

Outlook on installation

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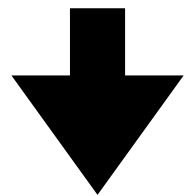
Goals of this outlook

- I. Understand the difference between R and R Studio
- II. Learn what an R Package is and how to install it
- III. Help you to clarify your problems with installing software

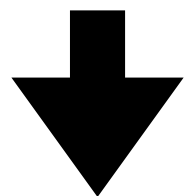
R and R-Studio

- R is a programming language
- It is a language that allows you to issue commands to your computer:

```
> fib_n(4)
```

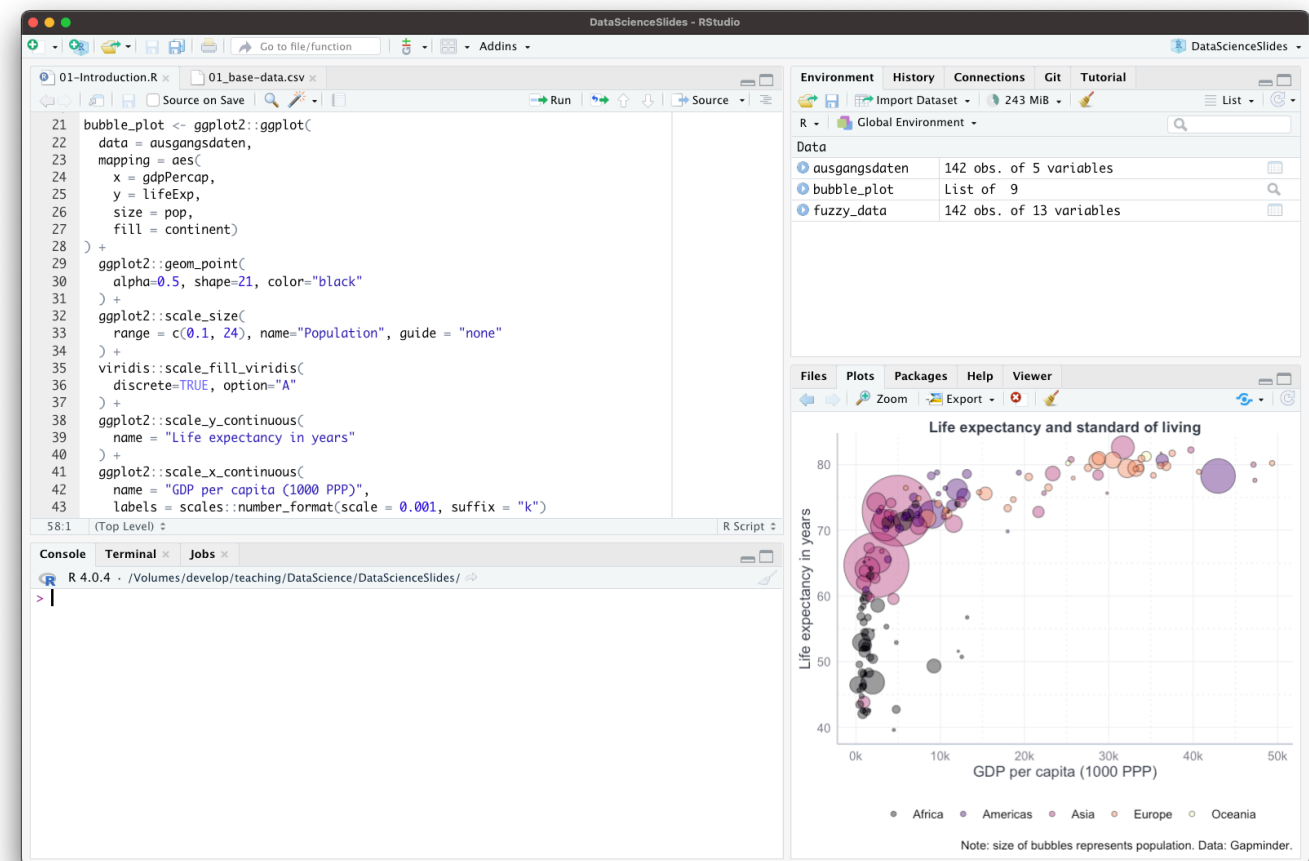


```
8B542408 83FA0077 06B80000 0000C383  
FA027706 B8010000 00C353BB 01000000  
B9010000 008D0419 83FA0376 078BD989  
C14AEBF1 5BC3
```



```
[1] 3
```

