markdown file.

YAML

A YAML header is a set of key: value pairs at the start of your file. Begin and end the header with a line of three dashes (- - -)

```
---
title: "Untitled"
author: "Anonymous"
output: html_document
---

This is the start of my report. The above is metadata saved in a YAML header.
```

The RStudio template writes the YAML header for you

The output value determines which type of file R will build from your .Rmd file (in Step 6)

output: html_document	html file (web page)
output: pdf_document	pdf document
output: word_document	Microsoft Word .docx
output: beamer_presentation	beamer slideshow (pdf)
output: ioslides_presentation	ioslides slideshow (html)

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Install the package suite:

```
install.packages(c("rmarkdown"
    "knitr", "kableExtra")
```

Load the package suite:

```
library(rmarkdown)
library(knitr)
library(kableExtra)
```

Share your snippets during the coding session!

Go to https://hackmd.io/aaVLiB17Qm-LkBJeSd6iZg and post your code in between backticks:

For example:

```
library(lubridate)

my_data <- ...
```

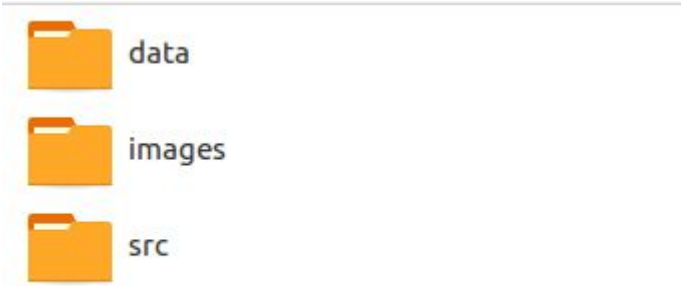
The concept

We defined a number of challenges. If you were able to achieve a challenge, add a to r laptop screen.

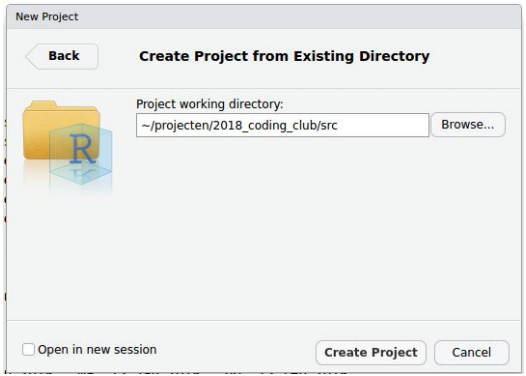
The objective is that **everyone** achieves !

- Someone has more than you? **Ask for help!**
- Someone has less than you? **Provide help!**

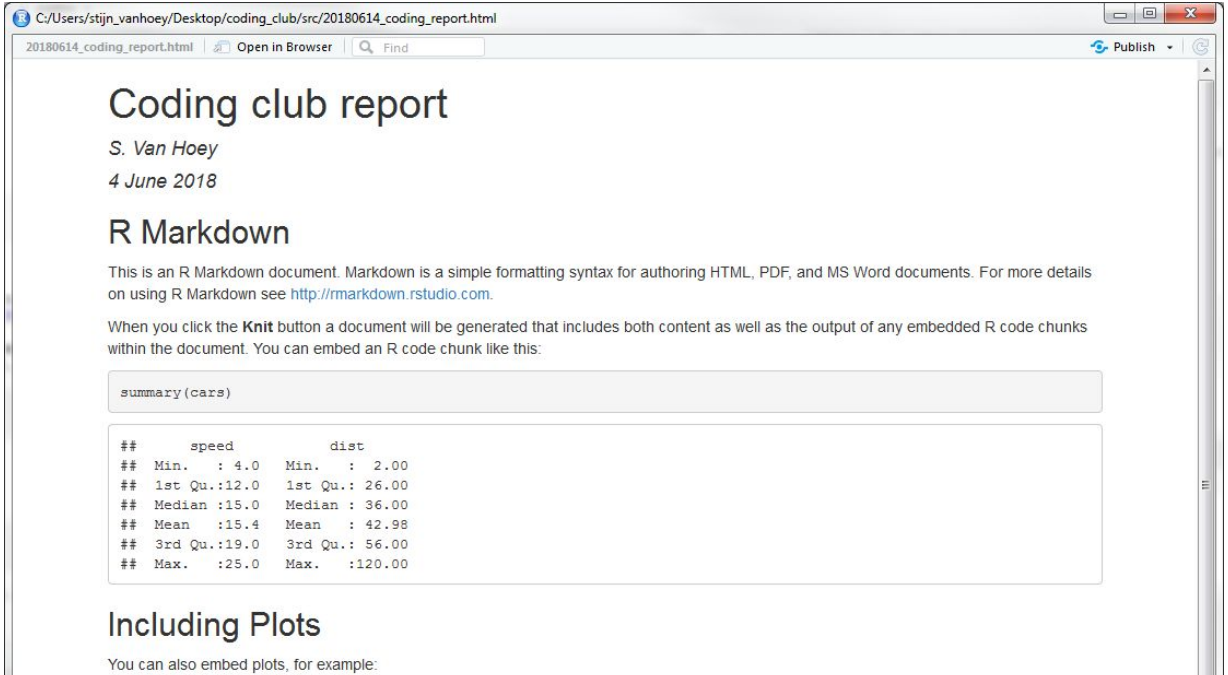
- Download coding club material and work locally, not in sync with the Google drive



- Create new Rstudio project in the **/src** folder



Using the interface of Rstudio, create an **Rmarkdown** New File, with an **HTML output** format. Save the document and ***Knit*** it to an HTML page.



