

# RStudio: Installing, updating and layout

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# Objectives

- Participants to download and install RStudio
- Participants to familiarize with R scripts
- Participants to update RStudio to current 4.2.0 version
- Participants to understand why we chose RStudio
- Participants to familiarize with RStudio layout (the four tabs)

# Why RStudio?

- Best for **beginners** compared to Basic R because:
- It provides automatic **code suggestions**
  - e.g., a pop-up menu of suggested names after typing the first few letters
  - e.g., parenthesis and brackets
- It shows where **errors** are located in scripts by "wavy" red lines below error.

# Downloading and Installing RStudio

- <https://www.rstudio.com/products/rstudio/download/>
  - Click: **Download the RStudio IDE**
  - Then **RStudio Desktop Free**
  - Then **All Installers**
  - Then choose the ideal installer for your system: **Mac, Windows, Linux**

# The Four Tabs of RStudio

- The **Console** tab: lower left window where R commands are given
- The **Text editor**: upper left window which is a plain text editor.
- The **File browser** tab: lower right window where one can open, delete, and rename files. And also set a working directory
- The **Environment** tab: top right window where lists of the variables and functions present in the current R session are found.

# Writing and Executing scripts

- Scripts are **commands** used for **tasks** in R
- The commands have specific **syntax**
- The commands include:
  - commands for built-in functions: e.g., `mean()` and `sum()`
  - commands we write from scratch
- The scripts are **executed** by "clicking" **Run**
- The first script in this session is:  
**`install.packages("installr")`** for updating RStudio

# Updating RStudio

- It is essential to update RStudio once in a while
- Failure to update may give problems with executing commands.
- Current version: 4.2.1
- To update:
  - **install.packages("installr") – library(installr) – updateR()**



# Installing R packages

- R uses packages:
  - units of **shareable code** for specific tasks
- There are packages for specific subject areas:
  - **e.g., Statistics, Mathematics, Data**
- Downloaded from repositories e.g., CRAN
  - About 20000 R packages currently available
  - Packages include: **documentation, scripts, data**
- To use a package, **first** load it : `library(package name)`