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 x1 are user-supplied variables.)

Miscellaneous

q(): quit
<-: assign
INSTALL package1: install package1
m1[,2]: column 2 of matrix m1
m1[,2:5] or m1[,c(2,3,4,5)]: columns 2–5
m1$a1: variable a1 in data frame m1
NA: missing data
is.na: true if data missing
library(mva): load (e.g.) the mva package

Help

help(command1): get help with command1 (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("topic1"): commands relevant to topic1
example(command1): examples of command1

Input and output

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

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

sink("file1"): output to file1, until sink()
write(object, "file1"): writes an object to file1
write.table(dataframe1,"file1"): writes a table

Managing variables and objects

attach(x1): put variables in x1 in search path
detach(x1): remove from search path
ls(): lists all the active objects.
rm(object1): removes object1
dim(matrix1): dimensions of matrix1
dimnames(x1): names of dimensions of x1
length(vector1): length of vector1
1:3: the vector 1,2,3
c(1,2,3): creates the same vector
rep(x1,n1): repeats the vector x1 n1 times
cbind(a1,b1,c1), rbind(a1,b1,c1): binds columns or rows into a matrix
merge(df1,df2): merge data frames
matrix(vector1,r1,c1): make vector1 into a matrix with r1 rows and c1 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(x1==a1): returns indices of x1 where x1==a1

Control flow

for (i1 in vector1): repeat what follows
if (condition1) ...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(x1,n1,function1): apply function1 (e.g. mean) to x by rows (n1=1) or columns (n2=2)
tapply(x1,list1,function1): apply function to x1 by list1
table(): make a table
tabulate(): tabulate a vector

basic statistical analysis

aov(), anova(), lm(), glm(): linear and nonlinear 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