# R introduction

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R is a programming language and environment used for **statistical computing** and **graphics**.
R provides a large variety of statistical (linear and nonlinear modeling, classical statistical tests, clustering, time-series analysis, classification, etc.) and graphical techniques. It is also highly extensible.

The R programming language was initially built for statisticians by statisticians. R is by far the most popular programming language used by statisticians. R's syntax allows researches to easily import, clean, and analyze their data from a wide variety of sources.

**Real-world uses of R**

So, what are the main uses of R in the field of computer engineering? R is used for:
•Statistical inference
•Data analysis
•Machine learning
•Executing scientific simulations
•Operations research

# Applications of R

**01**

R is used as a fundamental tool for finance

**02**

R focuses on graphics and visuals over mathematics

**03**

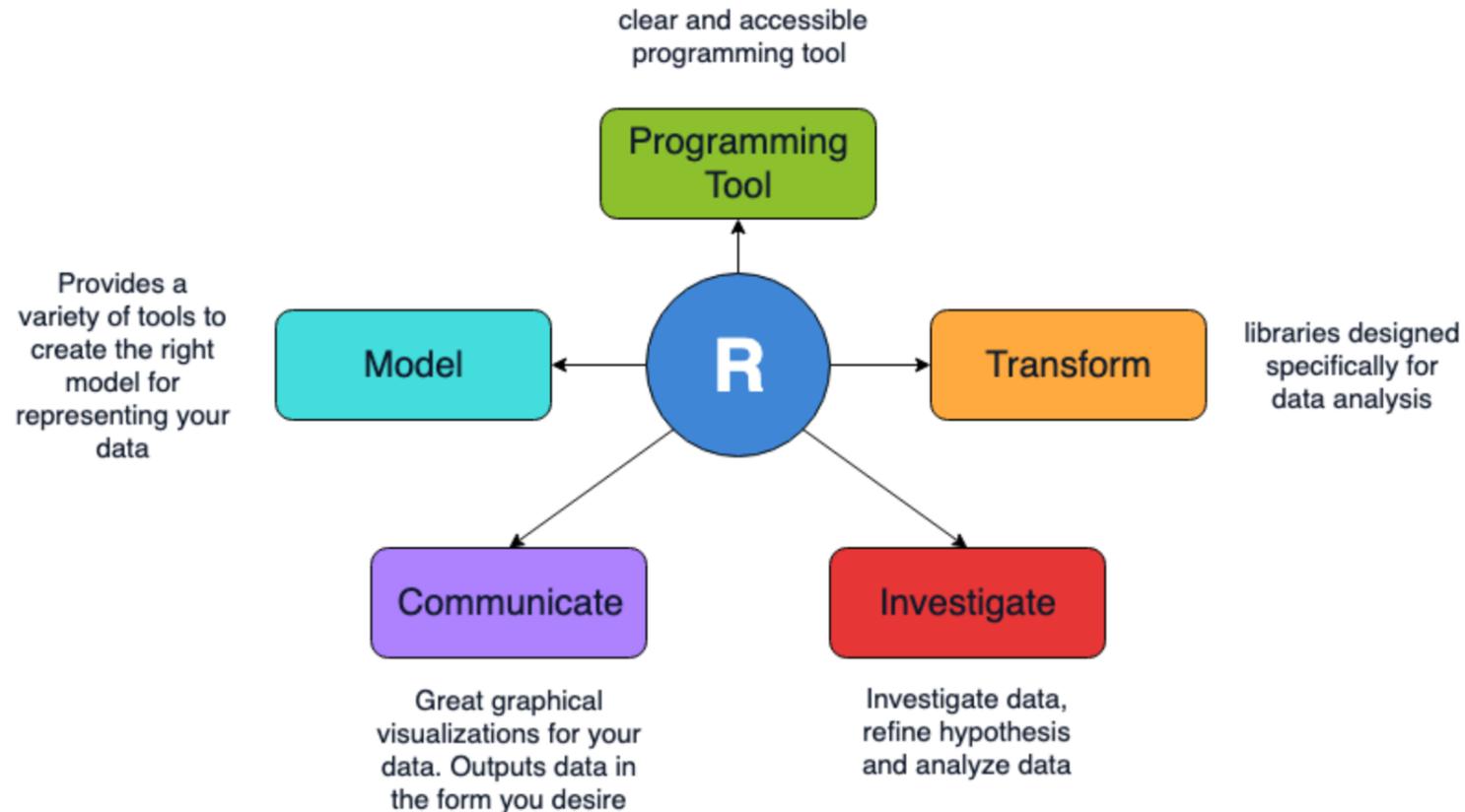R is used by quantitative analysts

**04**

R offers hundreds of packages

**05**

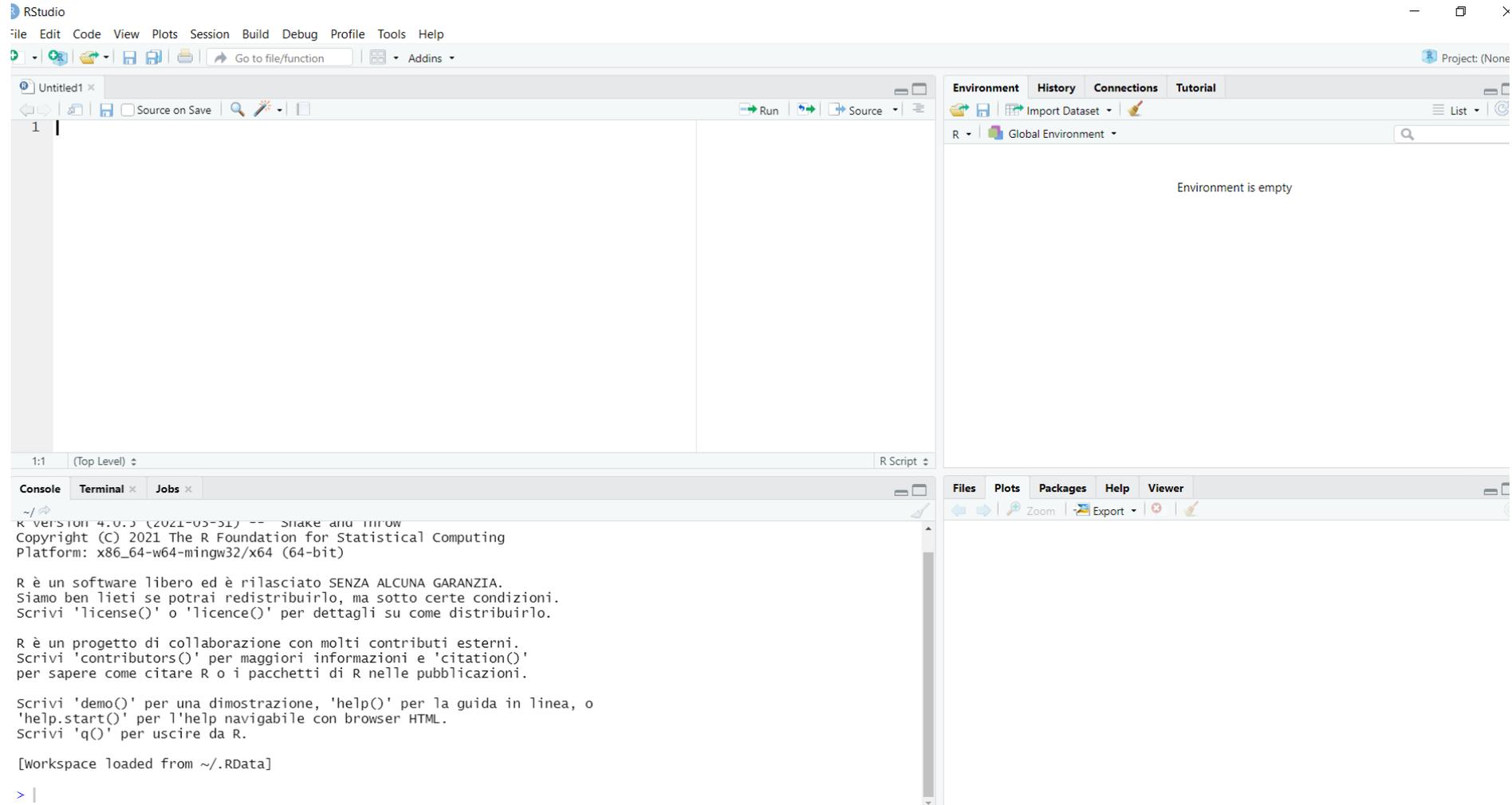R helps in data importing and cleaning

# Some advantages of R language



Some of the advantages of R language

# R tools, packages, and syntax

Now that we know more about R and its uses, let's get started with the **R syntax.** This is the way that we actually write code in R to make our computer respond accordingly.

```
n <- floor(rnorm(10000, 500, 100))
t <- table(n)
barplot(t)
```

At the bottom right, you will be able to see this graph: