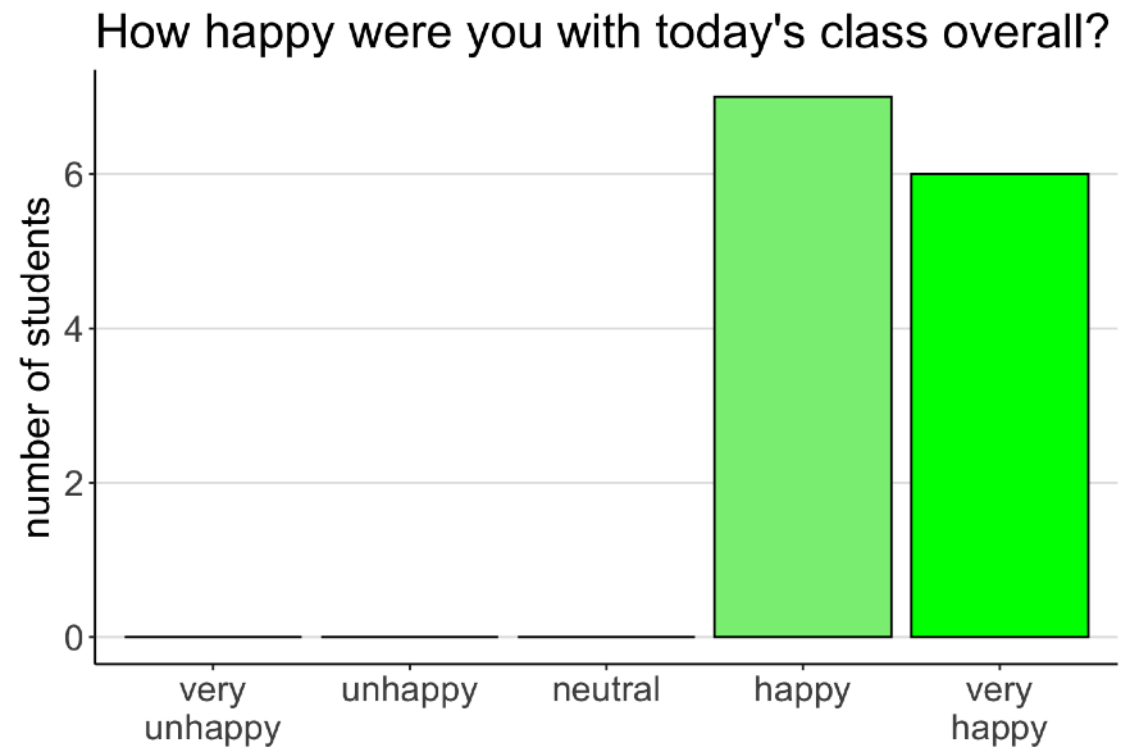
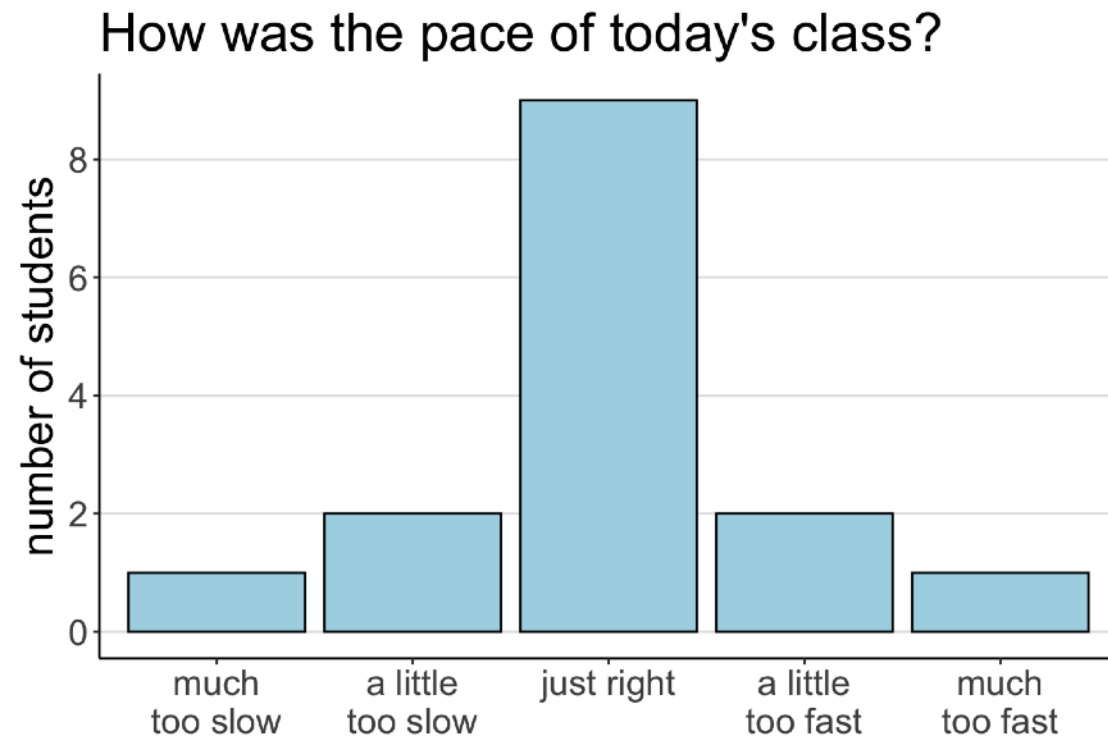


Visualization 2



Your feedback

Your feedback



I liked the explanation on editing options like softwrap, keyboard shortcuts and `{r eval}` which I did not know about before. **Maybe TAs could walk around and help out whenever a student is facing issues.** These could be package download issues or other issues so that all students are on the same page while following the tutorial

When showing us tips and tricks at the beginning, it would have helped me **if you paused to make sure we all got it.** There were a couple times when I looked down at my screen for a couple seconds and then never got to see where you clicked to do something. The rest of the class was great!

It was good! I think it might have been fun to get **slightly trickier "advanced"** plotting exercises :)

Introductory survey

I want a few more :)



Questions

Responses

26

Settings

Psych 252: Introductory survey

We would like to get to know you better! Through this survey, we'll get a better sense of who you are that will help us best tailor the class to your needs.

<https://tinyurl.com/psych252survey24>

Things that came up ...

Homework release

Timing of HW assignment release #2



Anonymous

3 days ago in [General](#)



PIN



STAR



WATCH

69

VIEWS



Hello! Would it be possible to release the homeworks earlier in the week? You mentioned that homeworks would be released after class on Fridays and due Thursday evenings. For those of us who can only attend Friday sections, this does not leave any time for us to review the homework and identify questions to bring to section. Thanks for your consideration.

[Comment](#) [Edit](#) [Delete](#) [Endorse](#) ...

1 Answer



Tobi Gerstenberg **STAFF**

Yesterday



Thanks for your comment! HW1 will be released on Friday after class but starting next week, we'll always release homeworks on Wednesday after class (while the due date remains the week after on Thursdays).



[Comment](#) [Edit](#) [Delete](#) [Endorse](#) ...

Homework

Homework

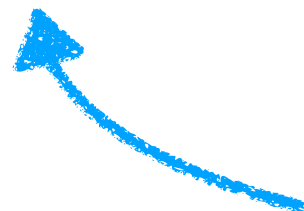
In this homework, **you'll write a short blog post** about a data set. Your goal is to tell us something interesting using a well-crafted, thoughtfully-prepared data graphic.

Grading Rubric

There are 15 possible points for this homework.