A table in two ways…

1. Create a markdown table in markdown itself (no R!)
2. Create a nicely rendered markdown table of the `head(mtcars)` Using R and the `kable` function. You can also **go crazy** using the kableExtra package!

coding_club

Stijn Van Hoey

June 13, 2018

```
library(dplyr)
library(knitr)
library(kableExtra)
```

A markdown table

We did not use R to create this table, it is just markdown, as provided in the cheatsheet...

Name	Score
Greg	7
Peter	10
Sep	4

A table created from data in R

For the next table, we use the `knitr` and the `kableExtra` packages in order to have *nicely* rendered tables:

```
#  YOUR CODE HERE
```

	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

Pair up with two…

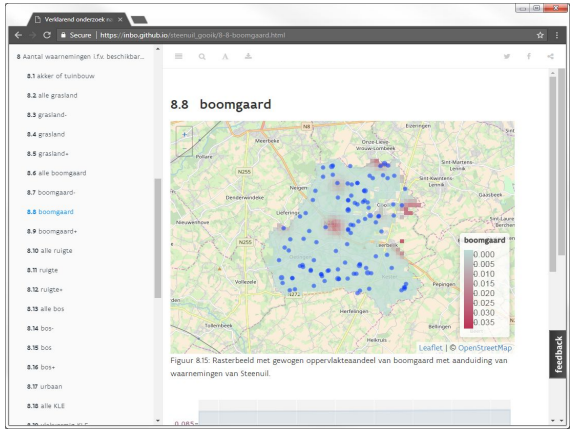
Shortly discuss a useful trick/function/code example/… that you learnt during a previous coding club** or just *somewhere*.

Create a very small tutorial as an Rmarkdown file with HTML output for your future self or colleagues. Make sure the example is self-contained, so it can be rerun by someone else. You can use the data sets from previous editions.

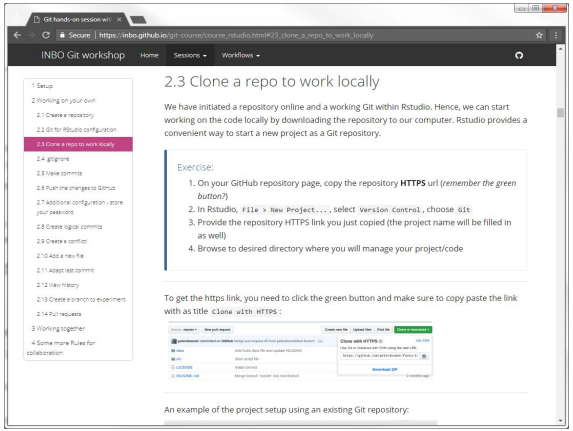
Upload your Rmd file in the tutorials folder on google drive.

You want to try something special? See some alternative format options...

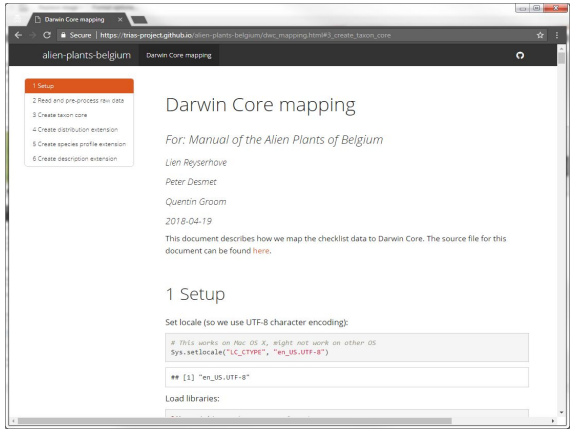
** Need inspiration? Check the hackmds from previous sessions:
- https://hackmd.io/7Yd3NsCFTwqHbRnHZbhlzg
- https://hackmd.io/Di6qnl7OS-mW8taTEezoVQ
- https://hackmd.io/7jIfz3LMRb-EMrtAfCNlzQ
- https://hackmd.io/aPEFORMXSIOeEycsDsSTqw
- https://hackmd.io/CcRhOYJcScegKm8sF05Rqw
- https://hackmd.io/aaVLiB17Om-LkBJeSd6iZg



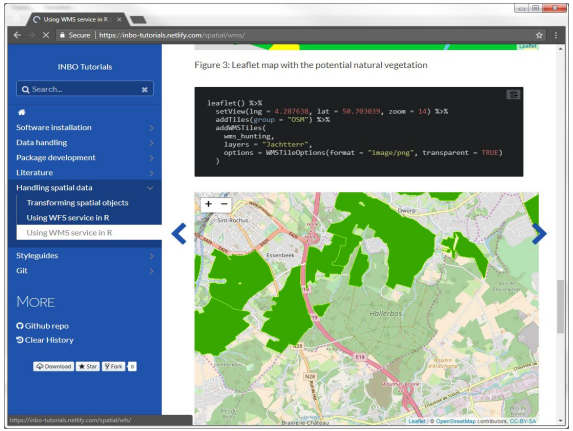
REPORTS



COURSES



DATA PROCESSING



TUTORIALS

TIME FOR REVIEW

Next month no 💻, but 🕐 for 🚲, 🏕️, 🌄, 🌿, 🐦,...

Zaal: Herman Teirlinck - 01.69 - Paul Janssen Datum

Datum: 2018-**08**-21, van 10:00 tot 12:00

(registration announced via DG_useR@inbo.be)