

Introducing R

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Summer, 2024

ITAM

Introduction to R

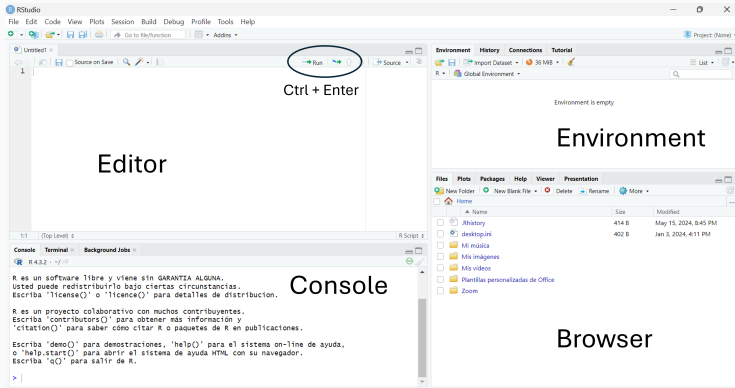
What is R?

- *R is a language and environment for statistical computing and graphics.*
- It is open-source software. This means that anyone has access to it and can download it for free.
- In R we can use different types of econometric techniques and ways of making graphs.

What is RStudio?

- RStudio is an interface that makes it easier to work with R.

Figure 1: R interface



- It is usually located at the bottom left of the interface.
- In the console you can interact directly with R and see the output of your code.
- It also shows errors and warnings, generally in red.

Calculator exercise in R: Type in the console

- $2 + 2$
- `sqrt(3)`
- 4×5

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Calculator exercise in R: Type in the console

- `2 + 2`
- `sqrt(3)`
- `4x5` An error should appear here, so we will write...
- `4*5`

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- This is where we will write the code we are going to work with.
- Unlike the console, what we write here is not executed automatically.
- Why write here and not directly in the console?

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- This is where we will write the code we are going to work with.
- Unlike the console, what we write here is not executed automatically.
- Why write here and not directly in the console?
 - Replicability and comments.
 - Being able to analyze things step by step.

- It is usually located at the top right of the interface.
- It has several tabs.
- **Environment** tab
 - Here we will see all the objects we have created.
 - If we click on an object, its details appear.
 - To delete all objects, we can use the broom icon or type in the console `rm(list = ls())`.
- **History** tab
 - Here are the commands we have already run.
 - If we want to run them again, we can select them and press **Enter**.

- It is usually located at the bottom right of the interface.
- It also has several tabs.
- **Files:** Here we can explore our folders.
- **Plots:** Here all the graphs we make appear.
- **Packages:** Here are all the packages we have installed and that we can use. In this tab we can load them; however, it is better to do it in the editor.
- **Help:** Here we can ask for help when we do not know how to use a command or a package in general.

- We use `#` to comment a line.
- It does not matter how many spaces we put between words; the code will run the same way.
- We use `<-` to define an object.
- Parentheses play an important role:
 - They can indicate that we are using a function. Example: `sqrt(3)`
 - To indicate precedence. Example: `(3+5)*3`
- It is important to write code that is understandable. Writing code is like writing an essay.