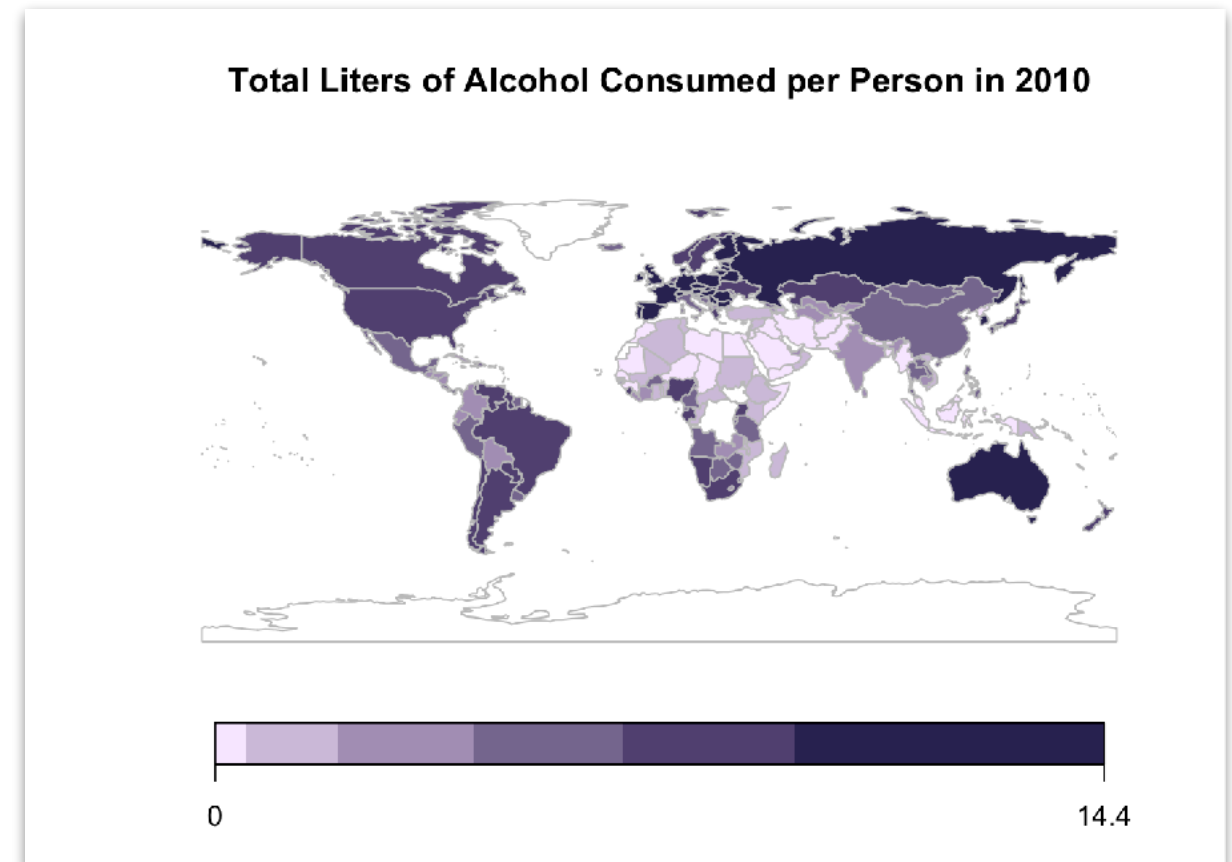
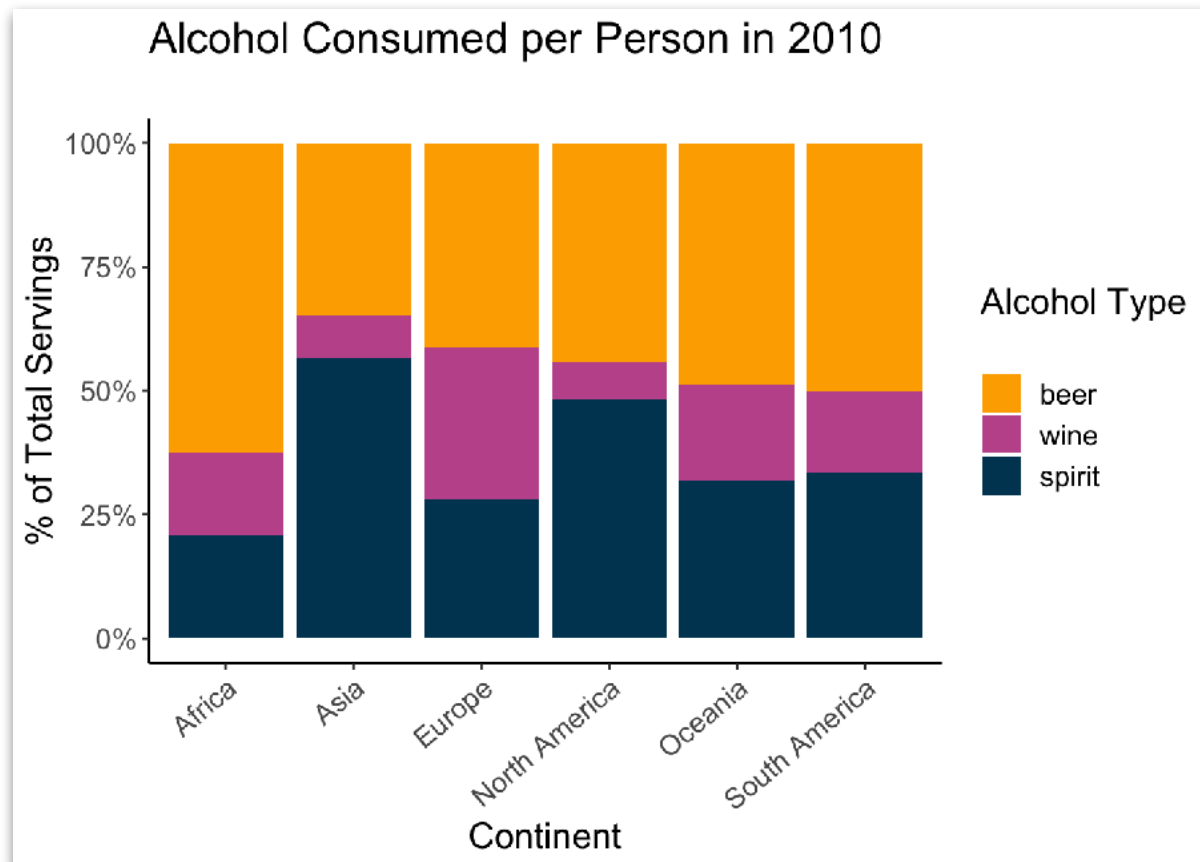
Here are some of the things we care about:

- 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)

