Introduction to statistical computing using R

Programme

1. Fundamentals of R

1.1 Setting up R (Lecture 1)
   1.1.1. R installations and set up in different operating systems
   1.1.2. R packages and extensions
       • Tutorial 0

1.2 Objects in R (Lecture 2)
   1.2.1. Basic R syntax
   1.2.2. Types in R (numeric, NA, NaN, strings, and others)
       • Tutorial 1
   1.2.3. Matrices, vectors and arrays
   1.2.4. Data frames
   1.2.5. Indexing
       • Tutorial 2

1.3 Basic operations
   1.3.1. Operations in R
   1.3.2. Numeric and string operations on vectors
   1.3.3. Operations
       • Tutorial 3
       • Tutorial 4

2. Data in R (Lecture 3)
   2.1.1. The working directory
   2.1.2. Reading data
   2.1.3. Writing data
       • Tutorial 5
   2.1.4. Basic graphics and graphics output (Lecture 4)
       • Tutorial 6

3. Data analysis in R

3.1 Customising graphics (Lecture 5)
   3.1.1. Changing the looks of graphics (lines, points, colours, margins)
   3.1.2. Annotating graphics
   3.1.3. ggplot2
   3.1.4. Tutorial 7

4. Statistical modelling (Lecture 6)
   4.1.1. Classic parametric and non-parametric tests
   4.1.2. OLS Regression and ANOVA
       • Tutorial 8
       • Tutorial 9

Tutorials
Data sets