- R-Studio is an integrated development environment
- Basically a fancy text editor with additional features that make programming easy



R and R-Studio

- R is a programming language
- R-Studio is an integrated development environment

R: Engine



RStudio: Dashboard



Figure: Ismay & Kim (2022)

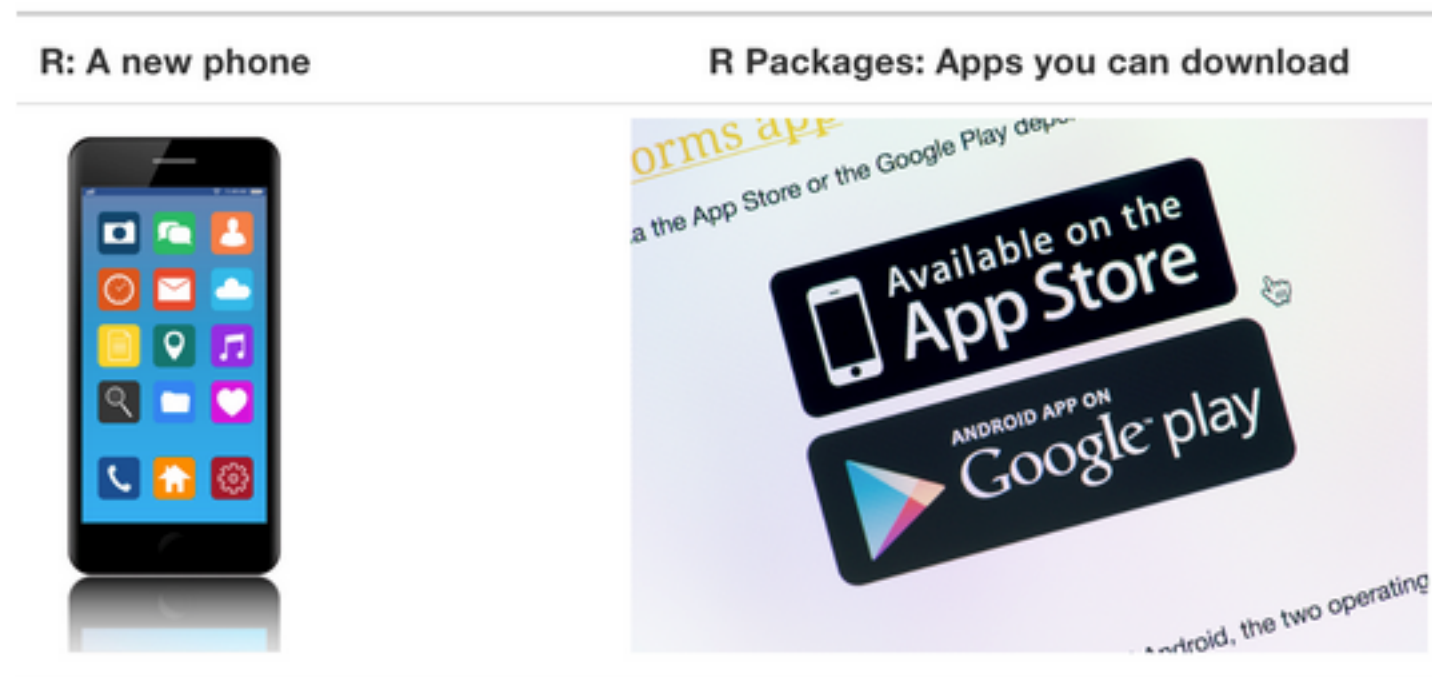
- You need to install R first, then you can install R Studio
- After that, you basically only use R Studio → it calls R whenever necessary

