

Introduction to basics of R

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Talk to a Teacher Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://www.sakshat.ac.in>

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Learning Objectives

- ▶ **Get a feel for R and RStudio**
- ▶ **How R can be used as a calculator**
- ▶ **Built in functions like sin, log**
- ▶ **Introduction to vector operations**
- ▶ **Introduction to plotting**
- ▶ **Taking help in RStudio**
- ▶ **Getting more info. on R, RStudio**



Prerequisites

- ▶ **Elementary maths: log, sine, plotting**
- ▶ **Please locate this tutorial on our web site: <http://spoken-tutorial.org>**
- ▶ **Useful supplementary available there: code files, script, relevant tutorials, etc.**
- ▶ **No programming background is required, however, for this tutorial**



System Requirements

- ▶ **R: 3.0.0 (2013-04-03)**
- ▶ **RStudio: 0.97.336**
- ▶ **R and RStudio work on web browsers**
- ▶ **Hence on any system, including Aakash**



System Requirements - Ctd.

- ▶ **For this tutorial, I am using Mac OS X 10.7.4**
- ▶ **Similar in Linux and Windows as well**



A Quick Introduction to R

- ▶ R is an outstanding software for general computations
- ▶ It is especially suitable for statistical computing
- ▶ It is an alternative to SPSS
- ▶ It is a free and open source software
- ▶ It can be downloaded from <http://cran.r-project.org/>




A Quick Introduction to RStudio

- ▶ **RStudio is a friendly front-end to R**
- ▶ **It is a free and open source software**
- ▶ **It can be downloaded from**
<http://www.rstudio.com/>
- ▶ **Two minute video by the RStudio team:**
<http://www.rstudio.com/ide/>
- ▶ **RStudio also runs on a web browser**



R and RStudio on a Web Server, accessed from Aakash

 rstudio.aakashlabs.org

kannan | Sign Out

Project: (None)

Source

Workspace History

Files Plots Packages Help

Zoom Export Clear All

R version 3.0.1 (2013-05-16) -- "Good Sport"
Copyright (C) 2013 The R Foundation for Statistical Computing
Platform: x86_64-redhat-linux-gnu (64-bit)

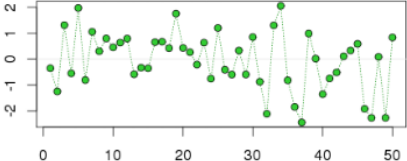
R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.

Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line

Simple Use of Color In a Plot



Just a Whisper of a Label

Practice Session on R, using RStudio



Low Cost Books on R from Shroff Publishers

- ▶ **Learning RStudio for R Statistical Computing by Mark P. J. van der Loo, Edwin de Jonge, June 2013, Rs. 225**
- ▶ **R Graphics Cookbook by Winston Chang, Dec. 2012, Rs. 725**
- ▶ **R in a Nutshell by Joseph Alder, 2nd Edition, Oct. 2012, Rs. 900**



Summary

- ▶ **A few elementary operations**
- ▶ **Introduction to plotting**
- ▶ **Introduction to help**
- ▶ **URLs and books on R and RStudio**



Assignment

- ▶ Find answers to $\log_2(2^5)$ and $\log(\exp(1)*\exp(1))$ - explain
- ▶ Explore the Help tab in RStudio: Change the labels, title, etc.
- ▶ Hint: try `plot(x,y,xlab="x-axis")`
- ▶ Copy paste a few examples provided in Help and see what they do



About the Spoken Tutorial Project

- ▶ Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project
- ▶ If you do not have good bandwidth, you may download and watch it



Spoken Tutorial Workshops

The Spoken Tutorial Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates
- ▶ For more details, please write to contact@spoken-tutorial.org



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- ▶ More information on this Mission is available at

<http://spoken-tutorial.org/NMEICT-Intro>



Thanks from
<http://spoken-tutorial.org>

