

R - Software installation

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1 Introduction

This document describes the software installations to be completed before the course starts.

It is VERY important that you comply with the instructions made below. We suggest that you read through the document before you start the installations.

If you have already a version of R installed onto your computer, please go nevertheless to <http://www.r-project.org/> and check whether you have the newest version installed. (From within R the command

```
version
```

informs you about the version you have actually installed).

2 Install R and R packages

2.1 Installing R

Go to <http://www.r-project.org/>, click on “CRAN”, choose a CRAN–mirror close to you (you probably want to choose <http://mirrors.dotsrc.org/cran/>). Make a choice of whether you are using a Windows, a Mac OS, or a Linux platform.

For Windows users: Assuming that you are using a Windows platform: Click on “Windows” and then on “base”. Download via clicking on *Download R 3.5.0 for Windows* the current version of R to a location on your computer where you can find it; e.g. the desktop. That should give you a file with a name like `R-x.y.z-win.exe` (where ‘x’, ‘y’ and ‘z’ are some numbers).

To install R double–click on the file and installation should start. During the installation process you will be asked to choose your installation folder - accept the defaults. You should now have an R icon on your desktop. Double click on the icon and R starts. Try to type `2+3` at the prompt and hit ENTER.

Type also `mean(c(12,8,10))` and hit ENTER. The printed result should be the average of 8, 10 and 12.

3 Rstudio

3.1 Installing Rstudio

R comes with a built–in script editor which is adequate for many purposes but better ones exist.

We will install Rstudio, which is an integrated development environment for R.

Do the following

1. Go to the Web site
<http://rstudio.org/download/desktop>
2. Choose **Download** in the column ‘Rstudio Desktop - Open Source License ’ and choose afterwards the appropriate download file for your operation system in the **Installers** column.

The download should start (possibly your computer asks you whether you will allow the download, accept this!)

3. After download doubleclick on the downloaded `Rstudio-xxx.exe` file and accept all proposals.

How to use RStudio will be discussed in the course.

3.2 Installing some R packages from CRAN

We want to install some R packages from CRAN - the repository for many add-on R-packages - and from the OpenMX-project.

- Start RStudio by clicking on the RStudio-icon  found in the Start-menu (Windows, after pressing the Windows-key).
- Copy the following lines into the 'Console' window of RStudio (the window with the '>') and execute the code by hitting ENTER (you must be connected to the internet!)

```
packs <- c("mets", "lava")
install.packages(packs, dep=TRUE, repos="http://cran.dk.r-project.org/")
source("https://openmx.ssri.psu.edu/software/getOpenMx.R")
```

The execution may take about a minute.

- After this execute (take care of uppercase- and lowercase letters):

```
library(OpenMx)
```

If no message starting with **Error** appears, your installation was successful.

4 Prepare a directory

Create a directory on your computer like `C:\users\Rtwin2018`. You should have read and write rights for this directory.

Copy the .R files and data-files provided for the course into this directory.