



# What is R?

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R is a functional programming language and software environment for statistical computing and graphics: <https://www.r-project.org/>.

## Philosophy and typical use cases

R is particularly popular in the social, health, and biological sciences where it is used for statistical modeling. R can also be used for signal processing (e.g. FFT), machine learning, image analyses, and natural language processing. The R syntax is similar in compactness and readability as python and matlab by which it serves as a good prototyping environment in science.

One of the strengths of R is the large number of available open source statistical packages, often developed by domain experts. For example, R-package [Seewave](#) is specialised in sound analyses. Packages are typically released on CRAN [The Comprehensive R Archive Network](#).

A few remarks for readers familiar with Python: \* Compared with Python, R does not need a notebook to program interactively. In [RStudio](#), an IDE that is installed separately, the user can run sections of the code by selecting them and pressing Ctrl+Enter. Consequently the user can quickly transition from working with scripts to working interactively using the Ctrl+Enter. \* Numbering in R starts with 1 and not with 0.

## Recommended sources of information

Some R packages have their own google.group. All R functions come with documentation in a standardized format. To learn R see the following resources: \* [R for Data Science](#) by Hadley Wickham, \* [Advanced R](#) by Hadley Wickham, \* [Writing better R code](#) by Laurent Gatto.

Further, stackoverflow and standard search engines can lead you to answers to issues.

## Getting started

### Setting up R

To install R check detailed description at [CRAN website](#).