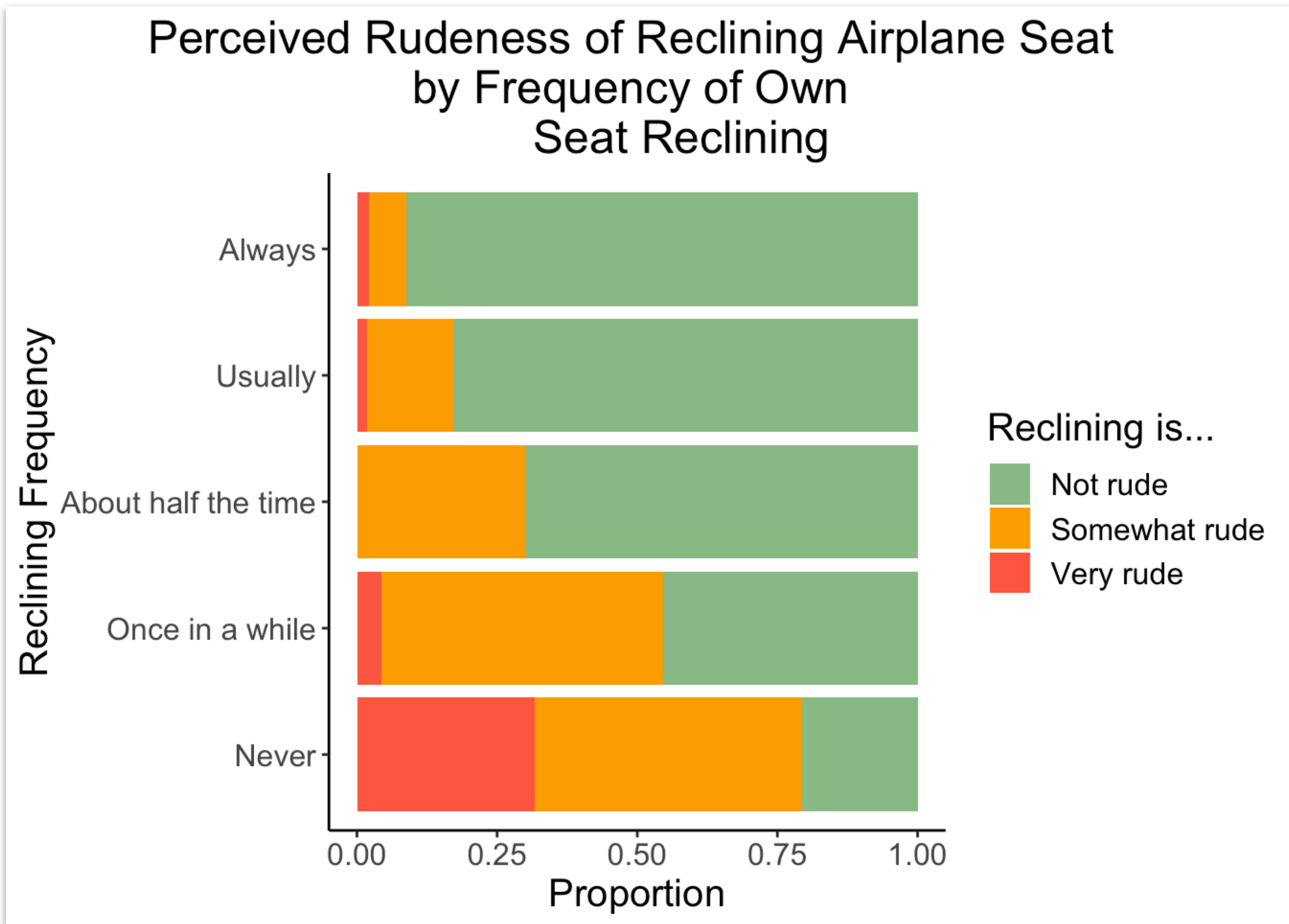


is at the bottom of the RMarkdown file

Homework



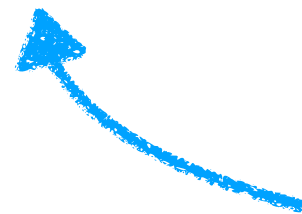
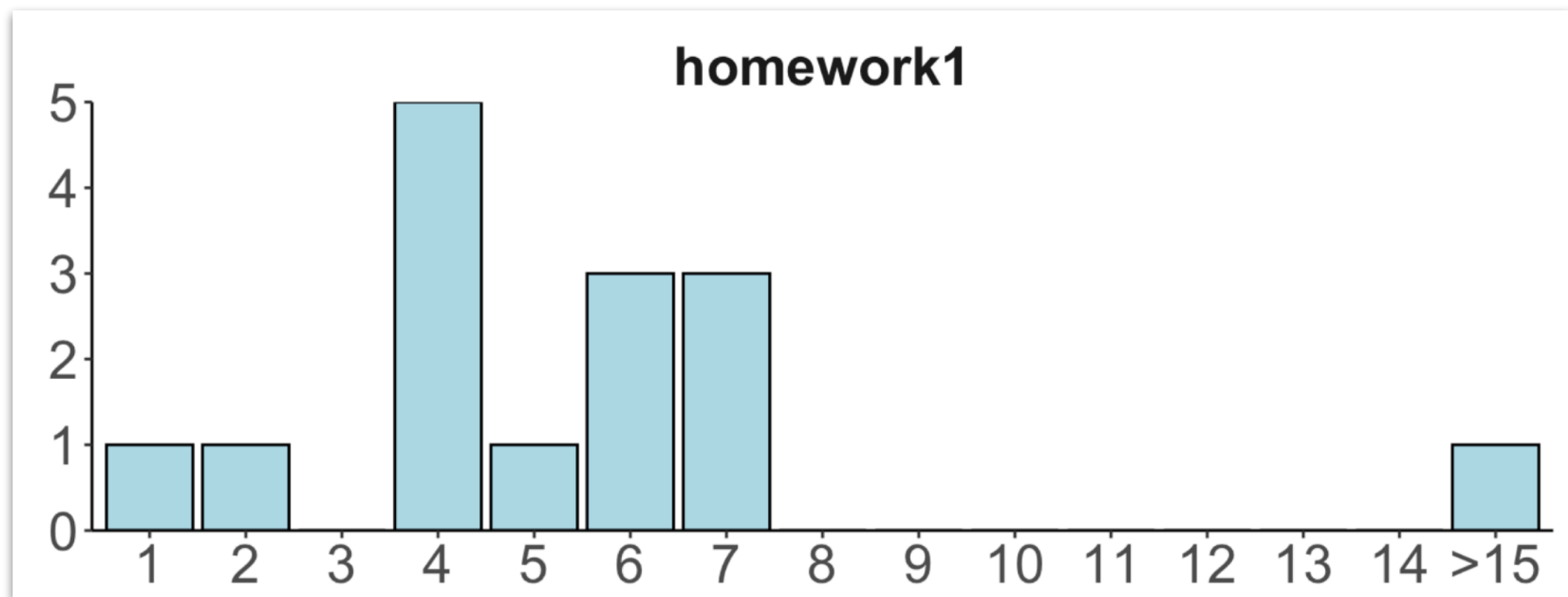
Homework



