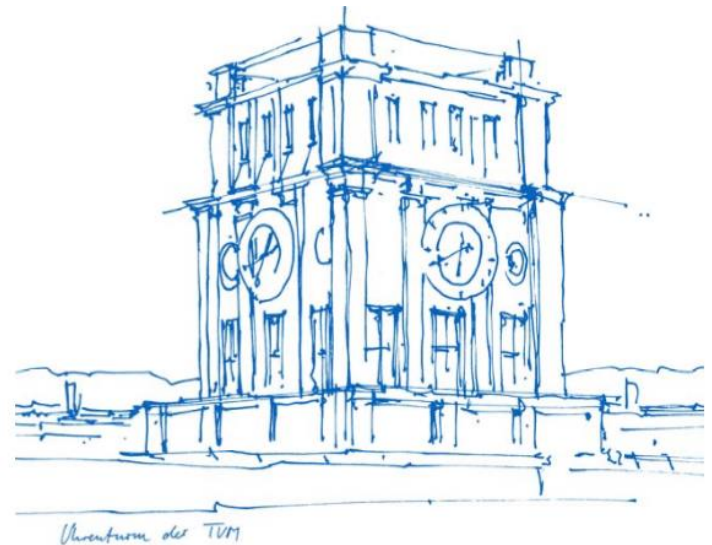


Introduction into R

Raoul Rothfeld (raoul.rothfeld@tum.de)

Based on material from Hema Sharanya Rayaprolu

25 November 2019



RStudio (IDE for R) Overview

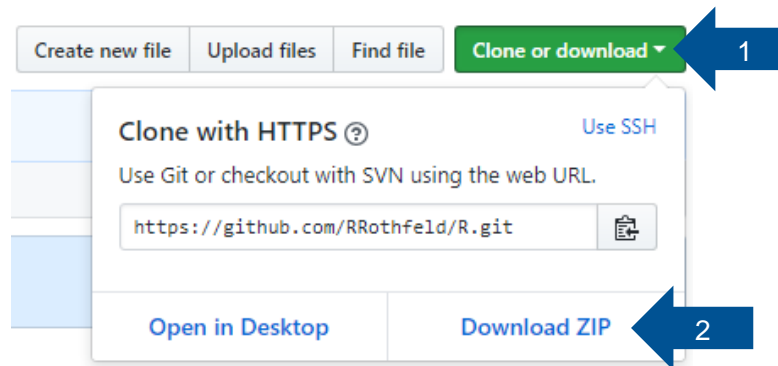
The screenshot displays the RStudio IDE interface. The main window is divided into four panes:

- Code Editor:** Contains R code for setting up the workspace and creating vectors. The text "Code Editor" is overlaid on this pane.
- Environment:** Shows the "Global Environment" with the message "Environment is empty". The text "Workspace and History" is overlaid on this pane.
- Plots:** Currently empty. The text "Plots and Files" is overlaid on this pane.
- Console:** Displays the R version (3.5.1) and copyright information. The text "R Console" is overlaid on this pane.

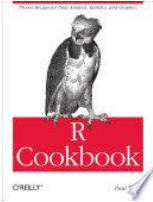
```
1 #####
2
3 ##### ----- INTRODUCTION TO DATA ANALYSIS WITH R ----- #####
4 #####
5
6 ##### ----- IMPORTING DATA INTO R ----- #####
7 #####
8
9
10 # Setting up workspace
11 getwd()
12 setwd("/Users/rm/Documents/teaching/2017WS/travelBehavior/exercise/hema_dataAnalysis")
13
14 # Help - ?function
15 ?setwd
16
17 # Vectors (atomic vectors, lists)
18 4+6
19 a <- 5+7
20 b <- 1:20
21 c <- seq(0, 20, by = 2) # gives a sequence of numbers from 0 to 20 incremented by 2
22 d <- seq(0, 10, length = 30) # Gives 30 equidistant numbers between 0 and 10
23 e <- rep(1, times = 5)
24 f <- c(1,5,6,8,5,1,4) # c is short for concatenate; integers are converted to real numbers if one of the values is real
25 g <- rep(f, times=2)
26 h <- rep(c(0,1,2), each=2) # repeats each value twice
27 i <- c("one","two","three")
28 j <- c(TRUE, FALSE, TRUE, FALSE, FALSE)
29 str(j) # get the data structure of j
30 k <- sample(1:20, size = 4, replace = FALSE)
31 ?sample
32 l <- sample(c(0.1), size = 10, replace = TRUE, prob = c(0.3,0.7))
33
```

Material for Today's Class

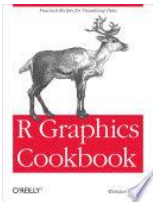
<https://github.com/RRothfeld/R>



Recommended Reading



Teetor, P. (2011). *R cookbook: Proven recipes for data analysis, statistics, and graphics*. " O'Reilly Media, Inc."



Chang, W. (2012). *R graphics cookbook: practical recipes for visualizing data*. " O'Reilly Media, Inc."



Hint: Learn to use Google and <https://stackoverflow.com> for finding solutions for R problems. Any problem we might have, someone else already answered online!