

R and Mymstat, by G. Mélard

R

R is a statistical software package derived from S. The "S" language was developed in 1976 at Lucent Technologies (formerly AT&T Bell Labs) by a team headed by John Chambers. It was the first computer language created specifically for data visualization and exploration, statistical modeling and programming with data. In 1988, S became a commercial product called SPlus, now in its 8th release and sold by Tibco (<http://www.tibco.com/>).

Started in 1997, R (<http://www.r-project.org/>) is essentially an open source interpreted computer language with lots of statistical functions and, moreover, the possibility for contributors (you or me) to add some packages. But before doing that, have first a look of what does exist. Look in a CRAN (Comprehensive R Archive Network) mirror web site, e.g. among the task views.

For more information on R see e.g. http://en.wikipedia.org/wiki/R_programming_language. For free installations on a wide variety of computers, see the above link. Once R is installed, you can add packages or update them.

Some introductions:

In French

http://mephisto.unige.ch/pub/IntroR/intro_R_nup.pdf (18 slides)

http://www.aliquote.org/cours/2007_cim_biostats/R.pdf (24 slides)

http://zoonek2.free.fr/UNIX/48_R_2004/01.html (33 pp., no longer updated, see English version, see boxplots near the end)

http://www.uhb.fr/sc_sociales/labstats/FROMONT/doc/coursR.pdf (14 pp.)

<http://quanti.hypotheses.org/217> (very introductory, focused on French data analysis, problems with Internet Explorer!)

http://alea.fr.eu.org/j/intro_R.html (139 pp., for sociologists, well detailed)

<http://moodlearchive.epfl.ch/2007-2008/mod/resource/view.php?id=21931> (2 pp.)

<http://moulon.inra.fr/~mag/introtoR.doc> (9 pp.)

In English:

<http://cran.r-project.org/doc/manuals/R-intro.pdf> ("Official manual", 100 pp.)

<http://socserv.mcmaster.ca/jfox/Courses/R-course/index.html> (Complements to Fox book)

http://zoonek2.free.fr/UNIX/48_R/all.html (by Zoonekynd, with several chapters on statistical models; there are pdf and html versions)

<http://www.biostat.wisc.edu/~kbroman/Rintro/> (mainly composed of links and references)

<http://faculty.washington.edu/tlumley/Rcourse/> (225 slides, also exercises)

<http://stat-www.berkeley.edu/~spector/R.pdf> (10 pp.)

<http://www.stat.cmu.edu/~larry/all-of-statistics/=R/Rintro.pdf> (14 pp.)

There have been several attempts to build a menu interface over R. Note that there exists Rgui, but its menu are essentially for managing R itself, not for working with data. Probably the most advanced project is R Commander, available (freely, of course) as a package under the name Rcmdr. Like the other R packages, you have to install it from a CRAN mirror site. Be patient because it requires a lot of other packages. Once installed, load the package by typing `Library("Rcmdr")`. It is not SPSS, nor SAS, of course, but it can read SPSS (.SAV) and Excel files, display data in table form and even allow editing them. One of the most disturbing elements is the concept of "factor" to be used for grouping, in contingency tables, or to be used as factor in an ANOVA. Even if the variables are clearly factors, they have to be explicitly declared as factors, possibly with a name change.

MyStat

MyStat is a (currently) free student version of Systat for Windows only, which has many capabilities of Systat but of course not all. Systat was created in the late 1970's and became a commercial product around 1983.

At that time MyStat was already a free student version as a DOS application.

Systat was sold to SPSS Inc. in 1995 and belongs to Cranes Software, Bangalore (India) since 2002.

Version 12 which came out in 2007 is the most recent version. For more information, see

<http://www.systat.com/SystatProducts.aspx>. Much like SPSS, novice statistical users can use SYSTAT's menu-driven interface to conduct simple analyses and produce beautiful 2D and 3D graphics for presentations or reports but advanced users can greatly speed up their research by using SYSTAT's intuitive command language, with the ability to save complex command macros. You can find Mystat at address <http://www.systat.com/MystatProducts.aspx>.

Note that Mystat comes with a full documentation under the form of help files.