Homework

Homework is due by **Thursday 18th, 8pm**

Submit **one pdf file** (knitted with RMarkdown) that contains the code as well as the figure.



how long it took people last year

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
```

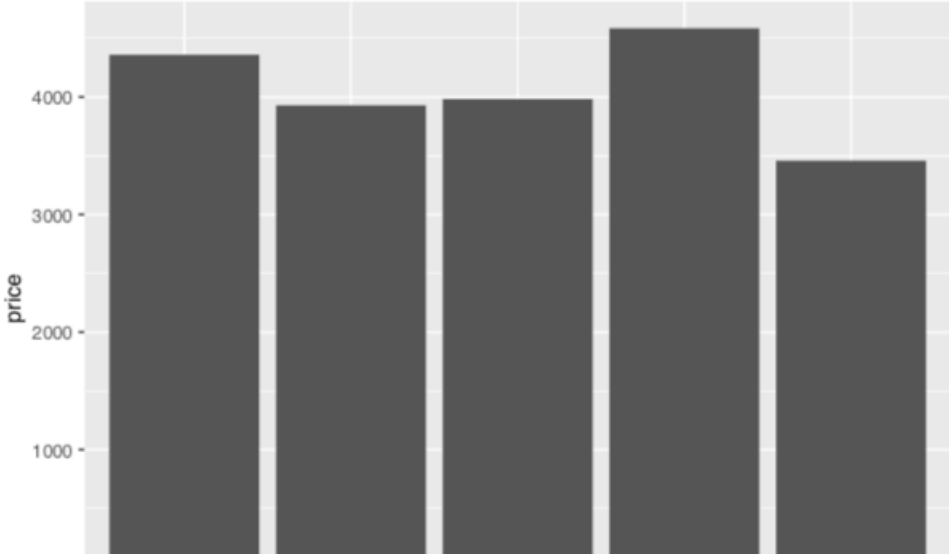
2

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	mean price
Very Good	4300
Good	3900
Fair	4000
Very Poor	4500
Poor	3500

should look sort of like this ...

Homework

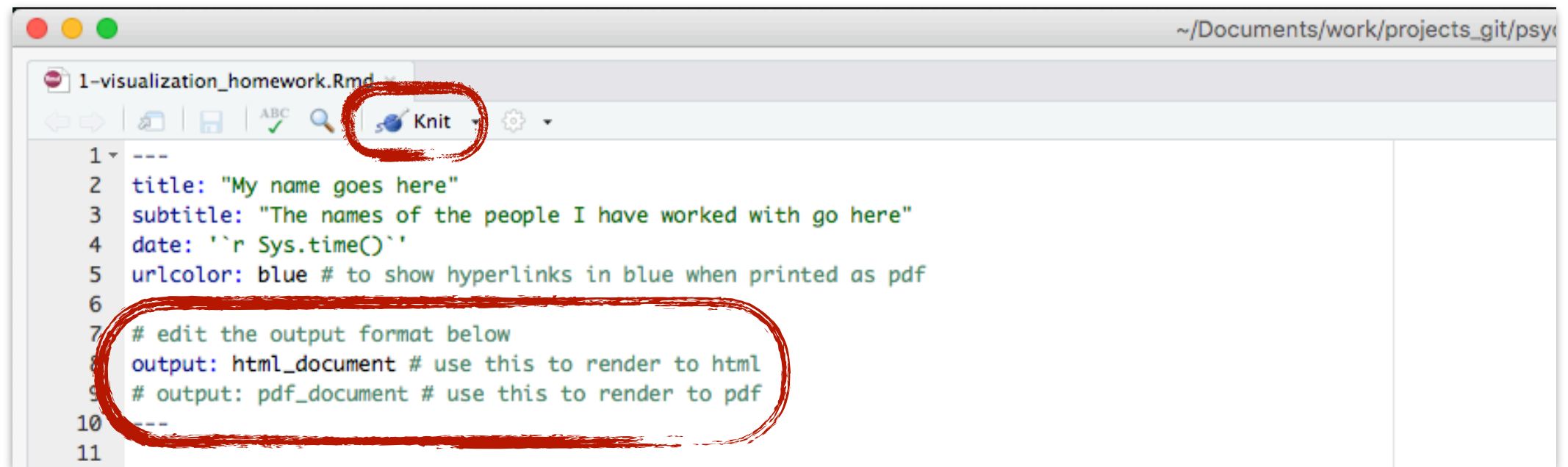
- install `tinytex` (<https://yihui.name/tinytex/r/>)
 - open `1-visualization.Rproj`
 - open `1-visualization_homework.Rmd` within RStudio

