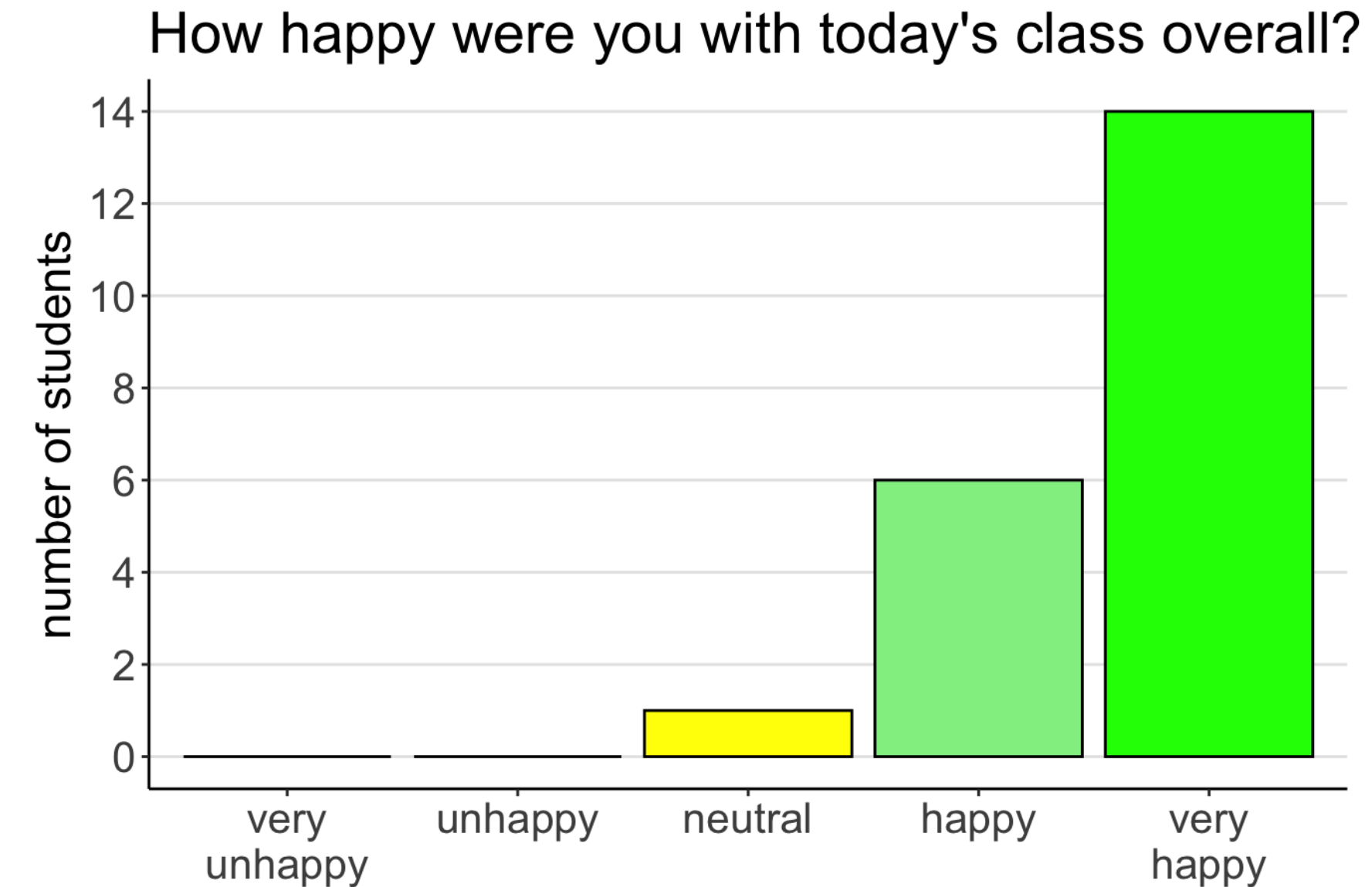
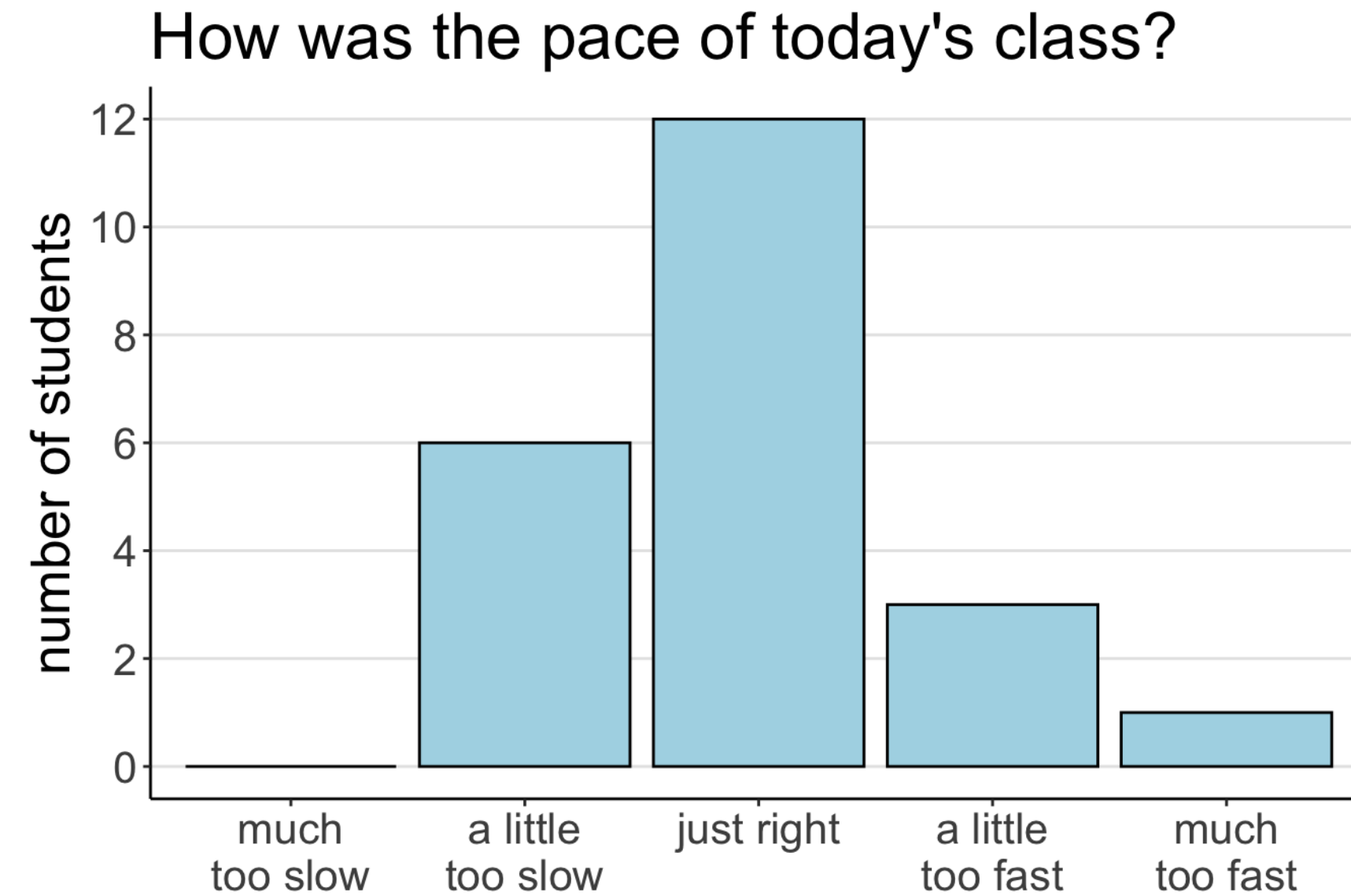


