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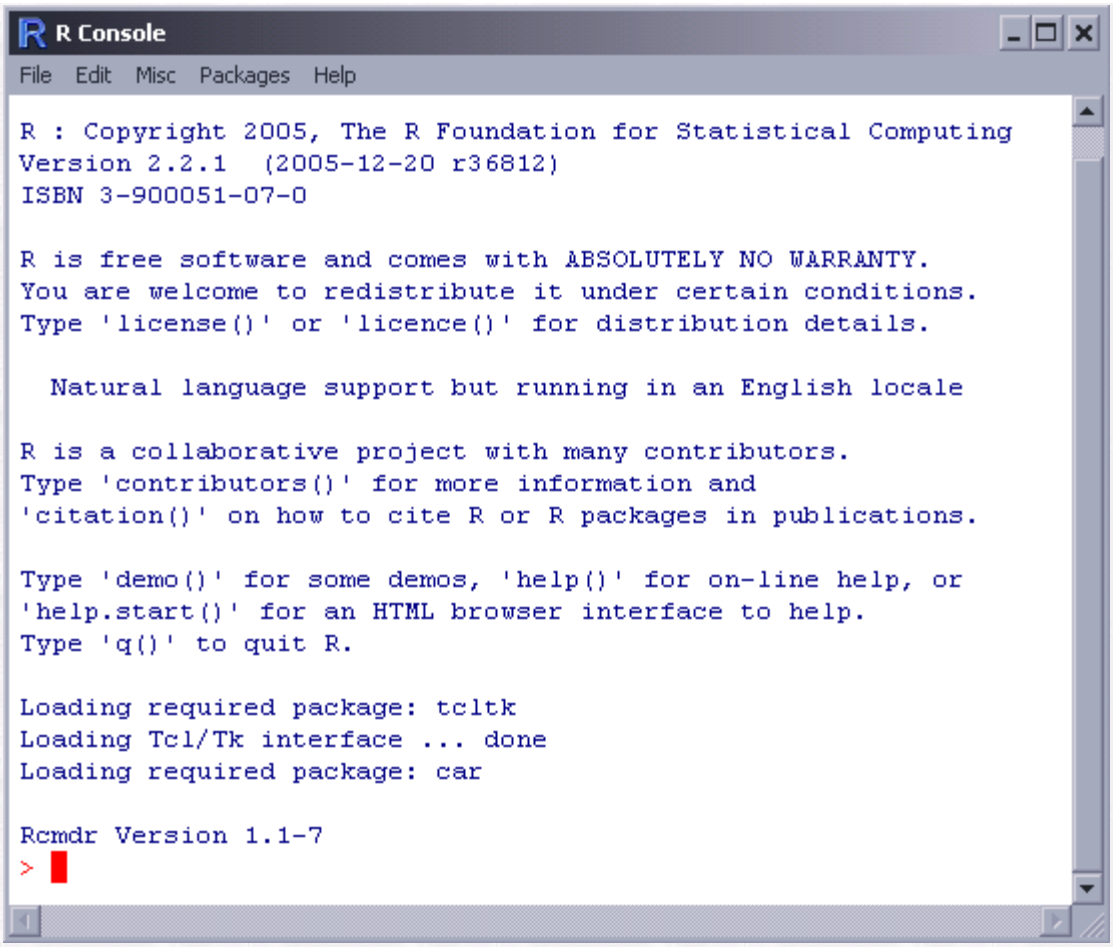
Link to the last RSS article here: Installing SPSS 14 - Ed.

