Statistical Computing With R

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Abstract

This document presents first a schedule of the workshop.
Then, instructions for software you have to install before the workshop is presented

CONTENTS OF THE WORKSHOP

- Introducing R (based on Chapter 1 and 3 from The R Software Fundamentals of Programming and Statistical Analysis)
  - operate RComander
  - handle data with RComander
  - introduction to Rstudio
  - distinguish between data types in R (distinguishing integer, real, complex and logical)
  - importing and exporting data to and from a variety of standard database
  - make the data in the database

- Description of the data with Rstudio (based on Chapter 7 and 11 from The R Software Fundamentals of Programming and Statistical Analysis)
  - the use of procedures to generate summary statistics, frequency tables and contingency
  - create a presentation of data
  - create dynamic report (Rmarkdown, knitr)

- Linear regression modeling procedures and diagnostics (based on Chapter 11 and 14 from The R Software Fundamentals of Programming and Statistical Analysis)
  - make procedure preparation of linear regression models in R
  - doing anallisis results of linear regression models
  - perform diagnostic models with R

TO BE INSTALL BEFORE THE WORKSHOP

- Install R, RSudio and Tex :
  - For Windows users http://www.reed.edu/data-at-reed/software/R/r_studio_pc.html
- Install packages from Rstudio by enter in the console of Rstudio

```
install.packages(markdown)
install.packages(knitr)
```

- you can load now the packages

```
library(markdown)
library(knitr)
```

R Commander installation

- The `Rcmdr` package is a standard R package, and it installs and is loaded in the normal manner.

```
install.packages(Rcmdr)
```

- you can load now the packages

```
library(Rcmdr)
```

- There are, however, a few installation issues, particularly on Macintosh systems, and these are described in this document http://socserv.mcmaster.ca/jfox/Misc/Rcmdr/installation-notes.html