```
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/).
```

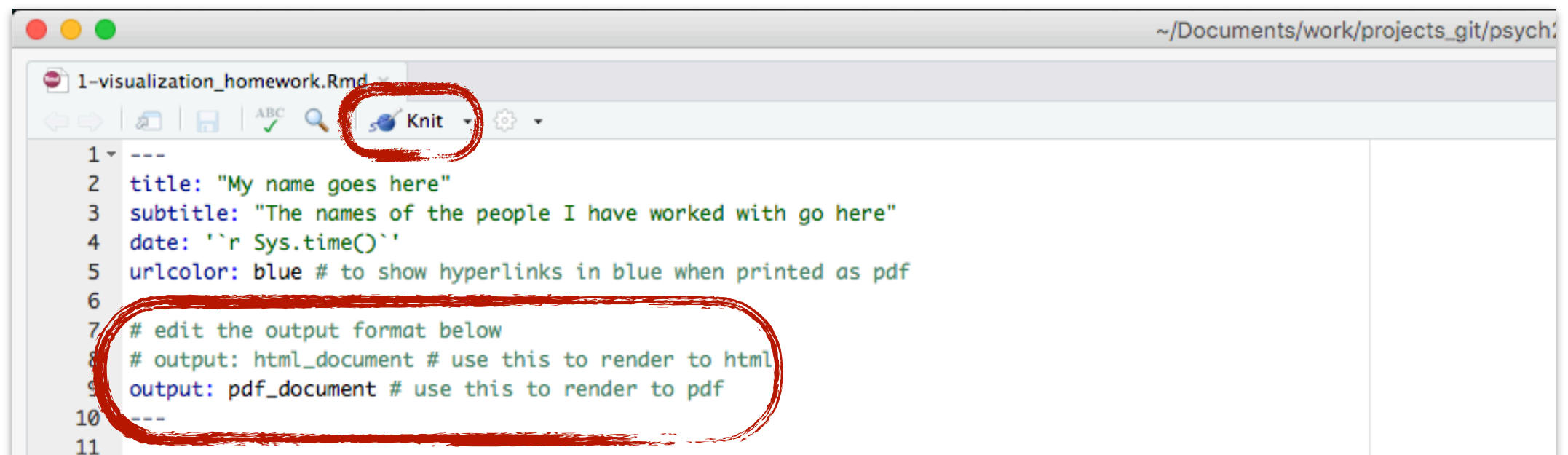
run this code

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

The screenshot shows the Ed Discussion interface for the course 'psych252'. The left sidebar contains a 'COURSES' section with 'psych252' selected, and a 'CATEGORIES' section with 'Homework' selected and 'HW1' highlighted. The main content area displays 'No threads' with the prompt 'Be the first to create a thread!'. The right sidebar shows the 'New Post' form with the following options:

- Buttons: Question, Post (selected), Announcement
- Title: Text input field
- Category: General, R/RStudio, Lectures, Homework (selected), Midterm, Final Project
- Subcategory: HW1 (selected), HW2, HW3, HW4, HW5, HW6, HW7
