

Introduction to R Software

Swayam Prabha

Lecture 2

Installation Procedure and How to Start

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Slides can be downloaded from
<http://home.iitk.ac.in/~shalab/sp>



What is R?

R is an environment for data manipulation, statistical computing, graphics display and data analysis.

Effective data handling and storage of outputs is possible.

Simple as well as complicated calculations are possible.

What is R?

Graphical display on-screen and hardcopy are possible.

Programming language is effective which includes all possibilities just like any other good programming language.

The R language is very similar in appearance to "S" - language based on a software S-Plus.

Switching to R?

Many people, research and design offices, analytical firms have started using R.

R is free.

Many statistical packages are freely available.

So you may also consider switching to R.

Switching to R?

- **R has a statistical computing environment.**
- **It is free (open source) software and therefore is not a black box.**
- **It has a computer language which is convenient to use for statistical and graphical applications.**

Switching to R?

- **The commands can be saved, run and stored in script files.**
- **R is available for Windows, Unix, Linux and Macintosh platforms.**
- **R was developed to compete with S-Plus.**
- **Built in and contributed packages are available, and users are provided tools to make packages. It is possible to contribute own packages.**

Switching to R?

- **This language provides the logical control of branching and looping, and modular programming using functions.**
- **Error messages are provided while executing a programme or a function which are helpful in finding the errors.**

Switching to R?

- R is an interpreted computer language (Not compiler).
- When we use the command line interface, each command or expression to be evaluated is typed at the command prompt, and immediately evaluated when the Enter key is pressed at the end of a syntactically complete statement.

Switching to R?

- **Tips**

- ✓ **Press the up-arrow key to recall commands and edit them.**

- ✓ **Use the Esc (Escape) key to cancel a command.**

- **Graphics can be directly saved in a Postscript or PDF format.**

Installing R

You may install R in a windows or Apple computer by downloading from <https://www.r-project.org>

Click on [download R](#)



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R Foundation

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The R Project for Statistical Computing

Getting Started

R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To [download R](#), please choose your preferred [CRAN mirror](#).

If you have questions about R like how to download and install the software, or what the license terms are, please read our [answers to frequently asked questions](#) before you send an email.

News

- [R version 4.0.1 \(See Things Now\) prerelease versions](#) will appear starting Wednesday 2020-05-27. Final release is scheduled for Saturday 2020-06-06.
- [R version 4.0.0 \(Arbor Day\)](#) has been released on 2020-04-24.
- [useR! 2020 in Saint Louis has been cancelled](#). The European hub planned in Munich will not be an in-person conference. Both organizing committees are working on the best course of action.
- [R version 3.6.3 \(Holding the Windsock\)](#) has been released on 2020-02-29.
- You can support the R Foundation with a renewable subscription as a [supporting member](#)

News via Twitter

Installing R

Choose any mirror and click on the link



CRAN Mirrors

The Comprehensive R Archive Network is available at the following URLs, please choose a location close to you. Some statistics on the status of the mirrors can be found here: [main page](#), [windows release](#), [windows old release](#).

If you want to host a new mirror at your institution, please have a look at the [CRAN Mirror HOWTO](#).

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0-Cloud	https://cloud.r-project.org/	Automatic redirection to servers worldwide, currently sponsored by Rstudio
Algeria	https://cran.usthb.dz/	University of Science and Technology Houari Boumediene
Argentina	http://mirror.fcaglp.unlp.edu.ar/CRAN/	Universidad Nacional de La Plata
Australia	https://cran.csiro.au/ https://mirror.aarnet.edu.au/pub/CRAN/ https://cran.ms.unimelb.edu.au/ https://cran.curtin.edu.au/	CSIRO AARNET School of Mathematics and Statistics, University of Melbourne Curtin University
Austria	https://cran.wu.ac.at/	Wirtschaftsuniversität Wien
Belgium	https://www.freeststatistics.org/cran/ https://lib.ugent.be/CRAN/	Patrick Wessa Ghent University Library
Brazil	https://nbcgib.uesc.br/mirrors/cran/	Computational Biology Center at Universidade Estadual de Santa Cruz



Installing R

Else, download it from the Comprehensive R Archive Network (CRAN) website: <http://cran.r-project.org/>



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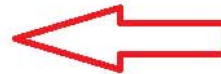
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The Comprehensive R Archive Network

Download and Install R

Precompiled binary distributions of the base system and contributed packages, **Windows and Mac** users most likely want one of these versions of R:

- [Download R for Linux](#)
- [Download R for \(Mac\) OS X](#)
- [Download R for Windows](#)



R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

Source Code for all Platforms

Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it!

- The latest release (2020-04-24, Arbor Day) [R-4.0.0.tar.gz](#), read [what's new](#) in the latest version.
- Sources of [R alpha and beta releases](#) (daily snapshots, created only in time periods before a planned release).
- Daily snapshots of current patched and development versions are [available here](#). Please read about [new features and bug fixes](#) before filing corresponding feature requests or bug reports.
- Source code of older versions of R is [available here](#).
- Contributed extension [packages](#)

Installing R Studio

Rstudio is a software which helps in running the R software.

