Basic Introduction to

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Course administration

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Goals

- Start to code

- Learn how to use R for the analysis of your data

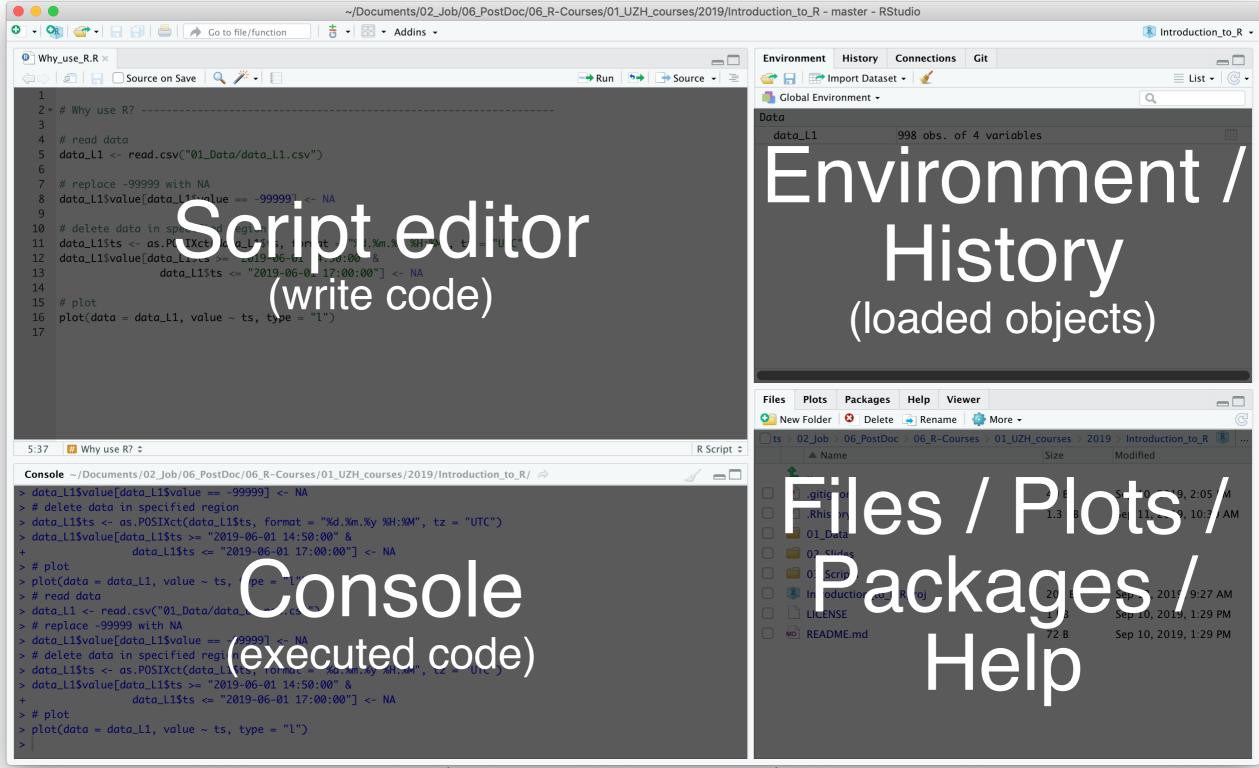- Know where and how to get help if you are stuck

Why use R?

- Reproducibility

- Keep original data untouched

- It is open source…
  with a large community

- Advanced statistics

- State-of-the-art graphics

- Powerful data manipulation

- Supports large datasets

- Fast computation

- Easier automation

- Anyone can contribute

- …

RStudio

Shortcuts

	Mac	Windows / Linux
Run line	Cmd + Enter	Ctrl + Enter
# Comment line	Alt + 3	
[ ] Square brackets	Alt + 5 / Alt + 6	
{ } Curly brackets	Alt + 8 / Alt + 9	
| OR operator	Alt + 7	
~ Tilde	Alt + N	
Show RStudio shortcuts	Alt + Shift + K	Option + Shift + K

Capabilities of R

- Nice graphs
  https://www.r-graph-gallery.com/violin_and_boxplot_ggplot2.html

- Maps with R
  https://www.r-graph-gallery.com/choropleth-map.html

- Interactive web applications (R Shiny)
  https://shiny.rstudio.com/gallery/movie-explorer.html

- R and databases
  https://db.rstudio.com/getting-started/connect-to-database

Where to get help

- Websites

  - RStudio Cheat Sheets
    https://www.rstudio.com/resources/cheatsheets/

  - Google
    e.g. „r how to merge two data frames"

  - https://stackoverflow.com/

  - https://www.r-bloggers.com/

- Online book

  - R for Data Science
    https://r4ds.had.co.nz/

…more help

- Other R courses

    - R: tidyverse for data science (UZH)
      https://app.connect.uzh.ch/apps/id/kurse.nsf/veranstaltungen.xsp

    - Specialised R-Workshops (2 days, 1ECTS for PhD students, Plant Science Center)
      https://www.plantsciences.uzh.ch/en/teaching/phdplantscience/coursecatalogue.html

    - Zurich R Courses
      https://www.zhrcourses.uzh.ch/en.html

    - Specialised R-Workshops (1 day intensive course, small groups)
      https://ethz.ch/services/de/it-services/katalog/support-weiterbildung/it-training/kurse.html

Course certificate

Write an email to <u>kurssekretariat@id.uzh.ch</u> to get the course certificate.

Sources

For the development of this course I was mainly inspired by the course material of Jan Wunders *R* course

Introdution to R (Wunder, 2016)