

# Benchmarks

A green  
light to  
greatness.

The UNT logo features the letters "UNT" in a bold, white, sans-serif font, centered within a circular emblem. The emblem consists of concentric green circles with a grid-like pattern of small dots, creating a sense of depth and movement.

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## Columns, December 2013

[Network Connection](#)

[Link of the Month](#)

[Helpdesk FYI](#)

**[RSS Matters](#)**

[Training](#)

[Staff Activities](#)

[Home](#) » [issues](#) » [2013-12](#) » [rss-matters](#)

## RSS Matters

[R\\_stats](#)

# Research and Statistical Support University of North Texas

## Useful R Resources That May Have Escaped Your Attention

Link to the last RSS article here: [Five easy steps for scraping data from web pages.](#) -- Ed.

By [Dr. Richard Herrington](#), Research and Statistical Support Consultant

This month I would like to bring a couple of useful resources to the attention of our R users here on campus. Given the popularity of R nowadays, and the ubiquity of R web resources available for perusal, sometimes the really useful resources can get lost in this overwhelming volume of content.

### R Help and rdocumentation.org

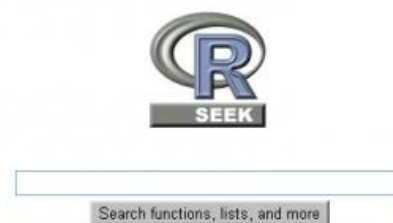
The R "ecosystem" is quite large and sometimes finding the right function or package can be daunting.

Fortunately, many efforts are underway to make bulk of R documentation easy to access and easy to search. One notable website is <http://www.rdocumentation.org/> (screen shot below):

Additionally, for Google Chrome Users, there is a Chrome extension that provides ready access to this website (search for "r documentation" on the Google Apps store front).

Many of the helpful hints from user contributed wikis and listserves provide essential troubleshooting advice and programming tricks that are useful to R users.

The website <http://www.rseek.org/> provides a customized search interface that searches through the most common wikis and listserves:



[Add to Google Toolbar](#) - [Add to Firefox/IE](#) - [Task Views](#) - [Ref Card](#) - [R Code Search](#) - [Created by Sasha Goodman](#) - [Rseek.org Citation](#)

## Using R for Teaching and Collaboration

The online consulting group *DataMind* - <http://www.datamind.org/#/> has provided an open interface for running live R code and sharing this code on a threaded wiki - <http://www.r-fiddle.org/#/> (screen shot below):

R-Fiddle BETA

Save

get our newsletter

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demo("graphics")

Run Code

R-fiddle is created by DataMind

Learn R for free, interactively!

Install the R-Fiddle Chrome App

Join the discussion...

STEP 1: Welcome to R-Fiddle!

Working with R-fiddle is very straightforward. The page exists out of two sections. The main section of the site (on the left) is divided into two areas: the editor and the console. Here is where you put your code. They work just like the standard editor and console you are familiar with for your IDE. It even colour-codes the syntax.

Prev Next End tour

Bill Zhuang Emma Rude

I also want to know

Brian Bill Zhuang

just upload your data to the web, via dropbox public for instance: <http://www.r-fiddle.org/#fidd...>

This website is accompanied by a short tutorial on using r-fiddle as well as short tutorials on learning the R language. Data can be read into an R session either using a Dropbox or a Google-Drive share:

R-Fiddle BETA

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```

1
2 library(ggplot2)
3 iris <- read.csv("http://aima.cs.berkeley.edu/data/iris.csv", header=F)
4 names(iris) <- c("sepal_length", "sepal_width", "petal_length", "petal_width", "species")
5
6 ggplot(iris, aes(x=sepal_width, y=sepal_length, size=petal_length, color=factor(species))) +
7   geom_point()

```

Run Code

Additionally, DataMind provide a Google chrome extension for easy access (search Google Apps store front for "r-fiddle").

#### An R Blog Aggregation Website: R-Bloggers

Lastly, we would be remiss to not mention the extremely informative (and entertaining!) website

<http://www.r-bloggers.com/> R-Bloggers brings together hundreds of seasoned R users providing useful R related articles and announcements that cover content for both novice and expert users of R:

# R-bloggers

R news and tutorials contributed by (452) R bloggers

Home
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WELCOME!

Here you will find daily news and tutorials about R, contributed by over 450 bloggers. You can subscribe for e-mail updates:

Your e-mail here

10460 readers  
BY FEEDBURNER

And get updates to your Facebook:



11,498 people like R bloggers.






If you are an R blogger yourself you are invited to add your own R content feed to this site (Non-English R bloggers should

## Review: Kölner R Meeting 13 December 2013

December 17, 2013  
By Markus Gesmann

data.table

Köln R User Group  
December 2013

Matt Dowle  
Arun Srinivasan

Read more »

Last week's Cologne R user group meeting was the best attended so far. Well, we had a great line up indeed. Matt Dowle came over from London to give an introduction to the data.table package. He was joined by his collaborator Arun Srinivasan, who is based in Cologne. Their talk was followed by Thomas Rahlf on Datendesign...

TOP 3 POSTS FROM THE PAST 2 DAYS

Plotly Beta: Collaborative Plotting with R  
Probability and Monte Carlo methods  
Contour and Density Layers with ggmap

Search & Hit Enter

TOP 9 ARTICLES OF THE WEEK

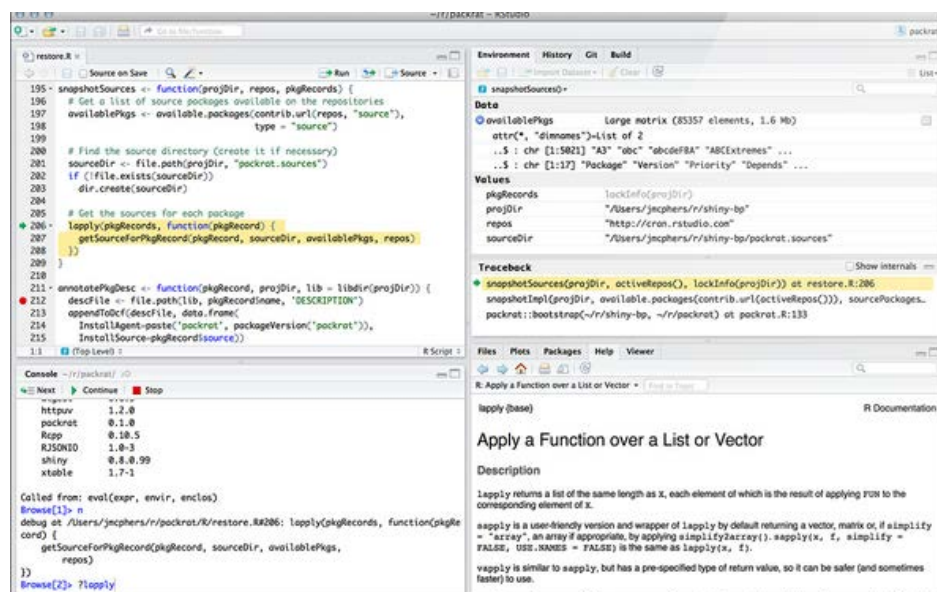
1. Writing papers using R Markdown
2. Installing R packages
3. Using apply, sapply, lapply in R
4. Basics of Histograms
5. Introduction to Spatial Data and ggplot2
6. The homogenization of scientific computing, or why Python is steadily eating other languages' lunch
7. Contour and Density Layers with ggmap
8. Adding a legend to a plot
9. My first . web application with Shiny

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## Programming Tools

The Rstudio development environment - <http://www.rstudio.com/> - comes highly recommended by R users who find themselves wanting more than just the vanilla R script editor that is part of the R console. The desktop Rstudio program is an open-source, free script/debugging editor that provides many bells and whistles for those who find themselves needing more organization and accounting for their development process. Rstudio provides: script highlighting, code completion, integrated help system, workspace browser, data viewer, script debugging, package development tools, and much more. Commercial versions exist providing facilities for deploying R in enterprise settings. Rstudio Server is a version of Rstudio that deploys Rstudio over the web, accessible through a web browser:



The screenshot shows the RStudio interface. The main window displays an R script with the following code:

```

195 snapshotSources <- function(projDir, repos, pkgRecords) {
196   # Get a list of source packages available on the repositories
197   availablePkg <- available.packages(contrib.url(repos, "source"),
198                                     type = "source")
199
200   # Find the source directory (create it if necessary)
201   sourceDir <- file.path(projDir, "packrat.sources")
202   if (!file.exists(sourceDir))
203     dir.create(sourceDir)
204
205   # Get the sources for each package
206   lapply(pkgRecords, function(pkgRecord) {
207     getSourceForPkgRecord(pkgRecord, sourceDir, availablePkg, repos)
208   })
209
210
211 annotatePkgDesc <- function(pkgRecord, projDir, lib = libdir(projDir)) {
212   descFile <- file.path(lib, pkgRecord$name, "DESCRIPTION")
213   appendToDesc(descFile, data.frame(
214     InstallAgent=paste("packrat", packageVersion("packrat")),
215     InstallSource=pkgRecord$source))
216 }

```

The console window shows the output of the script execution:

```

1.1 (Top Level) >
> Next > Continue > Stop
[1] httpuv 1.2.0
[2] packrat 0.1.0
[3] Rcpp 0.10.5
[4] RJSONIO 1.0-3
[5] shiny 0.8.0.99
[6] xtable 1.7-1
Called from: eval(expr, envir, enclos)
Browse[1]> n
debug at /Users/jacphers/r/packrat/R/restore.R:206: lapply(pkgRecords, function(pkgRe
  getSourceForPkgRecord(pkgRecord, sourceDir, availablePkg,
  repos)
})
Browse[2]> ?lapply

```

The Environment pane shows the following objects:

```

Environment History Git Build
snapshotSources
Data
availablePkg Large matrix (85357 elements, 1.6 Mb)
attr(*, "dimnames")=list of 2
..$ : chr [1:5021] "AS" "abc" "abcdeFBA" "ABCExtremes" ...
..$ : chr [1:17] "Package" "Version" "Priority" "Depends" ...
Values
pkgRecords lockInfo(projDir)
projDir "/Users/jacphers/r/shiny-bp"
repos "http://cran.rstudio.com"
sourceDir "/Users/jacphers/r/shiny-bp/packrat.sources"
Traceback
snapshotSources(projDir, activeRepos, lockInfo(projDir)) at restore.R:206
snapshotImpl(projDir, available.packages(contrib.url(activeRepos)), sourcePackages,
packrat:bootstrap~/r/shiny-bp, ~/r/packrat) at packrat.R:133

```

The Files pane shows the current project structure:

```

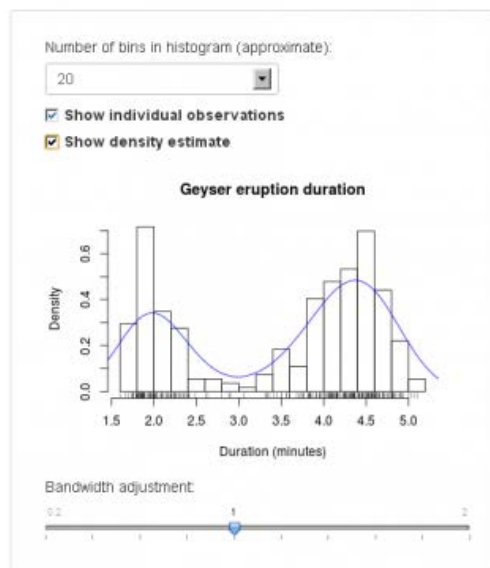
Files Files Packages Help Viewer
R: Apply a Function over a List or Vector > Find in Help
lapply (base) R Documentation
Apply a Function over a List or Vector
Description
lapply returns a list of the same length as X, each element of which is the result of applying FUN to the
corresponding element of X.
lapply is a user-friendly version and wrapper of mapply by default returning a vector, matrix or if simplify
= "array" an array if appropriate, by applying simplify2array(). mapply(x, i, simplify =
FALSE, USE.NAMES = FALSE) is the same as lapply(x, i).
lapply is similar to sapply, but has a pre-specified type of return value, so it can be safer (and sometimes
faster) to use.

```

Additionally, the Rstudio developers provide another open-source tool for deploying R applications over the web, *Shiny* - <http://www.rstudio.com/shiny/>

## Shiny in action

Here's a basic Shiny application, consisting of less than 40 lines of code. Try changing the number of bins and toggling the checkboxes.



```

ui.R
server.R

shinyUI(bootstrapPage(
  selectInput(inputId = "n_breaks",
    label = "Number of bins in histogram (approximate)",
    choices = c(10, 20, 35, 50),
    selected = 20),
  checkboxInput(inputId = "individual_obs",
    label = strong("Show individual observations"),
    value = FALSE),
  checkboxInput(inputId = "density",
    label = strong("Show density estimate"),
    value = FALSE),
  plotOutput(outputId = "main_plot", height = "300px"),
  # Display this only if the density is shown
  conditionalPanel(condition = "input.density == true",
    sliderInput(inputId = "bw_adjust",
      label = "Bandwidth adjustment",
      min = 0.2, max = 2, value = 1, step = 0.2)
  )
))
  
```

Please see our [tutorial](#) to learn more about writing Shiny apps.

## No Better Time to Be An R User

The R community has grown an impressive set of resources for researchers who need a smart, flexible, data analysis system. All you non-R users need to do now is to give these impressive tools and resources a chance to improve your knowledge and productivity for your respective disciplines. There is no better time than the present to become a R user! Happy Holidays and good data analysis to you!

Originally published December 2013 -- Please note that information published in Online is likely to degrade over time, especially links to various Websites. To make sure you have the most current information on a specific topic, it may be best <http://search.unt.edu> UNT Website. You can also consult the UNT [Helpdesk](http://www.unt.edu/helpdesk/). Questions and comments should be directed to [trk@unt.edu](mailto:trk@unt.edu).



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