Several such editors are available, e.g. Tinn R

(<https://sourceforge.net/projects/tinn-r>)

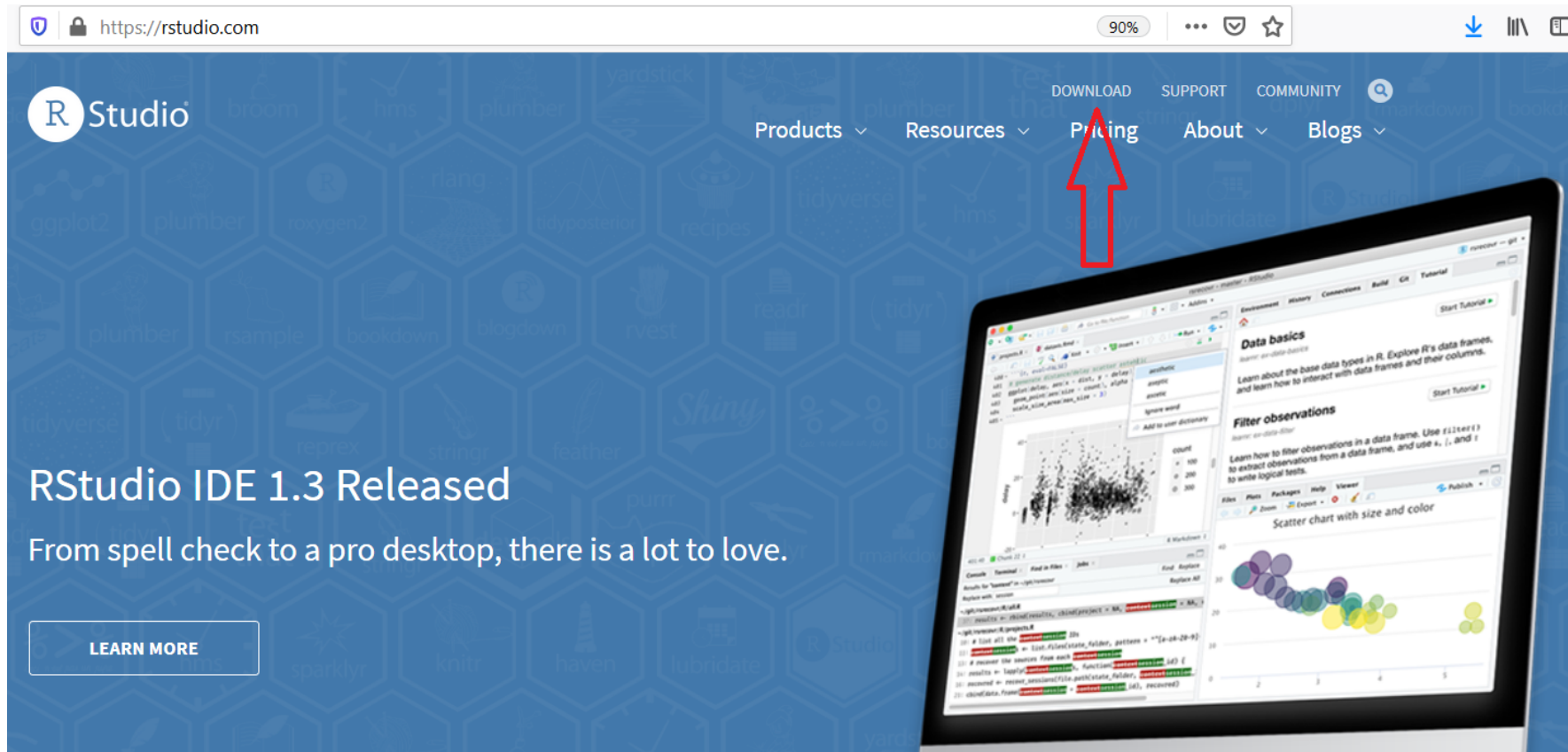
Rstudio is written in C++ programming language.

Rstudio is a free and open-source integrated development environment (IDE) for R.

Download R-Studio software from website

<https://www.rstudio.com/>

Installing R Studio



The image shows a browser window at <https://rstudio.com>. The website has a blue background with a pattern of R-related icons. The navigation menu includes 'Products', 'Resources', 'Pricing', 'About', and 'Blogs'. A red arrow points to the 'DOWNLOAD' link in the top right corner. Below the navigation, the text reads 'RStudio IDE 1.3 Released' and 'From spell check to a pro desktop, there is a lot to love.' A 'LEARN MORE' button is visible. On the right, a tablet displays the RStudio IDE interface, showing a code editor, a console, and a scatter plot.

Download and double click on the downloaded file.