

Sport Analytics. An Introduction to R

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- Install R and R studio on you computer and learn how to run them
- The R-studio layout
- Your first code upload **intro.R**
- clear the memory
- set-up working directory (the one where your code is)
- Learn what a package (library) is and how to install it
- installing and loading packages
- learn what a package does
- read Torfs and Bauer an go through all the "ToDo" points

Beyond coding with R

- Accessing Application Programme Interfaces (API) and running them to webscrape data with R
- creating web applications (Rshiny)
- incorporating programmes into documents (R Markdown)
- and remember there are many good online tutorials
 - <https://data-flair.training/blogs/r-list-tutorial/>
 - <https://support.rstudio.com/hc/en-us/articles/200552336-Getting-Help-with-R>
 - <https://www.r-bloggers.com/getting-help-in-r/>

- code **data_ob.R**
- learn about all the different data-types in R
- understand data structures (Vector, Matrices, Arrays, Data Frames, Lists)
 - Vector
 - Matrices
 - Arrays
 - Data Frames
 - Lists

- code **Ch3.R** (must be placed in the same directory with associated data files)
- Importing and Exporting Data from different formats
- setting-up dataframes, selecting data, transforming data
- subsetting data, omitting na

Programming and Control Flow in R

- code
- if-else statements
- using switch
- loops
- functions in R

Running a model with R

- **Problem** : What is the probability that a Great NBA Team (Win% = 85%) Loses Two Consecutive Games at Some Point in the Season ?
- **Solution**: Simulate the binomial distribution

- an introduction to R Markdown