Visualization 2



Your feedback

Your feedback



I really appreciated the tutorial-style introduction to R – in the past, I've had to figure out much of these syntax things in a new language by a combination of Googling and trial-and-error. I did have difficulty making my RStudio setup mirror what the instructor showed– a **slower introduction to the different panels in RStudio** and how they can be arranged would have helped!

i liked the interactive aspects of lecture. i wish there **wre mroe frequent check ins** with the audience about questions.

For coding-heavy classes, it may benefit from having a different classroom if possible? **Less lecture-ish and more workshop/CS classroom?** Maybe somewhere will be available once the data sci building opens :)

Things that came up ...

Datacamp is working now 👍

<https://tinyurl.com/psych252datacamp25corrected>

Nice interactive visualization

The **React** Graph Gallery

[LEARN](#) [ALL](#) [CHART TYPES](#) [ABOUT](#) [SUBSCRIBE](#)

Why R^2 Alone Fails

R^2 and **correlation** are often seen as definitive measures to validate the relationship between two variables.

This post features an interactive sandbox that explores several edge cases, demonstrating how relying on these summary statistics without visualizing the data can be **dangerously misleading**.

Useful links

[inspiration](#) [d3 gallery](#) [About this chart](#)

<https://www.react-graph-gallery.com/example/scatterplot-r2-playground>

Homework

Homework

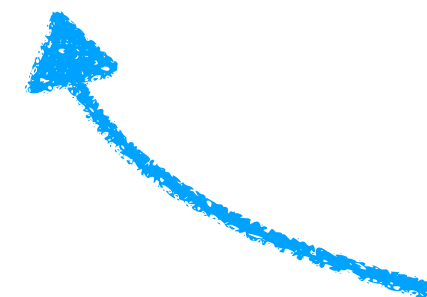
In this homework, **you'll write a short blog post** about a data set. Your goal is to tell us something interesting using a well-crafted, thoughtfully-prepared data graphic.

Grading Rubric

There are 15 possible points for this homework.

Here are some of the things we care about:

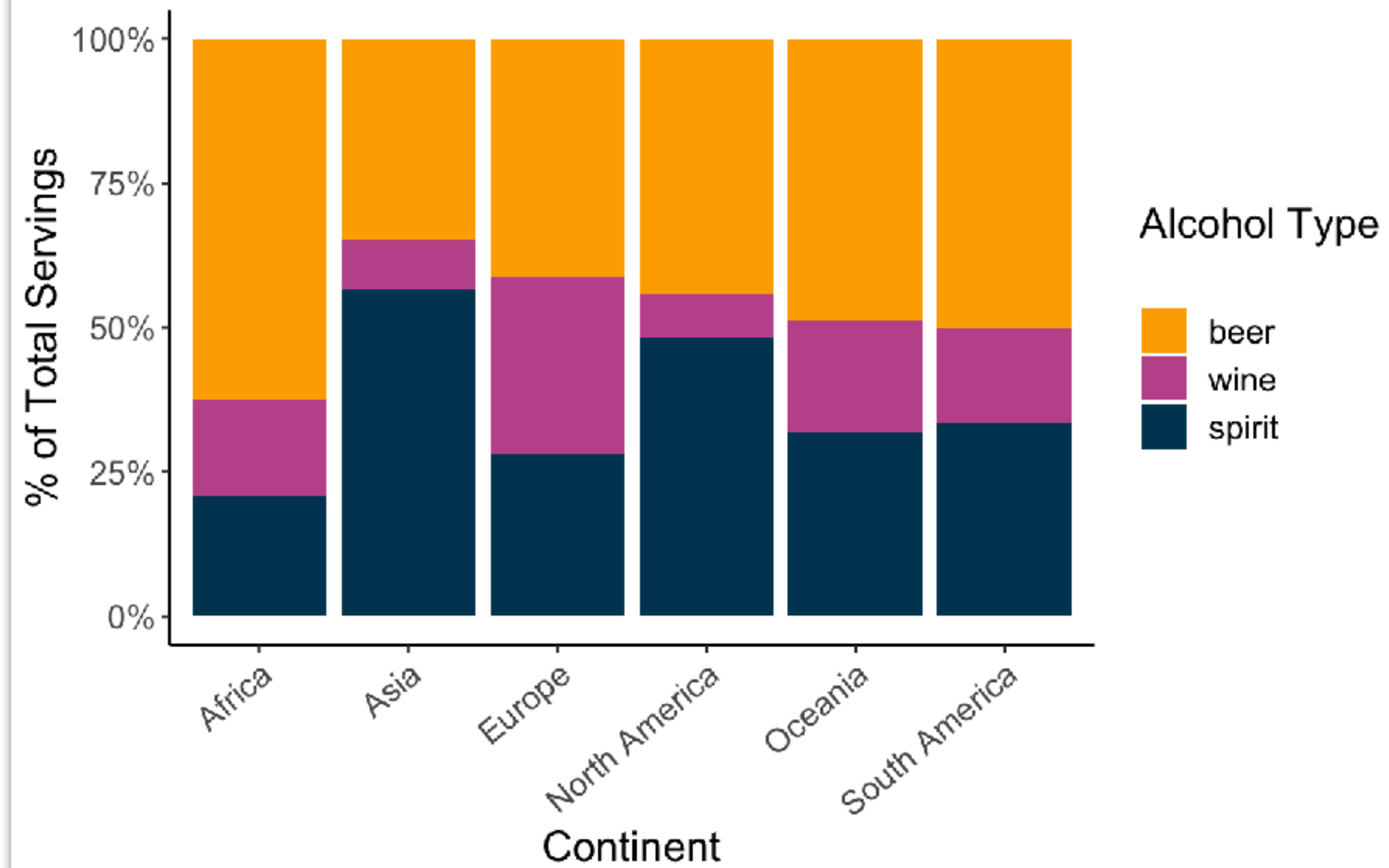
- include all the code that you used to generate the plot (3 points)
- consistent coding style (2 points)
- all the code can be seen in the knitted pdf document (1 point)
- an interesting plot that demonstrates what you've learned in class (4 points)
- a figure caption that is sufficient to understand the plot (2 points)
- a succinct blog post to go with the plot (3 points)



