

# R – Installation Guide

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# What is R?

- R is a language – it is an interpreted language
- It provides many statistical computing graphics functionalities. According to their site “it is a suite of software facilities for
  - Data manipulation
  - Calculation
  - Graphical display”
- It is a GNU project – under GNU general public license
  - It is an open source
  - It is a free for our use
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# Installing R

- Install R by visiting
  - <http://cran.r-project.org/bin>
    - Microsoft Windows: <http://cran.r-project.org/bin/windows/base/>
    - MacOS: <http://cran.r-project.org/bin/macosx/>
    - Linux: <http://cran.r-project.org/bin/linux/>
  - Select the operating system of your choice
  - Download the image
  - Execute the image

# Installing R

- Packages
  - “Base packages” – which come with R
    - Command to see default base packages:  
`getOption("defaultPackages")`
  - “Contributed packages” – which must be downloaded and installed
    - There are thousands of contributed packages
    - Install by: `install.packages("foo")` or install with dependencies: `install.packages("foo", depends = TRUE)`
    - Contributed packages has to get loaded by: `library(foo)`.  
`library()` gives you the list of all the packages in library.
- Install R-Studio
  - Install packages going to (tools->install packages)

# R Cheatsheets

- <https://rstudio.com/resources/cheatsheets/>
- <https://github.com/rstudio/cheatsheets>

# Extra – Python Software Setup

## Python 3 (3.x version)

- <https://www.python.org/downloads/>

## Install Jupyter

- `python3 -m pip install --upgrade pip`
- `python3 -m pip install jupyter`
- For MAC – A certificate needs to be installed
  - `/Applications/Python 3.8/Install\ Certificates.command`
- Run Jupyter
  - `jupyter notebook`

# Extra - Python

- Resources on Python
  - <http://learnpython.org/>
  - [docs.python.org/3/tutorial/](https://docs.python.org/3/tutorial/)