R reference card, by Jonathan Baron

Parentheses are for functions. Brackets are for indicating the position of items in a vector or matrix. (Here, items with numbers like xi are user-supplied variables.)

Miscellaneous
q(): quit
<-: assign
INSTALL package1: install package1
m1 [, 2]: column 2 of matrix m 1
m1 [, 2: 51 or m 1 [, c (2, 3, 4, 5) 1: columns 2-5
ml$al: variable al in data frame m1
NA: missing data
is.na: true if data missing
library(mva): load (e.g.) the mva package

Help
help(commandl): get help with commandl (NOTE: USE THIS FOR MORE DETAIL THAN THIS CARD CAN PROVIDE.)
help.start (): start browser help
help(package=mva): help with (e.g.) package mva
apropos("topic 1") and help.search("topicl"): commands relevant to topicl
example(commandl): examples of commandl

Input and output
source("file1"): run the commands in filel.
read.table("file1"): read in data from filel
data.entry(): spreadsheet
scan(xl): read a vector x1

download.file("url1"): from internet
url.show("urll"), read.table.url("urll"): remote input

sink("file1"): output to filel, until sink()
write(objectl, "filel"): writes objectl to filel
write.table(dataframel, "filel"): writes a table

Managing variables and objects
attach(xl) detach(xl): put (remove) xl in search path
ls(): lists all the active objects.
str(object l): print useful information about object 1
rm(objectl): remove objectl
dim(matrixl): dimensions of matrix1
dimnames(xl): names of dimensions of xl
length(vectorl): length of vectorl
1: 3: the vector 1, 2, 3
c(1 ,2,3): creates the same vector
rep(xl,nl): repeats the vector xl nl times
cbind(al,bl,cl), rbind(al,bl,cl): binds columns or rows into a matrix
merge (df1, df2): merge data frames
matrix(vectorl, r1, cl): make vectorl into a matrix with rl rows and cl columns
data.frame(v1,v2): make a data frame from vectors v1 and v2
as.factor(), as.matrix(), as.vector(): conversion
is.factor(), is.matrix(), is.vector(): what it is
t(): switch rows and columns
which (xl==al): returns indices of x1 where xl==al

Control flow
for (i1 in vectorl): repeat what follows - if (conditionl) ... else ... : conditional

Arithmetic
%*%: matrix multiplication
%/%, ^, *%%*, *sqrt():* integer division, power, modulus,
square root

Statistics
max(), min(), mean(), median(), sum(), var(): as named
summary(data.frame): prints statistics
rank(), sort() rank and sort

ave(x1,y1): averages of x1 grouped by factor y1
by(): apply function to data frame by factor
apply(xl,nl,function1): apply function1 (e.g. mean) to x by rows (nl=l) or columns (n2=2)

tapply(xl,listl,functionl): apply function to x1 by list1
table(): make a table
tabulate(): tabulate a vector

Basic statistical analysis
aov(), anova(), lm(), glm(): (generalized) linear models, anova

t.test(): t test
prop.test(), binom.test(): sign test
chisq.test(x1): chi-square test on matrix x1
fisher.test(): Fisher exact test
cor(a): show correlations
cor.test (a,b): test correlation
friedman.test(): Friedman test

Some statistics in mva package
prcomp(): principal components
kmeans(): kmeans cluster analysis
factanal(): factor analysis
cancor(): canonical correlation

Graphics
plot(), barplot(), boxplot(), stem(), hist(): basic plots
matplot(): matrix plot
pairs (matrix): scatterplots
coplot(): conditional plot
stripplot(): strip plot
qqplot(): quantile-quantile plot
qqnorm(), qqline(): fit normal distribution