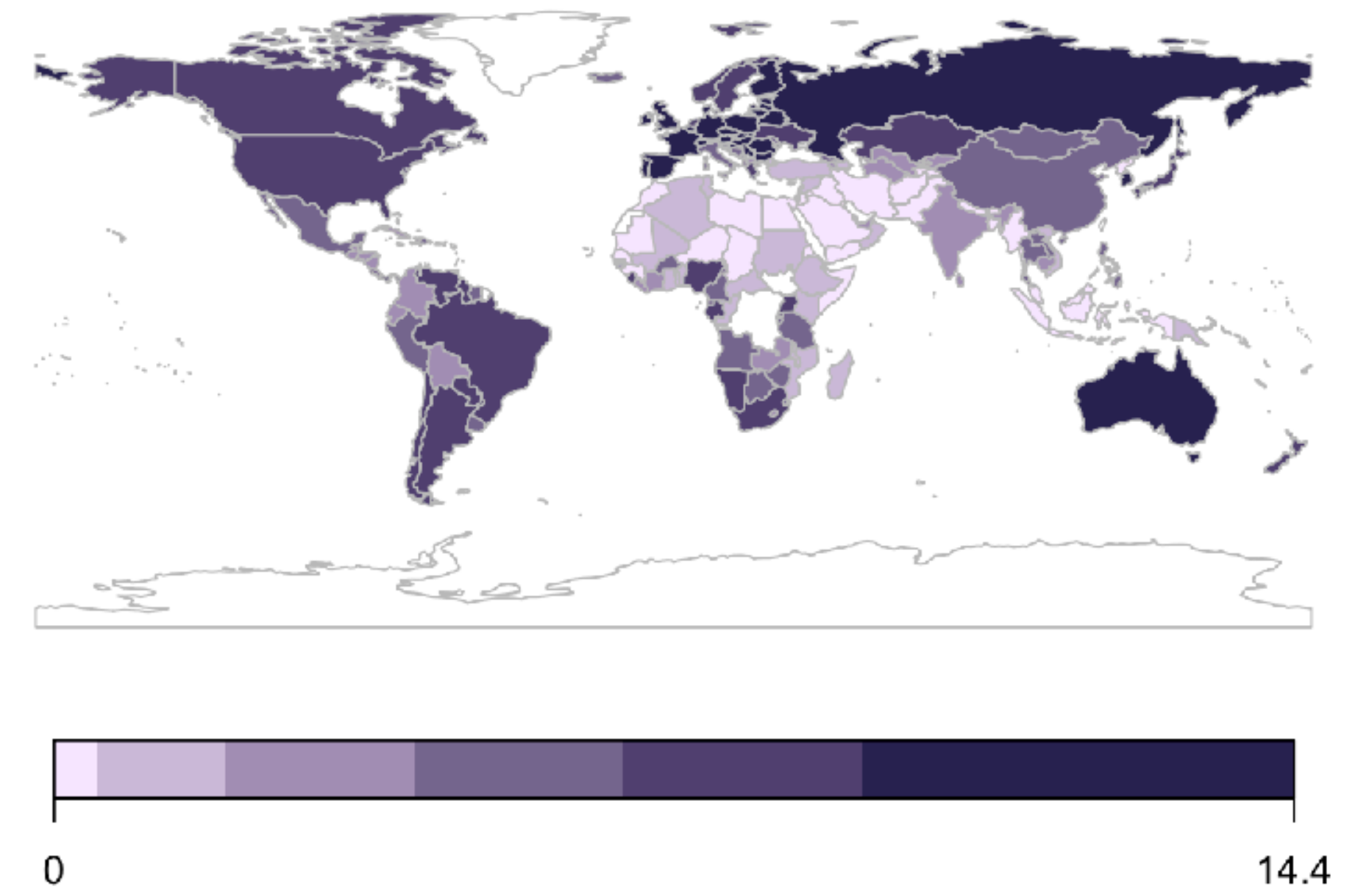
is at the bottom of the RMarkdown file

Homework

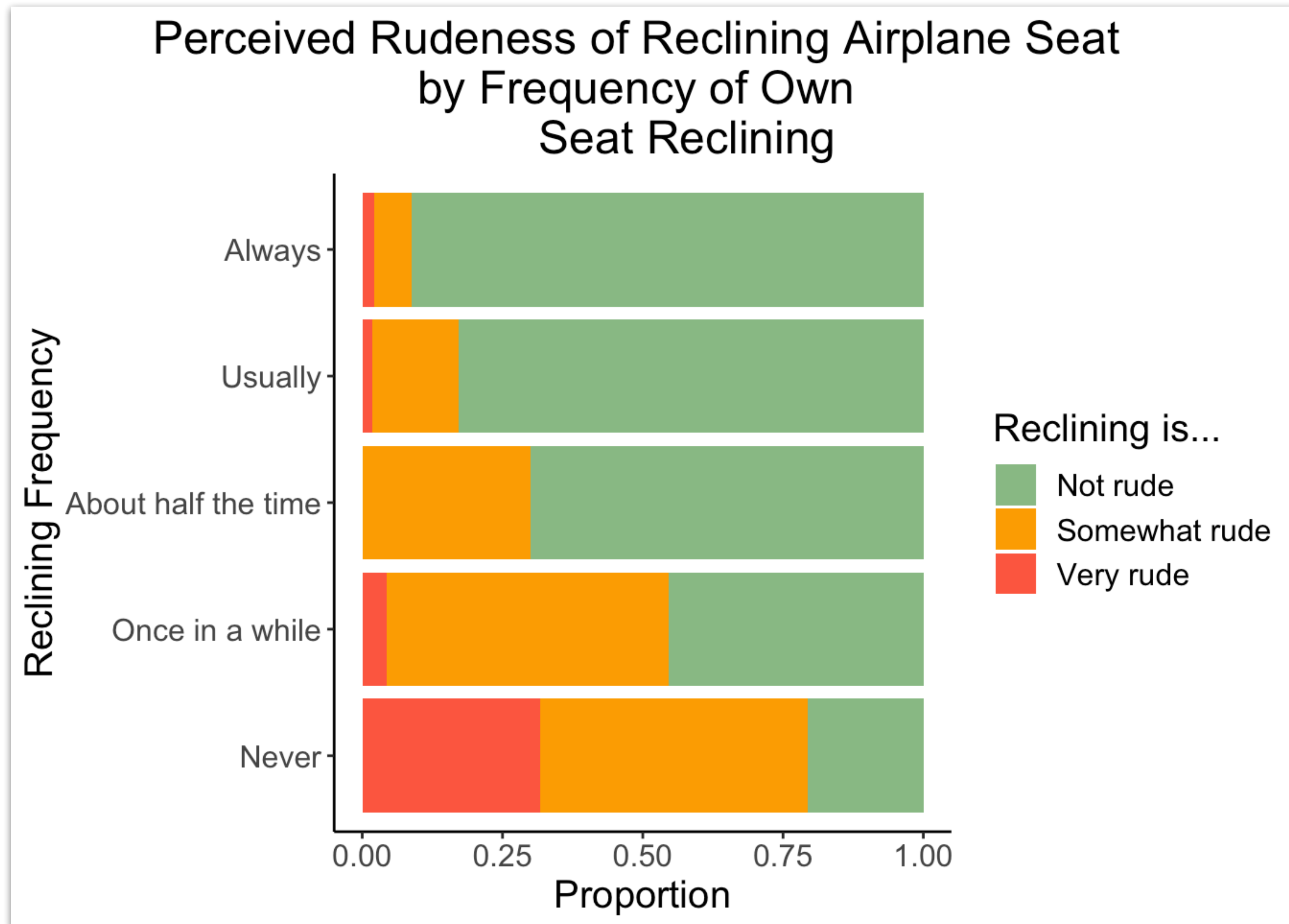
Alcohol Consumed per Person in 2010