- Rich Text Editor: Paragraph, Bold (B), Italic (I), Underline (U), Link (<>), Unlink, Bulleted List, Numbered List, Image, Video, Link, Table, Code, Quote, Eye
- Options:
 - ☐ 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 button

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

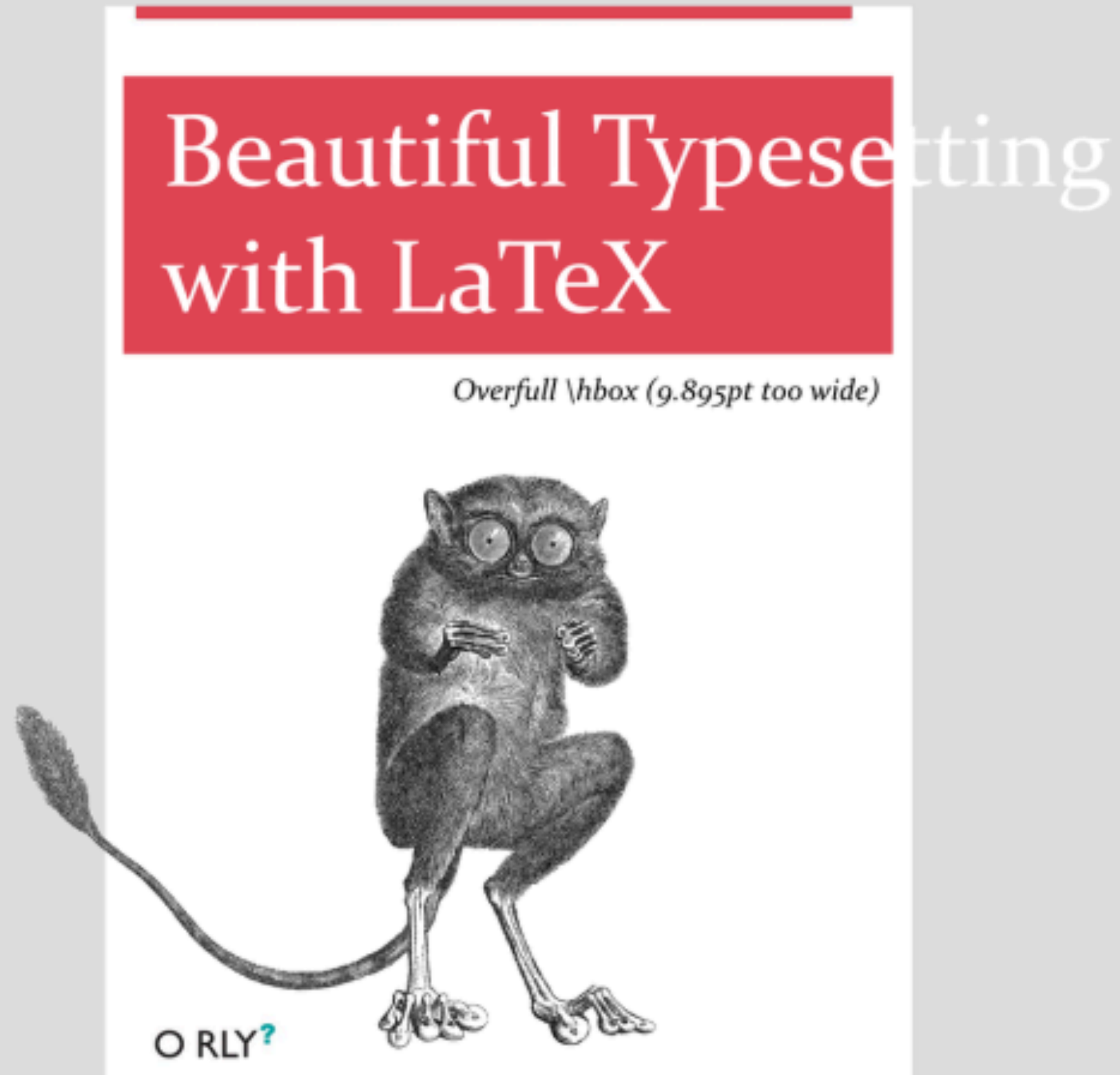
Homework

very long code without line break



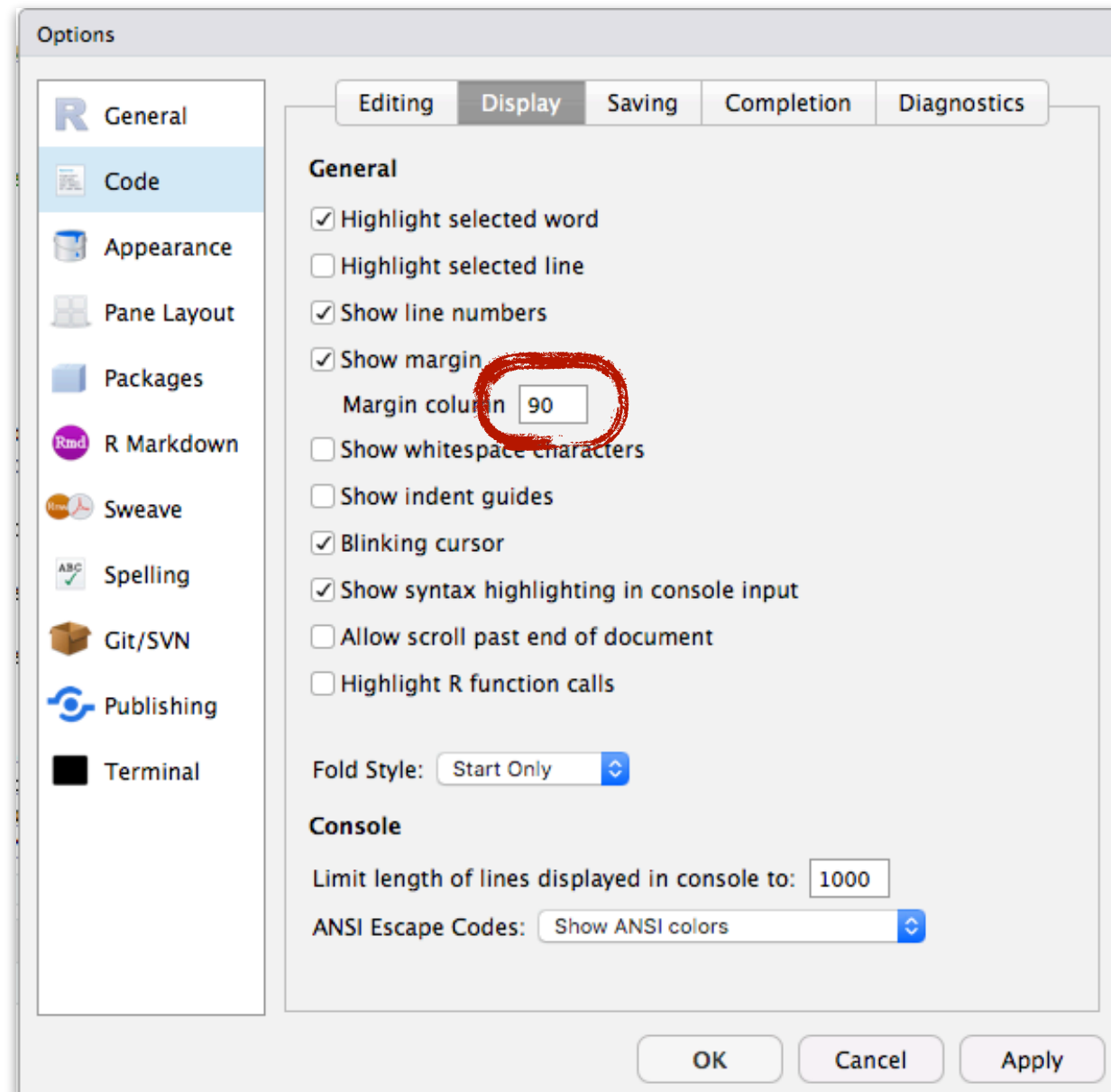
```
1 ggplot(data = df.diamonds, mapping = aes(y = price, x = color, fill = color, group = cut, shape = cut, ...)) +  
2   stat_summary(fun.y = "mean", geom = "bar", color = "black") +  
3   stat_summary(fun.data = "mean_cl_boot", geom = "linerange") +  
4   facet_grid(rows = vars(cut), cols = vars(clarity))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


