R for Statistical Computing Language Reference

R  http://www.r-project.org
RStudio  http://www.rstudio.com

Objects
All data is stored in a named object. Objects can be of many types.
Create an option using <- or =

1-D
[type]  Examples:  Useful Functions:
numeric  any value representing a #  sqrt, log, mean, median, sd
classer  any character(s) in quotes  toupper, paste
logical  TRUE  also T, equals 1
FALSE  also F, equals 0

2 and 3-D
[type]  What is it?  Creating it:  Functions:
vector  like a variable  c(1,2,3,4,5) OR 1:5  hist, plot
factor  categorical var  factor(df$num)  levels
list  group of named objects  list(one=1,two=v1)
data.frame  like a list of vectors  data.frame(v1,v2,v3)  nrow, names, dim, rownames

Accessing Object Elements:
df[ vector, list ]  list[ "two" ]  v[ c( 2, 4 ) ]
df$name[ vector ]  list$two  v[ c( T, T, F, F, T ) ]

R Syntax Structure
my.dataset  <-  read.table("S:/Myfile.csv", header =TRUE, sep = ",")

Assigns Value to Object  Function  Positional Argument  Named Argument  Named Argument

Functions and Packages
Convenience Function: calls another function with particular args

A package is a collection of functions.

Helpful Functions:
str: lists the variables including the type and sample values
summary: run frequencies and descriptives (as appropriate)
attach: Copy columns in dataframe to vectors of the same name
subset: Shortcut function for selecting cases from a dataframe,
  subset(dataset, cases, select = variables)

Package Types
Types               Installed (on computer)  Loaded (available to R)  Examples
Base                YES                    YES                    utils (incl. read.table)
Recommended         YES                    NO                     foreign (incl. read.spss)
Contributed         NO                     NO                     xlsx (incl. read.xlsx)

Function         install.packages  library/require

R Websites:
RSearch Engine     http://rseek.org
R-Project / CRAN   http://cran.r-project.org/
R Packages by Topic http://cran.r-project.org/web/views/
DataServices @ GMU  http://dataservices.gmu.edu/software/r/
Quick R [Reference] http://statmethods.net/