R and R packages

- If you install R, you can issue a lot of commands that your computer immediately understands
- However, there might be some routines that R “doesn’t understand”
- You might “teach” R this by defining, for instance, certain functions that perform these operations
- You might then even “save” these functions and pass it on to others, so that they can use them as well
- This is the idea of **R packages**: a collection of variables and functions written by others that you can install on your computer and use them
- Once an R package is installed, you can use all functions and variables defined by the creator of the package

R and R packages

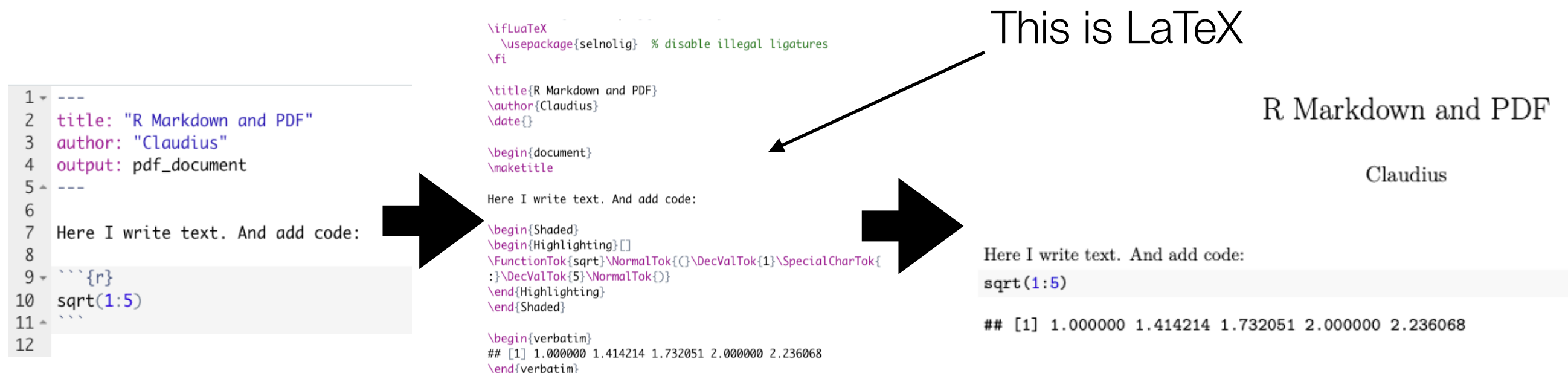
- Again, Ismay & Kim (2022) have a nice analogy:



- I wrote a small script that installs all packages that we will use throughout the semester, so we can already resolve all installation issues now

And what about LaTeX?

- In this course we learn how to write nice reports in R markdown
 - You put R code and text into one file, and you get a webpage in HTML or a nice PDF file
- Creating HTML code is easy, but creating a PDF is nothing trivial
 - To do this, we need a software called LaTeX → a typesetting system
 - It turns plain text into nice text within a PDF document



Homework for next week

- It is absolutely essential that you install all the necessary software as soon as possible → installation guidelines on the course homepage
- Until next week you should have...
 - ...tried to install R, R Studio and Git → follow my tutorials
 - ...posted all problems with a screenshot in the Moodle forum
 - ...tried to help others in the forum with their problems
- We will dedicate large parts of the second session to problem solving → you need to be prepared, trying to install R shortly before the session is 🤖
- We need to solve all installation problems until the end of next week
 - I will not provide support after the second semester week



Problems with the installation?

1. Check again in the tutorials
2. Post them on Moodle
3. Accompany them with screenshots
4. Come prepared to the next session