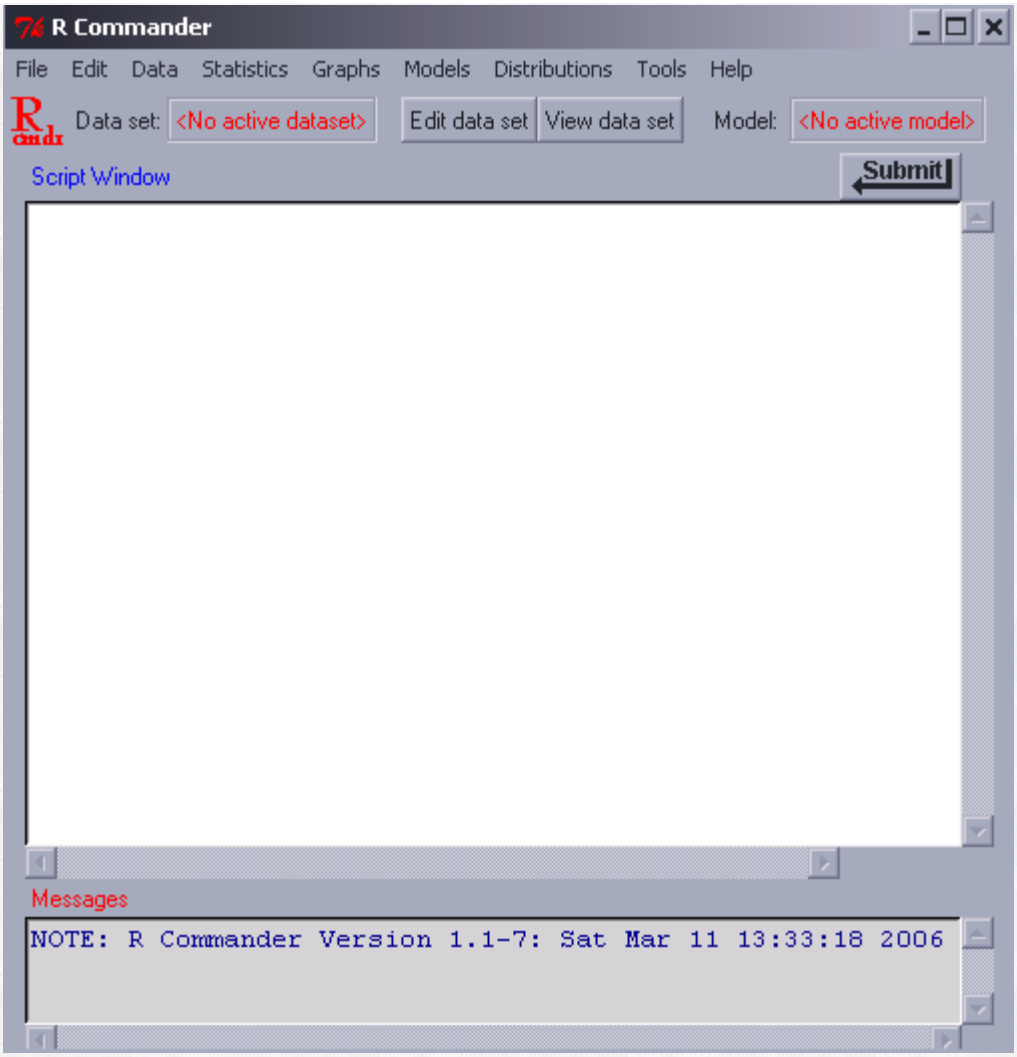
Bayesian Packages for R version 2.2.1

By Dr Rich Herrington, ACS Research and Statistical Support Services Consultant

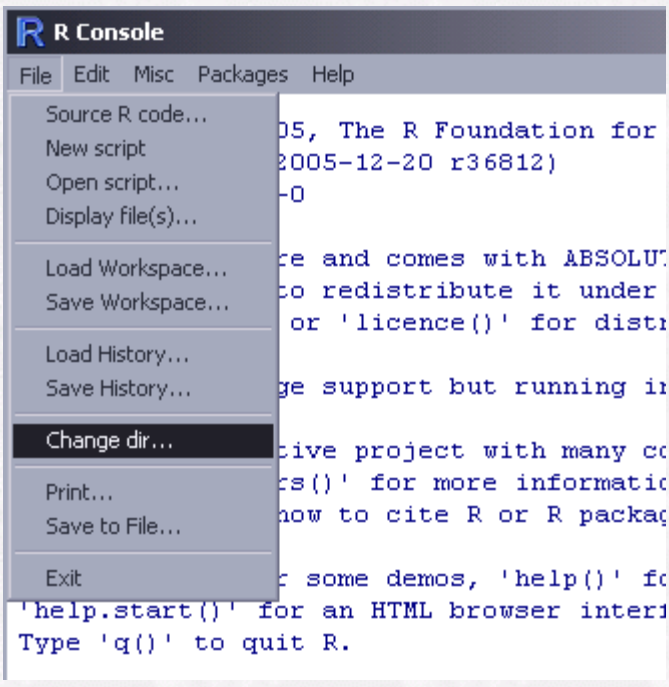
R version 2.2.1 was released on December 20, 2005. A description of changes for Microsoft Windows platform versions can be found here. The latest versions of R for the Windows platform can be found here. We are hosting a local copy of the R 2.2.1 installation file for the Windows platform here for download. **Additionally, we have made free copies of a "executable" CD version of R 2.2.1 available over in the UNT bookstore (trade books)**. R 2.2.1 has been installed on this "live" CD with some minor pre-configurations so that R can run off of the CD. To begin the R session, browse to the **\bin** folder on the CD and click the **Rgui.exe** file. Additionally, you can set up a shortcut on your desktop to run R off of the CD. Alternatively, you can copy the contents of the CD into an R folder on your local hard-drive and create a shortcut to the **C:\R\bin\Rgui.exe** file. Once R has been started, you should see two windows once the initialization of R is complete. The first is the **R Console window**:



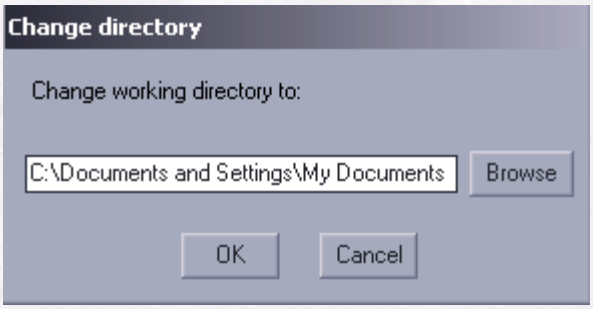
The second is the **R Commander window**, a simple drop down menu for doing a number of beginner to advanced statistics thru a GUI dialog system:



To set up your working directory so that you can read and write files to your local storage media (not the CD - since it is write only). Go the R console window and select "File - Change dir":



You can set your working directory to a writeable storage media:



Now you should be able to write out and read to this directory.

Bayesian Analysis in R

Bayesian approaches to inference have become increasingly popular in applied statistics since the arrival of cheap, fast, computers. The availability of today's computational power in a desktop PC allows more complicated, realistic Bayesian models to be estimated thru simulation methodologies. Currently, the availability of the BUGS software (e.g. WinBugs & OpenBugs) and numerous R packages dedicated to Bayesian analysis, give the researcher an arsenal of methods to attack problems from a Bayesian framework. An introduction to Bayesian thinking and data analysis is beyond the scope of this current article, but we hope to cover an introduction to Bayesian analysis in R and WinBugs in future column installments. Here, we just present a sampling of some of the packages that are available in R for doing Bayesian analysis:

R2WinBUGS	Running WinBUGS from R
bayesm	Bayesian Inference for Marketing/Micro-econometrics
bayesSurv	Bayesian Survival Regression with Flexible Error and Random Effects Distributions
BayesTree	Bayesian Methods for Tree Based Models
baymvb	Bayesian analysis of multivariate binary data|
BMA	Bayesian Model Averaging
boa	Bayesian Output Analysis Program (BOA) for MCMC
deal	Learning Bayesian Networks with Mixed Variables
ebayesthresh	Empirical Bayes thresholding and related methods
eco	R Package for Fitting Bayesian Models of Ecological Inference in 2x2 Tables
HighProbability	HighProbability estimates which alternative hypotheses have frequentist or Bayesian probabilities
MSBVAR	Bayesian Vector Autoregression Models, Impulse Responses and Forecasting.
survBayes	Fits a proportional hazards model to time to event data by a Bayesian approach
tgp	Bayesian treed Gaussian process models
vabayelMix	Variational Bayesian Mixture Modelling
BsMD	Bayes Screening and Model Discrimination
evdbayes	Bayesian Analysis in Extreme Value Theory
siggenes	SAM and Efron's empirical Bayes approaches
mcmc	Markov Chain Monte Carlo
MCMCpack	Markov chain Monte Carlo (MCMC) Package

A Few Good Books on Bayesian Analysis

I'll end this column by listing a few of my favorite books on Bayesian Analysis:

Bayesian Statistics and Marketing
Applied Bayesian Modeling
Bayesian Approaches to Clinical Trials and Health-Care Evaluation
Biostatistics: A Bayesian Introduction
Bayesian Models for Categorical Data
Introduction to Bayesian Statistics
Bayesian Data Analysis
Bayesian Methods: A Social and Behavioral Sciences Approach

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