Total Liters of Alcohol Consumed per Person in 2010



Homework

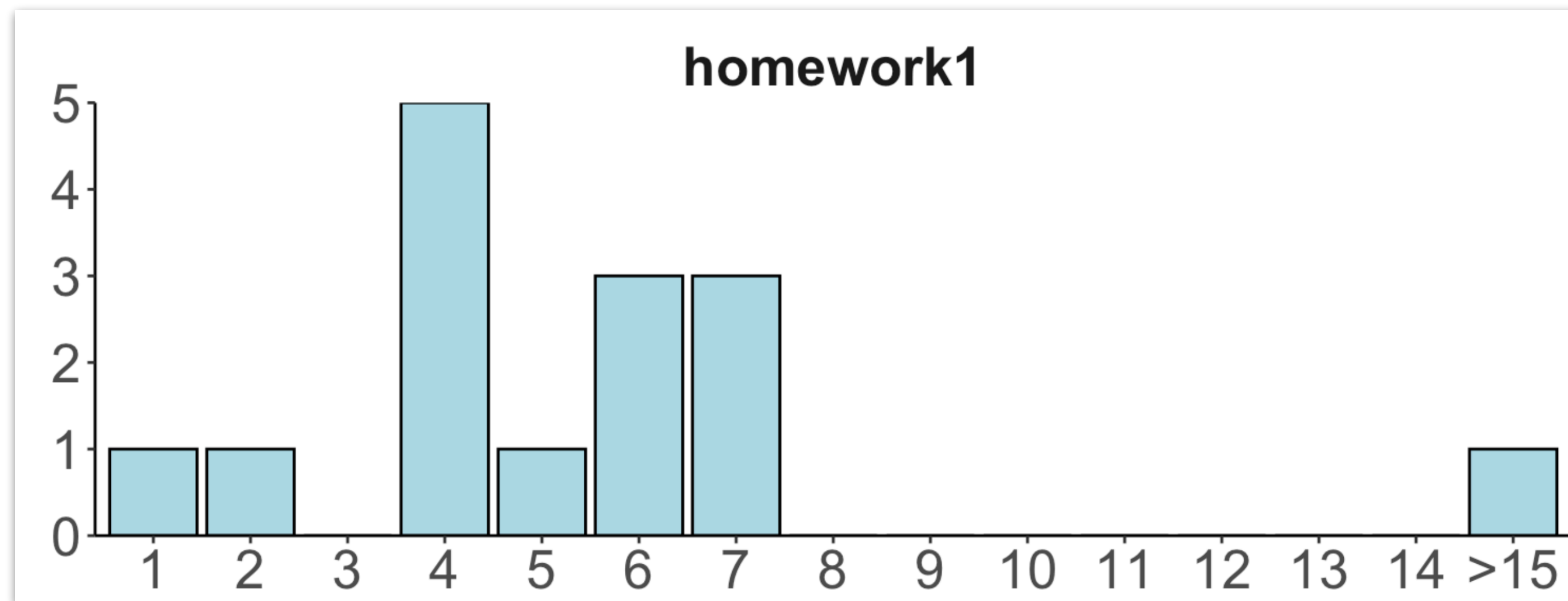


Homework

Homework is due by **Thursday 16th, 8pm**

Submit **two files**:

- the raw **.Rmd** file
- the rendered **.pdf** file that contains the code as well as the figure.



how long it took people in the past

Homework

1_visualization_homework.pdf (page 3 of 4)

{Your blog post title goes here ...}

Load packages

Add the package with the data set that you'd like to load below.

```
library("knitr")
library("tidyverse")
```

Load the data set

```
# load the data set here
```

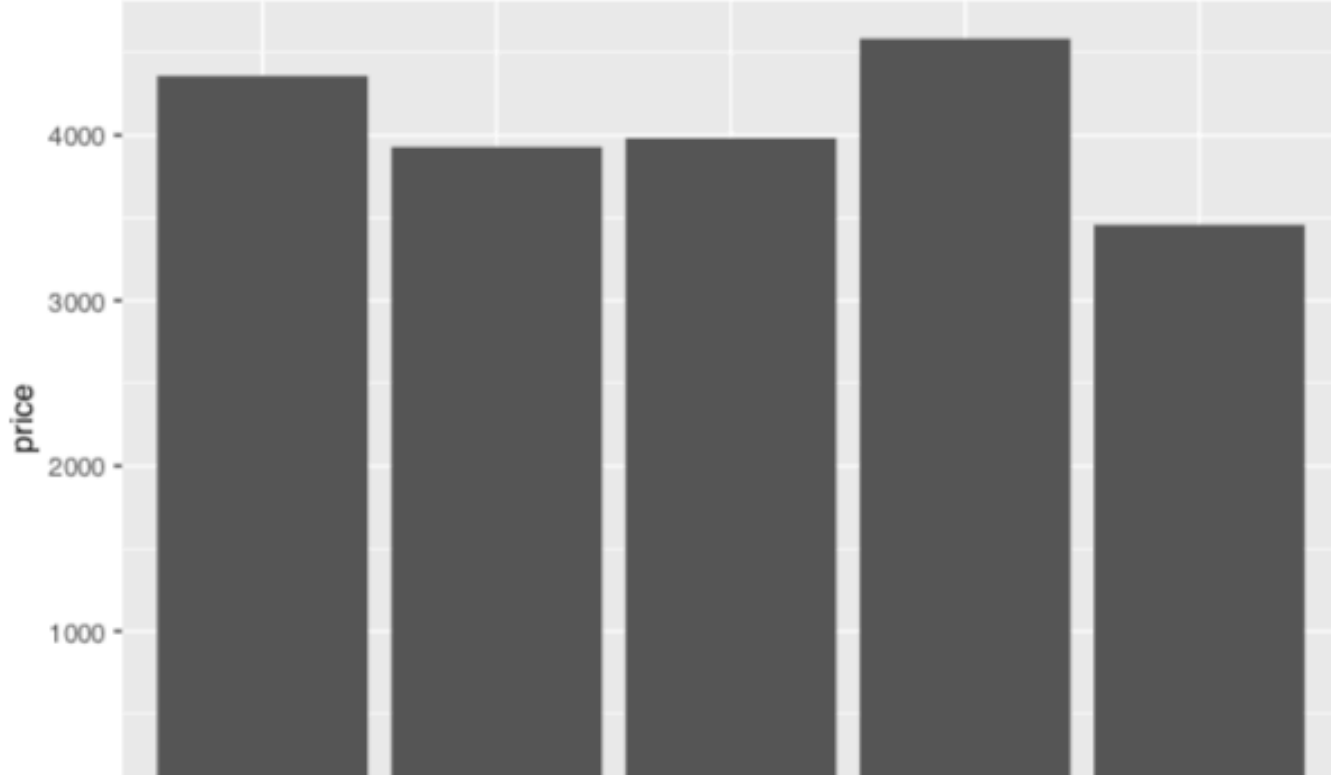
2

Description

Write a short text describing the data, and motivating your question here.

Figure

```
# replace this figure with an interesting one
ggplot(data = diamonds,
       mapping = aes(x = cut, y = price)) +
  stat_summary(fun.y = "mean", geom = "bar")
```



cut	price
Very Good	4500
Good	3900
Fair	3900
Very Good	4500
Fair	3500

should look sort of like this ...

