Textbook Companion (TBC)

The TBC project aims to port solved examples from standard engineering and science textbooks using R programming language.

Some of the completed TBCs in R

- A First Course in Probability by Sheldon Ross, Pearson, 2008
- Applied Statistics and Probability for Engineers by Douglas C. Montgomery and George C. Runger, John Wiley & Sons, 2014
- Biostatistics: Basic Concepts and Methodology for the Health Sciences by Daniel W. Wayne, Chad L. Cross, John Wiley & Sons, 2014
- Data Mining: Concepts and Techniques by Jiawei Han, Micheline Kamber, and Jian Pei, Morgan Kaufmann, 2011
- Fundamentals of Matrix Algebra, Third Edition by Gregory Hartman, CreateSpace Independent Publishing Platform, 2011
- Numerical Methods in Finance and Economics: A MATLAB-Based Introduction by Paolo Brandimarte, John Wiley & Sons, Inc., Hoboken, 2006
- Statistics for Management and Economics by Gerald Keller, Cengage Learning, 2012
- Statistics for Psychology by Arthur Aron, Elliot J. Coups, and Elaine N. Aron, Pearson. 2013

Lab Migration

We help colleges to shift labs based on proprietary tools to FLOSS.

The Lab Migration team helps in:

- Coordinating lab migration to FLOSS only labs for "R"
- Providing solutions to the lab's problem statements
- Supporting workshops for faculty, students & staff

Workshop

The FOSSEE Team conducts workshops on R and other FLOSS using spoken tutorials and gives certificates to those who pass an online test.

For more details please write to:

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fossee better education

https://fossee.in

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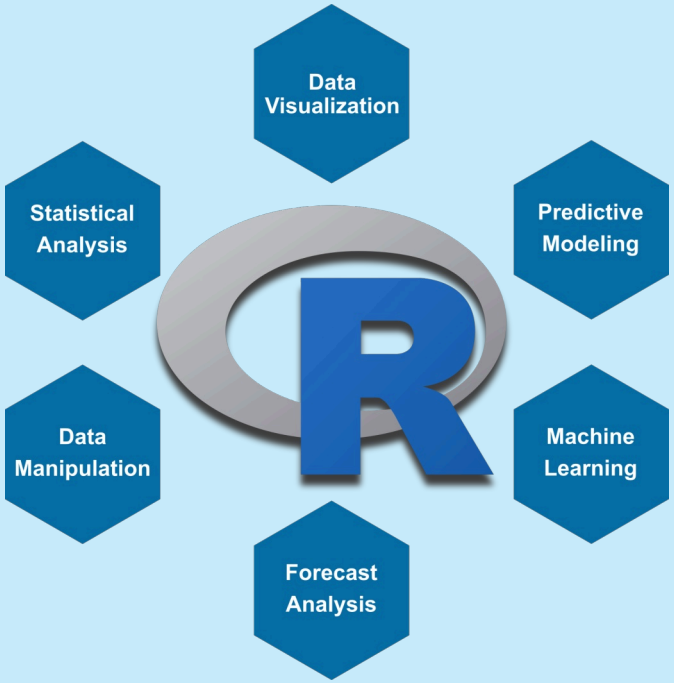

r.fossee.in

IIT BOMBAY

Introduction

R is a language and environment for statistical computing & graphics.

R is available as Free Software under the terms of the Free Software Foundation's GNU (General Public License) in source code form.

Download & Installation

Download R

https://www.r-project.org/

Download RStudio

https://www.rstudio.com/

Features

A) R is an integrated suite of software facilities for data manipulation, calculation and graphical display. It includes

- a well-developed, simple yet effective programming language which includes conditionals, loops, user-defined recursive functions and input and output facilities
- an effective data handling and storage facility
- a suite of operators for calculations on arrays, matrices in particular
- a large, coherent, integrated collection of intermediate tools for data analysis
- graphical facilities for data analysis and display either on-screen or on hardcopy

B) R has its own LaTeX-like documentation format, which is used to supply comprehensive documentation, both on-line in various formats and in hardcopy.

Who can use R language:

- Educational Institutions like universities, colleges and schools
- Statisticians and data miners for developing statistical software and data analysis, polls, data mining surveys
- Data Scientist, Market Analyst, Social Scientist

R Series on Spoken Tutorial

Basic Tutorials:

1. Introduction to basics of R
2. Introduction to data frames in R
3. Introduction to RStudio
4. Introduction to R script
5. Working Directories in RStudio
6. Indexing and Slicing Data Frames
7. Creating Matrices using Data Frames
8. Operations on Matrices and Data Frames
9. Merging and Importing Data
10. Data Types and Factors
11. Lists and its Operations
12. Plotting Histograms and Pie Chart
13. Plotting Bar Charts and Scatter Plot
14. Introduction to ggplot2
15. Aesthetic Mapping in ggplot2
16. Data Manipulation using dplyr Package
17. More functions in the dplyr Package
18. Pipe Operator
19. Conditional Statements
20. Functions in R

Target Audience

- Any Teacher/Trainer
- Students

About FOSSEE

The FOSSEE (Free/Libre and Open Source Software for Education) project team works on 'Adaptation and development of Open Source simulation packages equivalent to proprietary software', and is based at Indian Institute of Technology Bombay. FOSSEE is promoting open source software across India through various projects and activities like Textbook Companions, Lab Migration, Workshops, FOSSEE Forum, Conferences, FOSSEE Fellowship etc. for students, faculty and other FLOSS evangelists.