Pre-workshop instruction on installing R and R Studio

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Introduction

This document provides instructions for installing R and RStudio on your computer as well as how to have a quick first play. R is a free software environment for statistical computing and graphics for statistics and graphics. RStudio is an integrated development environment that makes using R (a little bit) easier.

Please don't worry if this is all new and maybe a little scary, we are here to help! All you need to do is ask 🙂. We don't expect anyone to become a programming expert, but we hope that you will feel a bit more confident about dealing with data analysis and statistics in R by the end of the workshop!

Step 1: Install R

1. Go to the RStudio download page https://www.rstudio.com/products/rstudio/download/.
2. Click on the blue button labelled **"DOWNLOAD AND INSTALL R"**, under the **"1: Install R"** heading.
3. This will bring you to https://cran.rstudio.com/ Where you can find an R distribution for either Windows, Mac or Linux:

For Windows:

2. Click on "Download R for Windows."
3. Click on "base" to download the latest version of R.
4. Run the downloaded `.exe` file and follow the installation instructions.

For macOS

2. Click on "Download R for macOS."
3. Download the latest version of R (the `.pkg` file).
4. Open the downloaded file and follow the installation instructions.

Step 2: Install RStudio

1. Go back to the RStudio download page https://www.rstudio.com/products/rstudio/download/.
2. Click on the blue button labelled **"DOWNLOAD RSTUDIO DESKTOP FOR WINDOWS"** or **"DOWNLOAD RSTUDIO DESKTOP FOR MAC"** under the **"2: Install RStudio"**
3. Download the installer.
4. Run the installer and follow the installation instructions.

Verifying the Installation

To verify that R and RStudio are installed correctly:

1. Open RStudio.
2. In the console (bottom left window), type the following command and click enter to check the R version:

```
R.version.string
```

If the version is displayed without errors, both R and RStudio are installed successfully.

Step 3: Install some key R packages

R has a rich ecosystem of packages that extend its capabilities for data analysis, visualisation, and more. We will explain what R packages R in class, but try installing them for now by running the following commands in the console.

To install an R package, we will use the `install.packages()` function. The following examples demonstrate how to install several popular packages. Copy each line in the console and hit enter. Wait for each line to finish before moving to the next one to monitor for any errors.

```
install.packages("tidyverse")
install.packages("readxl")
install.packages("writexl")
install.packages("lubridate")
install.packages("janitor")
install.packages("forcats")
install.packages("knitr")
install.packages("rmarkdown")
install.packages("here")
install.packages("likert")
install.packages("epiDisplay")
install.packages("epiR")
install.packages("epitools")
install.packages("survey")
install.packages("srvyr")
install.packages("knitr")
install.packages("ggmap")
install.packages("sf")
install.packages("exactci")
install.packages("skimr")
install.packages("gt")
install.packages("gtsummary")
install.packages("ggrepel")
install.packages("deSolve")
install.packages("igraph")
install.packages("tidygraph")
install.packages("sf")
install.packages("ggraph")
```

To check if packages have installed correctly run the following code in the console. Run it line by line and see if any errors appear. You can message me if there are any problems or we can discuss on the first day of the workshop (Wednesday) 🙂

```
library(tidyverse)
library(readxl)
library(writexl)
library(lubridate)
library(janitor)
library(forcats)
```

```r
library(knitr)
library(rmarkdown)
library(here)
library(likert)
library(epiDisplay)
library(epiR)
library(epitools)
library(survey)
library(ggmap)
library(sf)
library(exactci)
library(skimr)
library(gt)
library(gtsummary)
library(ggrepel)
library(deSolve)
library(igraph)
library(tidygraph)
library(sf)
library(ggraph)
```

Step 4: Contact me

Contact me to let me know you have successfully completed the above tasks or to ask for help 🙂. My email is bram.vanbunnik@ed.ac.uk