Homework

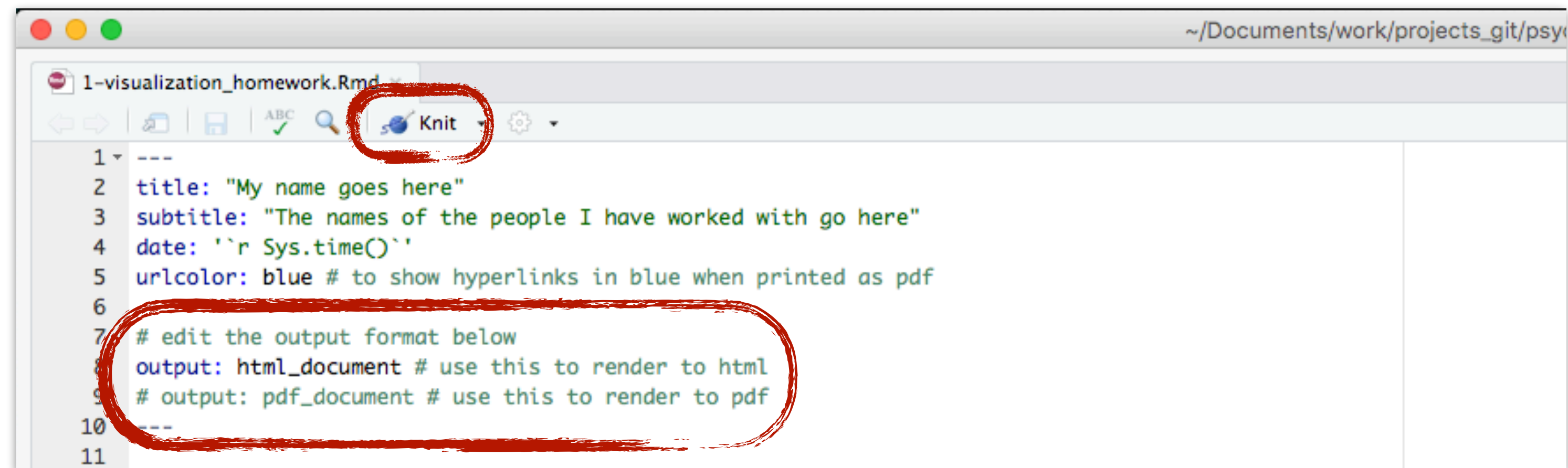
- install `tinytex` (<https://yihui.name/tinytex/r/>)
 - open `1-visualization.Rproj`
 - open `1-visualization_homework.Rmd` within RStudio

```
30 ▾ ### Install tinytex
31
32 In order to knit an RMarkdown document to a pdf file, you have to install LaTeX on your computer. The
33 easiest way of doing so is via the `tinytex` package. Run the code in the following code chunk to do so: |
34 ▾ ```{r, eval=F}
35 install.packages("tinytex")
36 tinytex::install_tinytex()
37
38 # If you experience an error like the following when trying to knit to pdf:
39 # !LaTeX Error: File `xcolor.sty' not found.
40 # then run the following command: tinytex::tlmgr_install("xcolor")
41 # and try to knit again.
42 ```
43
44 You can find out more about the `tinytex` package [here](https://yihui.org/tinytex/).
```

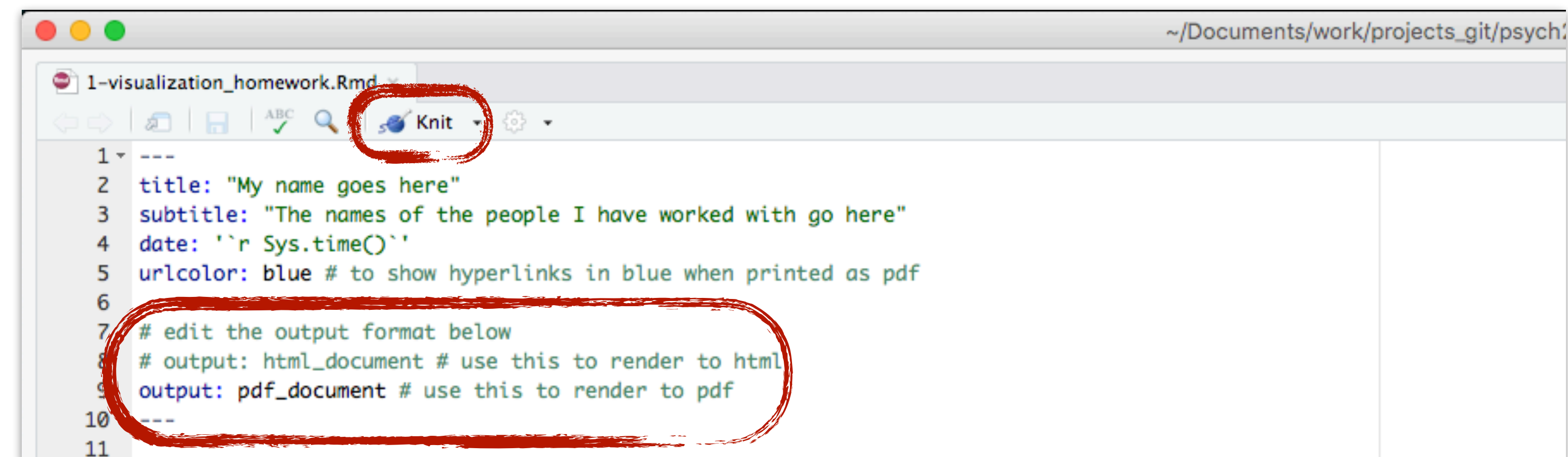
run this code

Homework

- you can change the output format from html to pdf like so ...



```
1 ---
2 title: "My name goes here"
3 subtitle: "The names of the people I have worked with go here"
4 date: ``r Sys.time()``
5 urlcolor: blue # to show hyperlinks in blue when printed as pdf
6
7 # edit the output format below
8 output: html_document # use this to render to html
9 # output: pdf_document # use this to render to pdf
10 ---
11
```

