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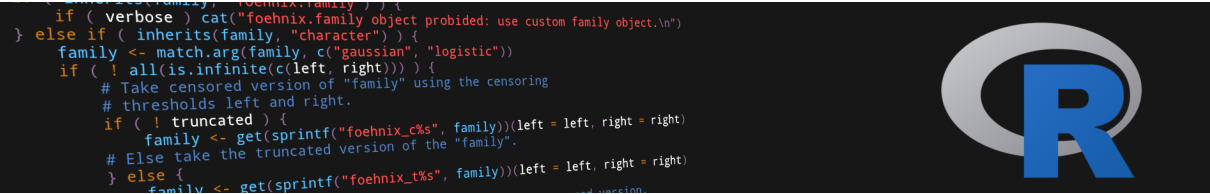

R programming

Syllabus

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Contents

First session:

- Data structures
- Flow control
- Functions

Second session: (tbc)

- Functions II
- for-loop replacements
- S3 objects
- Packaging

Assessment

Attendance
Yes.

Exam

- held at the beginning of the 2nd session.
- approx. 30 minutes (pen & paper).
- 8–12 multiple choice question on the topics discussed in the 1st session.

What is R?

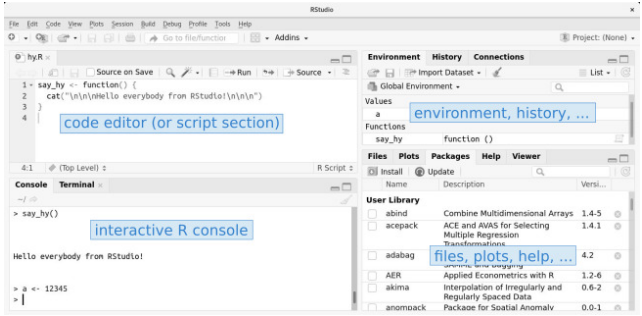
R is a free software environment for statistical computing and graphics.

- **Free**: R is released under GNU public license, which means that you are free
  - to run the software (for any purpose),
  - to study and change the software,
  - to redistribute copies, and
  - to distribute copies of your modified versions.
- **Statistics**: R is written from statisticians for statisticians, which is R's biggest advantage, but sometimes also a disadvantage.

Working with R

To work with R you need

- **R**, which is distributed via the comprehensive R archive network https://cran.r-project.org/.
- **RStudio** which is a private company, however the base IDE is freely available.



Further reading

- Stauffer: **Introduction to Programming with R**
  https://eeecon.uibk.ac.at/~discdown/rprogramming/
- Peng: **R Programming for Data Science**
  https://bookdown.org/rdpeng/rprogdatascience/
- Grolemund: **Hands-On Programming with R**
  http://shop.oreilly.com/product/0636920028574.do
- Grolemund: **R for Data Science**
  https://r4ds.had.co.nz/
- Wickham: **Advanced R**
  https://adv-r.hadley.nz/