Homework



Homework

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



Homework

visualization2.Rmd

Knit

Insert

Run

```
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
```

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")

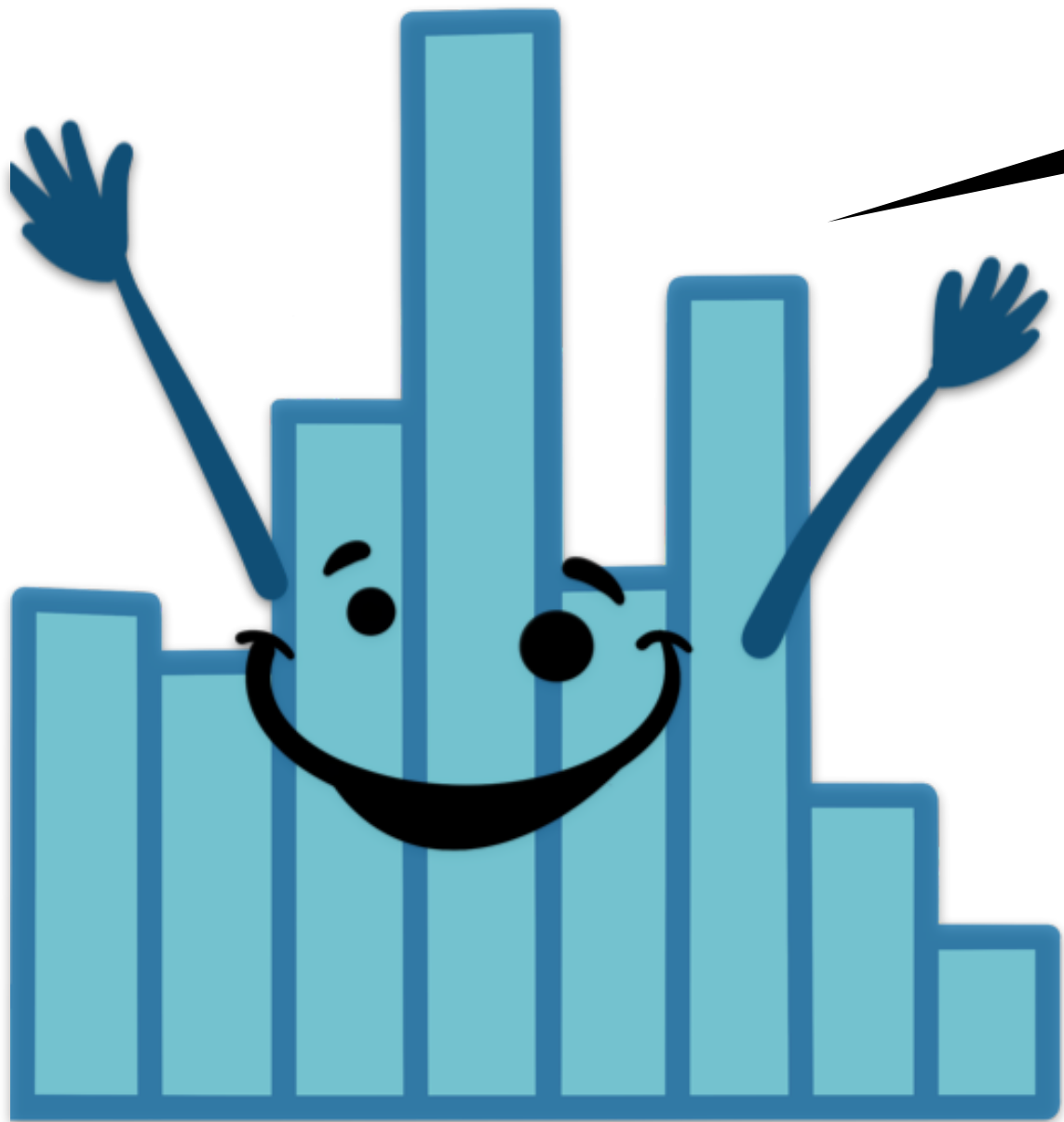
# the "fivethirtyeight" provides a detailed overview over the different data sets with
# this command
vignette("fivethirtyeight", package = "fivethirtyeight")

# 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!

RStudio & visualization time!

01:00
stretch break!



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?