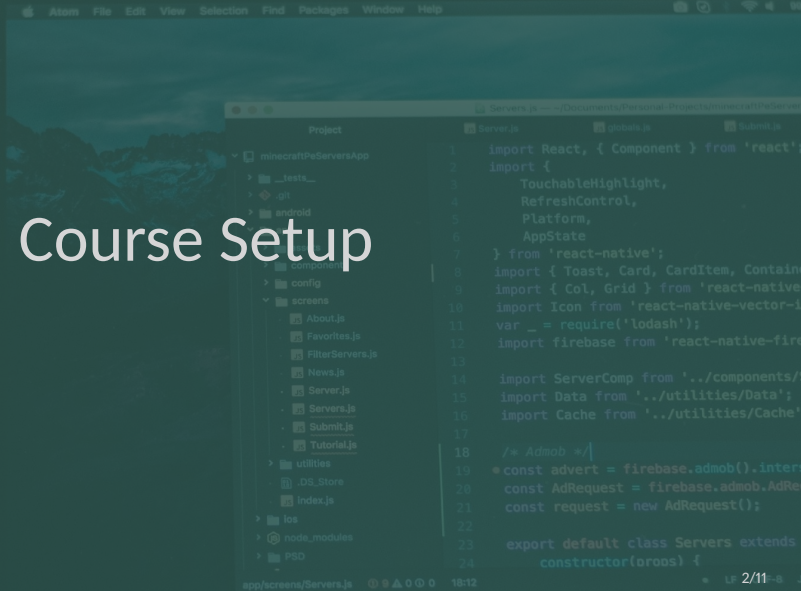# R for Data Science

Lecture 1

R Fundamentals, Data Types and Operators

Outline of Today's Session

1. Course Setup

2. Introducing R

3. Programming Environments

4. R Fundamentals

Course Setup

# Course Setup

- Two classes per week (Google calendar)
  - Start of each session is a lecture style
  - End of each session is time to work on assignments
- Content available on Github
- Communication via Slack

Teaching Philosophy and Rules

- Power of diversity
- Collaborative learning
    - Learn by doing
    - Learn by teaching
    - Enjoy the journey
- Collaboration is *encouraged*, copying is *forbidden*

Introducing R
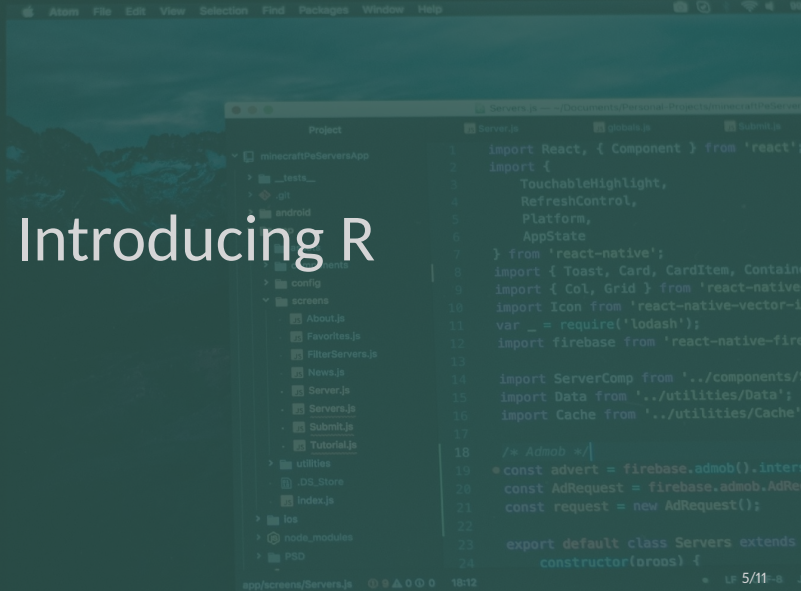
What is R?

- Programming language & free software environment
- Statistical computing & visualization
- First appeared: August 1993
- Written in C, Fortran and R itself

What can R be used for?

- Data manipulation
- Data visualization
- Data analytics
  - Advanced statistical methods
  - Machine learning
- And much more!

Why should you learn R for data science?

- R can be learnt relatively quickly
- Very powerful & sufficient for most tasks
- Popular in academia
- Excellent package support
- Open source

Programming Environments
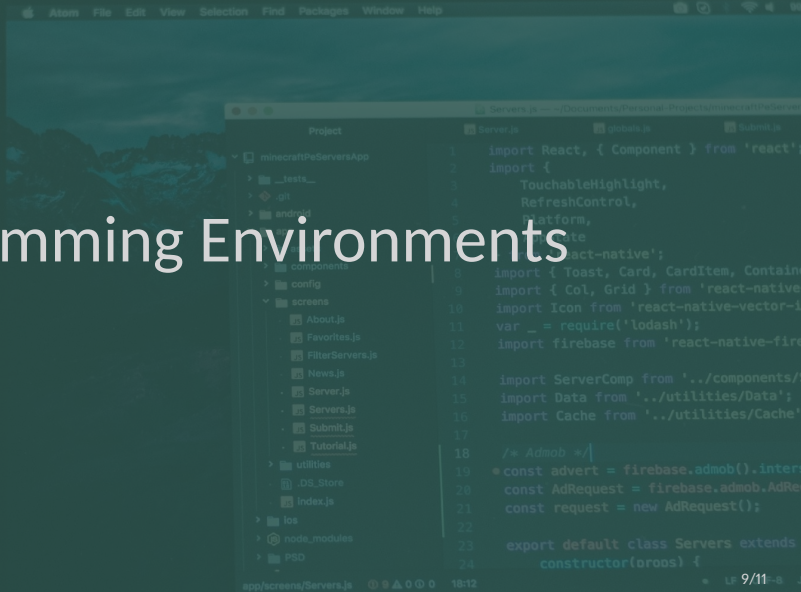
Programming Environments

- Integrated development environment (IDE): RStudio
  - Download RStudio or use RStudio Cloud
  - Available on all computers at the EUR
  - Preferably work on a Windows computer

- Jupyter Notebook
  - Local environment, e.g. using Anaconda
  - Online environment, e.g. using Google Colab with IRkernel
    - » Introduction to Google Colab
    - » Markdown Guide

- ~~Command line~~

R Fundamentals