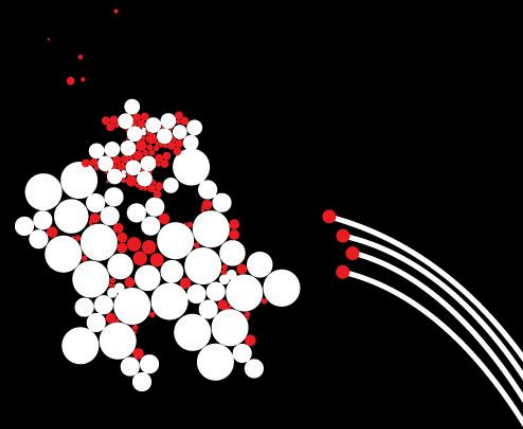


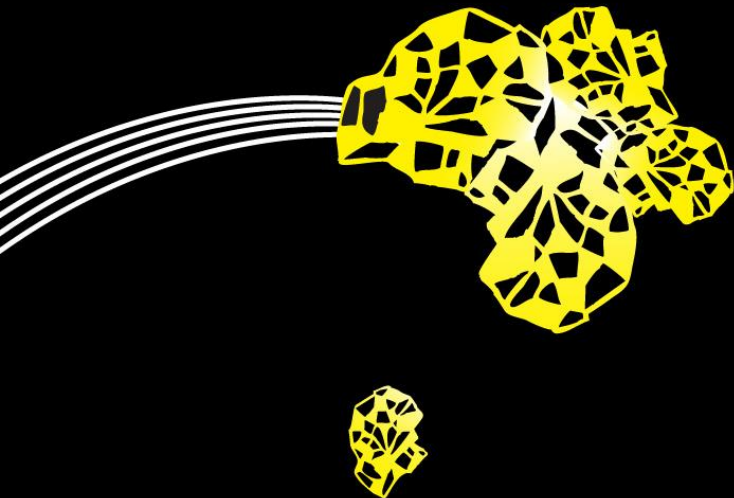
UNIVERSITY OF TWENTE.

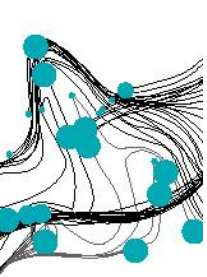


INTRODUCTION INTO WORKING WITH R

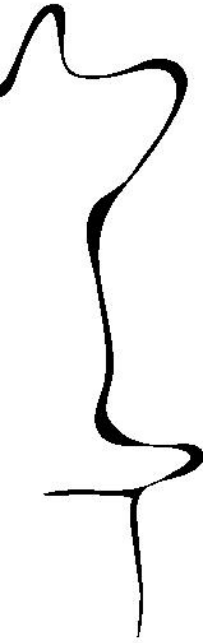
SESSION 2 – VERSION 08/11/2018

BENJAMIN ZIEPERT





PLANNING



- Session 2
 - Questions about R
 - Practicing Common Statistical Analysis
 - Best practices

- Session 3
 - Introduction analysing twitter data
 - Designing and analysing own twitter question
 - Finishing assignment and present results





Q&A

- How did DataCamp assignments go?
- What are your questions?



DataCamp

Q&A

HOW DO YOU KNOW R IS STILL WORKING?

Stop sign

- Stop sign appears when R is processing your script.
- Press stop sign to stop this process

The “>” Sign in your console

- The “>” sign means R is ready for new input
- Press esc button with the cursor in the console to reset if you don't see this sign



Q&A

I CAN'T FIND ANY MISTAKE ... DOES R HATE ME?

What to do if nothing seems wrong?

- Mostly very minor detail like space or comma
- Could be also that DataCamp wants an exact result
- Experience needed to really understand errors

Q&A

I CAN'T FIND ANY MISTAKE ... DOES R HATE ME?

What to do?

It is important to isolate the problem as much as possible. You want to find the smallest chunk of code that can be used to reproduce the problem and uses the most simple variables possible.

