

R Resources

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1 Getting Started with R

The R Website

This is the website where you can actually download R, and many of the library packages that are available.

Link: <http://www.r-project.org/>

The RStudio Website

This is a great interface that makes R a lot more accessible for individuals who may not just want to work with just a command prompt. However, note that you need to download R before you can download R Studio.

Link: <http://www.rstudio.com/products/rstudio/>

2 Learning the Basics

The Art of Programming R by Norman Matloff

This is a great resource for getting started with R. Matloff goes into incredible detail when describing what variables are, what you can do with them, etc. He also covers some programming basics, like looping. This is a great and accessible way to learn conceptually how R works under the hood.

DataCamp: Introduction to R

This is a great website that walks you through the basics of working with vectors, matrices, factors, data frames, and lists. This interface is great because you don't need to download any software, and the idea to learn the syntax of the language with worrying about setting up your environment ? your command prompt is already online.

Link: <https://www.datacamp.com/courses/introduction-to-r>

swirl

Swirl is an R package that makes it fun and easy to learn R programming and data science. Designed for the R newbie, this interactive course walks users through each of the steps to get acquainted with R.

Link: <http://swirlstats.com/students.html>

Coursera: R Programming

This is a free online course to help you learn how to program in R and use R for effective data analysis. This covers practical issues in statistical computing which includes programming in R, reading data into R, accessing R packages, writing R functions, debugging, profiling R code, and organizing and commenting R code. This is based on the swirl package (see above), and is taught by instructors at the John's Hopkins Bloomberg School of Public Health.

Link: <https://www.coursera.org/course/rprog>

R Programming for Data Science: <https://leanpub.com/rprogramming>

R Tutorials

This is a great set of tutorials for getting started with doing statistics with your data in R once you feel comfortable with the R environment.

Link: <http://ww2.coastal.edu/kingw/statistics/R-tutorials/>

R for Cats

Yes, this is very silly. But it covers the basics of objects and functions quickly, efficiently and with cat gifs.

Link: <http://www.rforcats.net>

3 Advanced Techniques and Statistics

r4stats.com

This website is designed by Bob Muenchen specifically for SAS and SPSS users. It includes downloads, examples and a free version of his textbook (under the Book tab in the menu).

Link: <http://www.r4stats.com/>

R Tutor

This is super useful for walking you through more complex analyses such as hierarchical linear modeling and support vector machines, to name a few.

Link: <http://www.r-tutor.com/>

Personality Project

Written by Bill Revelle, the creator of the psych package, who gives extensive workshops on how to use R around the world (including an upcoming workshop at APS 2015). This website includes slides from his past workshops and pages describing how to manipulate data, display data and perform some multivariate analysis. There's also a page of useful commands which you can bookmark for easy reference.

Link: <https://www.personality-project.org/r/>

Cookbook R

If one of your main goals is to create stunning graphics, you should be using the ggplot2 package, created by Hadley Wickham. One of Wickham's former graduate students, wrote a book called the R Graphics Cookbook, and then kindly posted the book online for free at this website. He does cover many non-graphic codes, including numbers; strings; formulas; data input, output and manipulation; and statistical analyses. The book and website are in the forms of problems and answers, which makes it very relatable. There's also a lot of commenting in the code, which allows you to understand what the code is doing.

Link: <http://www.cookbook-r.com/>

R Psychologist

This is a blog by Kristoffer Magnusson, a clinical PhD student in Sweden. Magnusson talks about methodology and supports his points with simulations and graphics in R code. This is a wonderful resource for teachers because it includes simulations and interactive graphics which demonstrate correlations, NHST, confidence intervals, etc.

Link: <http://www.rpsychologist.com/>

R-bloggers

Now you've worked with R so long that you've become a nerd, and you want to do nerdy things and talk about R with nerdy R people. This is the place for you. Hundreds of R users post to this website. It's a great place to figure out how to do that one obscure thing you need to do, or learn a new technique or see cool graphs.

Link: <http://www.r-bloggers.com/>

4 Communicating your R Results to Others

Worried about producing reproducible research analyses in R? Here are some great tools to help you create dynamic documents to enable others to reproduce your results! All are pretty easy to use with RStudio, so it is just matter of personal preference for which package you choose to use.

R Markdown

R Markdown is a authoring format that enables users to easily create dynamic documents and reports from R. It is in an easy-to-write plain text format, combined with embedded R code chunks that can be run in your document.

Link: <http://rmarkdown.rstudio.com/>

Sweave

Sweave is a tool that allows you to embed R code in latex documents. When you run swerve, your data analysis output (tables, graphs, etc) are created on the fly and inserted into a final latex document.

Link: <https://www.statistik.lmu.de/~leisch/Sweave/>

knitr

Knitr is a package that combines Sweave and other packages to create a dynamic report.

Link: <http://yihui.name/knitr/>