

R- Introduction

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Install R

Introduction to R

- R project homepage: <https://www.R-project.org/>
- open-source software project

Installation

Step 1: install R

- Install base R:
 - Go to the **Comprehensive R Archive Network** (CRAN), pick up the version for your operating system
 - <https://cran.r-project.org/>
 - If you are Windows user, DON'T install R in C:\ProgramFiles
 - Please install R in C:\

Installation

Step 2: install an integrated development environment

- Command line interface (CLI), possibly enhanced by some limited graphical user interface (GUI) capabilities on Windows and Mac.
- There are various integrated development environments (IDEs).
- Popular IDE:
 - RStudio is freely available IDE and easy to use
 - <https://www.rstudio.com/products/rstudio/download/>

Development Model

Development Model

- As R is an open-source project, its development model is quite different from many other econometrics software packages.
- Every R user can easily become an R developer by submitting his or her packages to the Comprehensive R Archive Network (CRAN).

- **Base system:** base R is maintained by the R core team:
 - Major releases (i.e., versions x.y.0) annually

- R is highly extensible by means of **packages**:
 - **Packages** can contain R code, source code (e.g., C, Fortran), data, manual pages, further documentation, examples, demos.
 - Package can depend on other packages
 - “Base” packages: contained in the base R
 - “Contributed” packages: available from the CRAN servers (currently more than 10,000) at
 - <https://CRAN.R-project.org/web/packages/>

- **CRAN task views:** provide overview of packages for certain tasks(e.g., econometrics, finance, social sciences, or Bayesian statistics)
 - <https://CRAN.R-project.org/web/views/>

Learning Resource

- R also comes with a number of manuals:
 - An Introduction to R
 - R Data Import/Export
 - R Language Definition
 - Writing R Extensions
 - R Installation and Administration
 - R Internals

Learning Resource

FAQs

- CRAN hosts several collections of frequently asked questions (FAQs)
 - <https://CRAN.R-project.org/faqs.html>
- R FAQ: useful information for all platforms (Linux, Mac, Unix, Windows).
 - <https://CRAN.R-project.org/doc/FAQ/R-FAQ.html>
- R Mac OS X FAQ: additional Mac-specific information.
 - <https://CRAN.R-project.org/bin/macosx/RMacOSX-FAQ.html>
- R Windows FAQ: additional Windows-specific information.
 - <https://CRAN.R-project.org/bin/windows/base/rw-FAQ.html>

- **The R Journal:**

- Online journal launched in 2009
- Features include recent developments in R and examples analyzing data with R
- <https://journal.R-project.org/>

- **Journal of Statistical Software:**

- Open-access journal that publishes articles and code snippets (as well as book and software reviews) on the subject of statistical software and algorithms
- It has a growing number of publications on R packages, a special volume on Econometrics in R was published in Volume 27 (2008)
- <https://www.jstatsoft.org/>

- Kleiber and Zeileis (2008), Applied Econometrics with R, Springer-Verlag, New York. (Uses R 2.7.0.)
- Heiss (2016), Using R for Introductory Econometrics, CreateSpace. (Uses R 3.2.1.)

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