Q&A

I CAN'T FIND ANY MISTAKE ... DOES R HATE ME?

Steps

- Break down the code in the smallest steps possible and check each step
 - Check variables with `str()`
- Create a reproduceable minimal data set and check for the problem
 - <https://stackoverflow.com/questions/5963269/how-to-make-a-great-r-reproducible-example/5963610>
- Search for the problem with google.com in English
 - Avoid other languages since English is the largest community
- Ask a peer or on stackoverflow.com
 - <https://www.wikihow.com/Ask-a-Question-on-Stack-Overflow>

Q&A

How to check whether a package is installed?

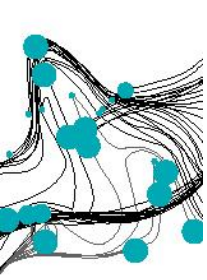
- Execute `library()` two times. The second time there should be no error.

How to know what a function can do?

- Execute `?function` to open the help page or select the function name and press F1

What to do if a function does not work?

- Try `package::function()`. Sometimes several packages have the same function. By adding the package R knows which one it should use.

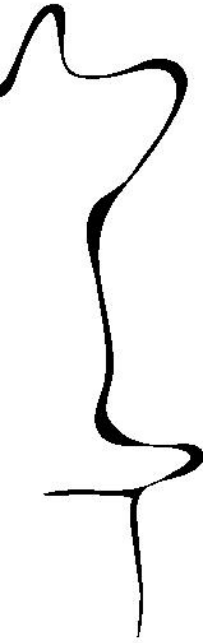


ASSIGNMENT

PRACTICING COMMON STATISTICAL ANALYSIS

- ✓ Create an empty R file in R Studio
- ✓ Go to benjaminziepert.com/teaching and open the handout for session 2 and follow the steps.

You have to submit the working R script file before 27th November 2018 to b.ziepert@student.utwente.nl to pass the R lectures.