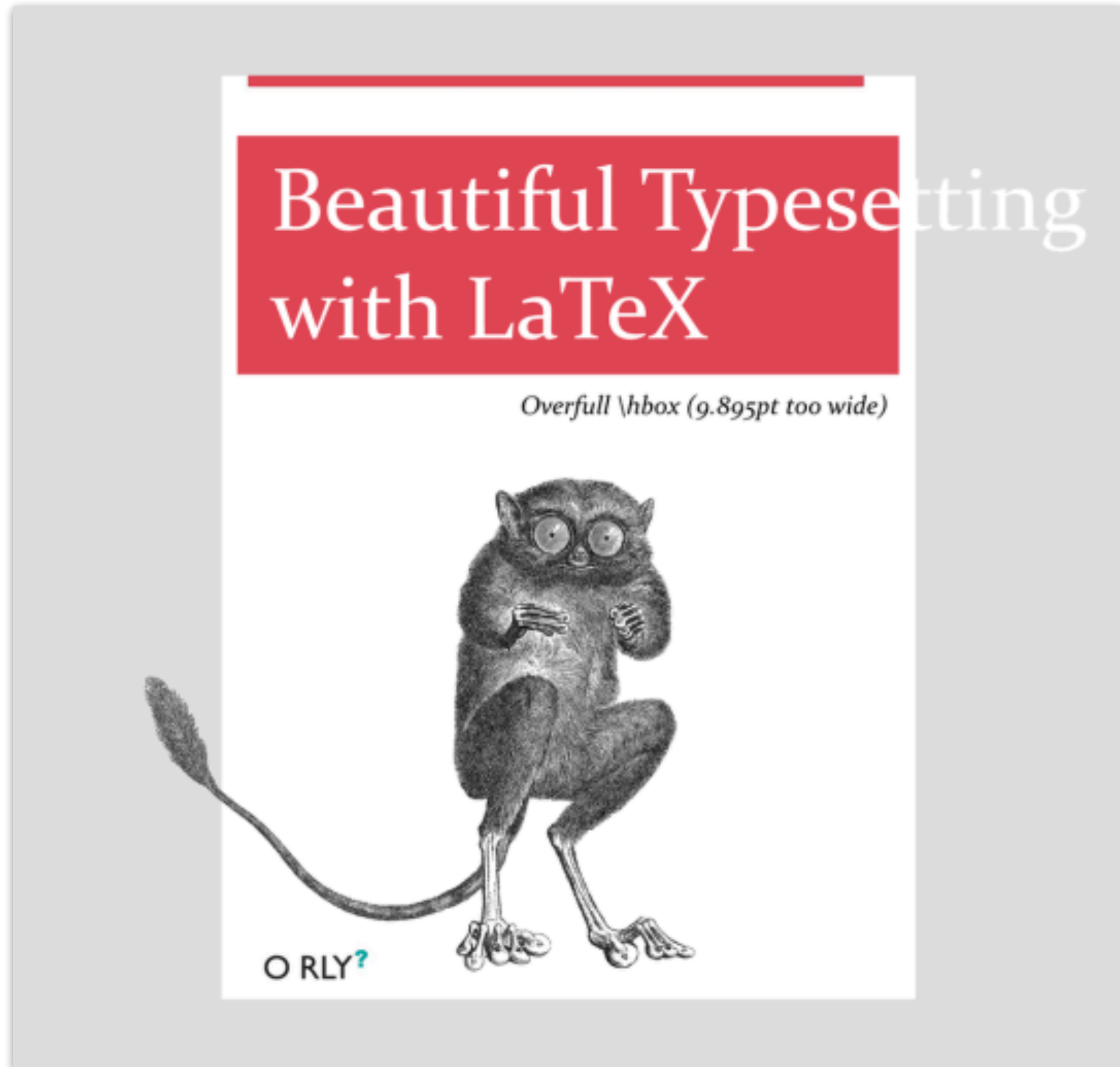


```
1 ---
2 title: "My name goes here"
3 subtitle: "The names of the people I have worked with go here"
4 date: ``r Sys.time()``
5 urlcolor: blue # to show hyperlinks in blue when printed as pdf
6
7 # edit the output format below
8 # output: html_document # use this to render to html
9 output: pdf_document # use this to render to pdf
10 ---
11
```

Homework

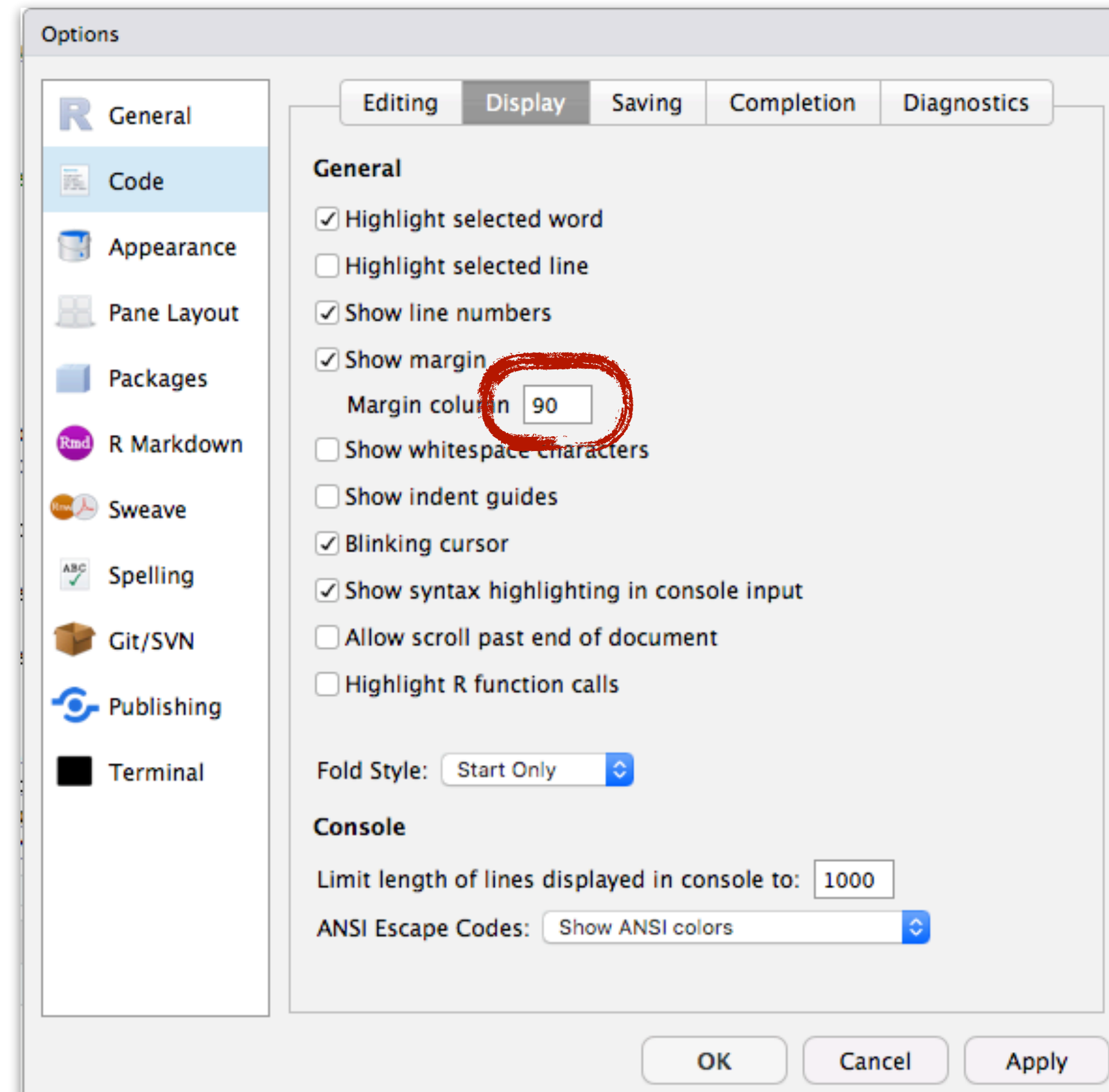
```
1 ggplot(data = df.diamonds, mapping = aes(y = price, x = color, fill = color, group = cut, shape = cut, ...)) +  
2   stat_summary(fun.y = "mean", geom = "bar", color = "black") +  
3   stat_summary(fun.data = "mean_cl_boot", geom = "linerange") +  
4   facet_grid(rows = vars(cut), cols = vars(clarity))
```

very long code without line break




Homework

- set the margin to 90 (and make sure not to go over that margin in code blocks)
- Preferences... > Code > Display



Homework



```
1 ---
2 title: "Class 3"
3 author: "Tobias Gerstenberg"
4 date: "January 11th, 2019"
5 output:
6   bookdown::html_document2:
7     toc: true
8     toc_depth: 4
9     theme: cosmo
10    highlight: tango
11 ---
12 |
13 ```{r setup, include=FALSE}
14 # these options here change the formatting of how comments are rendered
15 knitr::opts_chunk$set(
16   collapse = TRUE,
17   comment = "#>")
18 ```
19
20 # Visualization 2
21
22 In this lecture, we will lift our `ggplot2` skills to the next level!
23
24 ## Learning objectives
25
26 - Deciding what plot is appropriate for what kind of data.
27 - Customizing plots: Take a sad plot and make it better.
28 - Saving plots.
29 - Making figure panels.
30 - Debugging.
31 - Making animations.
32 - Defining snippets.
33
34 ""
```

margin column

Visualization 2
Learning objectives
Install and load pack...
Overview of different...
Proportions
Stacked bar charts
Pie charts
Comparisons
Boxplots
Violin plots
Joy plots
Practice plot 1
Relationships
Scatter plots
Raster plots
Temporal data
Customizing plots
Changing the order...
Dealing with legends
Choosing good colors
Customizing themes
Saving plots
Creating figure panels
Peeking behind the ...
Making animations
Shiny apps
Defining snippets
Additional resources
Cheatsheets
Data camp courses
Books and chapters
Misc
Session info

12:1 (Top Level) R Markdown

Homework

- set the margin to 90 (and make sure not to go over that margin in code blocks)
- Preferences... > Code > Display

```
# take a look at the data sets that come with the package
data(package = "fivethirtyeight")

# take a look at the help file to get more information about the different data sets (not all packages
help("fivethirtyeight")

# the "fivethirtyeight" provides a detailed overview over the different data sets with this command
vignette("fivethirtyeight", package = "fivethirtyeight")

# to load a particular data set (e.g. US_births_2000_2014, replace with the name of the data set you'd
df.data = US_births_2000_2014
```

not good

only important in
code chunks!

```
# take a look at the data sets that come with the package
data(package = "fivethirtyeight")

# take a look at the help file to get more information about the different data sets (not
# all packages have help files)
help("fivethirtyeight")

# the "fivethirtyeight" provides a detailed overview over the different data sets with
# this command
vignette("fivethirtyeight", package = "fivethirtyeight")

# to load a particular data set (e.g. US_births_2000_2014, replace with the name of the
# data set you'd liked to load) into your environment, run the following
df.data = US_births_2000_2014
```

good!

Homework

New Thread

COURSES
psych252

CATEGORIES

General

R/RStudio

Lectures

Homework

HW1

HW2

HW3

HW4

HW5

HW6

HW7

Midterm

Final Project

Social

Random

Search

No threads

Be the first to create a thread!

Cancel

New Post

Pos

? Question

Post

Announcement

Title

General

R/RStudio

Lectures

Homework

Midterm

Final Project

Social

Random

Subcategory

HW1

HW2

HW3

HW4

HW5

HW6

HW7

Paragraph

B

I

U

<>

:

≡

≡

☐ Pinned
Keep at top of thread list

☐ Private
Visible to you and staff only

☐ Anonymous
Hide your name from students

☐ Anonymous Comments
Allow anonymous comments

☐ Megathread
Resolvable comments

Post

post on Ed Discussion if you have any questions
about the homework

RStudio & visualization time!

05:00



blue



pink

Anatomy of a nice ggplot

```
1 # ggplot call with global aesthetics
2 ggplot(data = data,
3       mapping = aes(x = cause,
4                     y = effect)) +
5   # add geometric objects (geoms)
6   geom_point() +
7   stat_summary(fun.y = "mean", geom = "point") +
8   ... +
9   # add text objects
10  geom_text() +
11  annotate() +
12  # adjust axes and coordinates
13  scale_x_continuous() +
14  scale_y_continuous() +
15  coord_cartesian() +
16  # define plot title, and axis titles
17  labs(title = "Title",
18       x = "Cause",
19       y = "Effect") +
20  # change global aspects of the plot
21  theme(text = element_text(size = 20),
22        plot.margin = margin(t = 1, b = 1, l = 0.5, r = 0.5, unit = "cm")) +
23  # save the plot
24  ggsave(filename = "super_nice_plot.pdf",
25         width = 8,
26         height = 6)
```

what?

how?

add some text?

"local" adjustments

"global" adjustments

save the beauty!

Feedback

How was the pace of today's class?

much
too
slow

a little
too
slow

just
right

a little
too
fast

much
too
fast

How happy were you with today's class overall?



What did you like about today's class? What could be improved next time?

Thank you!