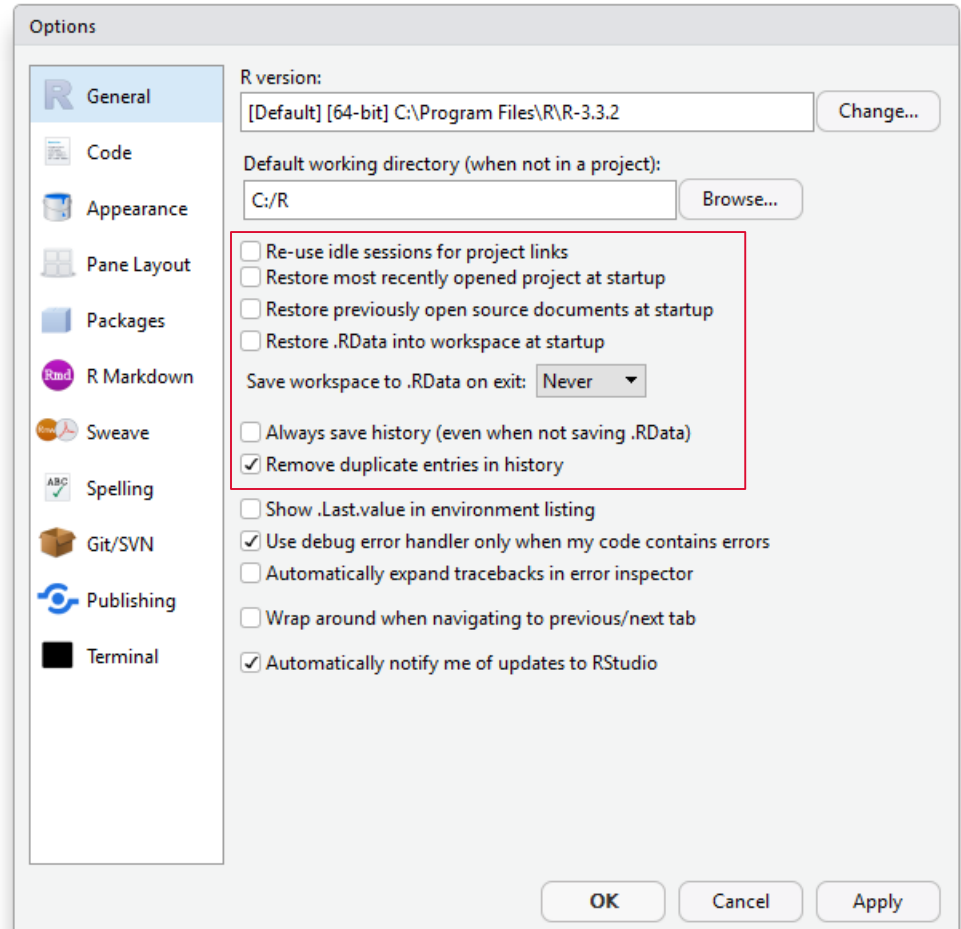




BEST PRACTICES

R STUDIO GLOBAL SETTINGS

- **Your script should be always executable without relying on session data.**
- Relying on session data increases your chance that you won't notice a mistake in your script and clutters your environment.

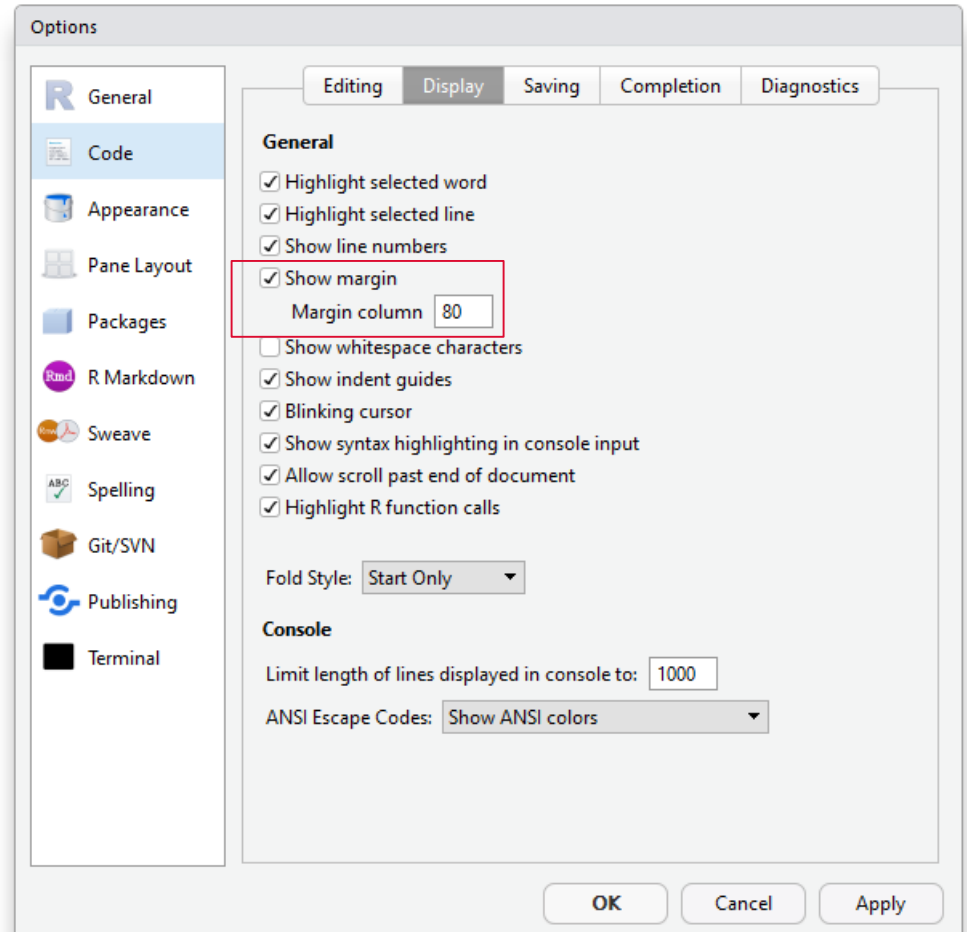


BEST PRACTICES

R STUDIO GLOBAL SETTINGS

Use visual guides such as the 80 characters margin line.

Write your code within the margin to keep a better overview.



BEST PRACTICES

CODING

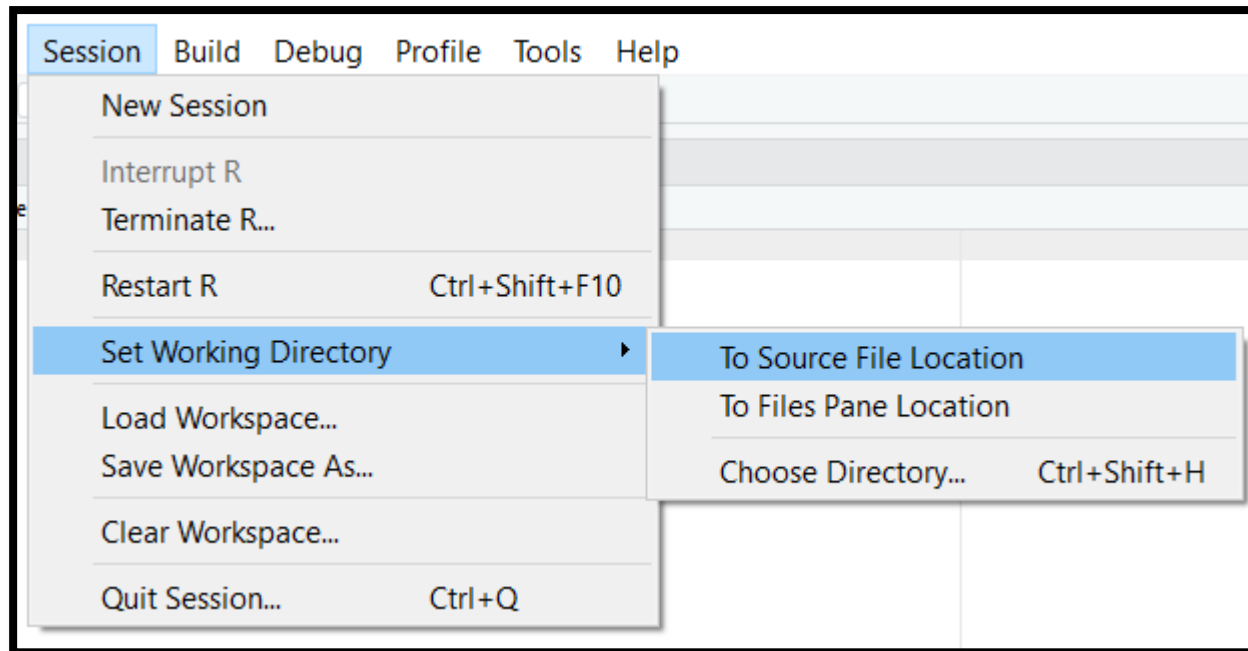
Use comments to explain your code so that others can understand it.

```
1
2 # Activate tidyverse package
3
4 library("tidyverse")
5
6 # Print descriptive statistics of the mpg data frame
7
8 summary(mpg)
9
```

BEST PRACTICES

CODING

**Place files in one folder
and set working dir.**



BEST PRACTICES

CODING

Keep variable names short

- Good: `day_one`
- Bad: `first_day_of_the_month`

Use whitespaces to keep text readable

```
# Good  
average <- mean(feet / 12 + inches, na.rm = TRUE)  
  
# Bad  
average<-mean(feet/12+inches,na.rm=TRUE)
```

BEST PRACTICES

CODING

Use a style guide

- <http://adv-r.had.co.nz/Style.html>
- <https://google.github.io/styleguide/Rguide.xml>