

R Commands Summary

Basic manipulations

In & Out

q	load	help.search
ls	dump	library
rm	source	search
save	history	
save.image	help	

Manipulate objects

c	apply/tapply/sapply	rep
cbind	sweep	which
rbind	sort	table
names	seq	

Object Types -- can use `is.xx()` and `as.xx()`

matrix	factor	logical
numeric	character	

Indexing:

x & y numeric vectors, z a factor vector, b a matrix or data frame

```
      x [ i ] = ith element of array
      x [ 1 : n ] = vector elements from 1 to n
x[ c( 2 , 3 , 5 , 6 , 11 ) ] = vector of elements nos 2,3,5,6,11
      x[ y <= 30 ] = vector of elements of x with indices
                    matching the indices in y that are less
                    than 30
      x[ z == "male" ] = vector of elements of x with indices
                        matching the indices in z that are
                        "male"
      b [ i , j ] = element in ith row and jth column
      b [ i , ] = vector of all elements in row i
      b [ , j ] = vector of all element in column j
      b$colname = vector of column named "colname"
                  (only if b is a data frame)
```

Basic functions

Arithmetic, Logical, & Mathematical

+	!=	log10
-	<	exp
*	>	sin
/	<=	cos
^	>=	tan
% / %	is.na	asin
%%	&	acos
t		atan
crossprod	!	
==	log	

Summary Functions

sum	range	cor
mean	min	summary
var	max	quantile
sd	median	

Bringing in data

scan	read.csv	attach
read.table	read.delim	detach
readLines	data.entry	

Common/Important Options for Bringing In Data:

header	file	which
skip	sep	na.strings

Probability Calculations

binom	t	wilcox
pois	norm	exp
f	chisq	

Prefixes for these probability functions:

d (density)
p (cdf)
q (quantile)
r (random generation)

Plots

plot	x11()	postscript
hist	stripchart	pdf
boxplot	par(mfrow=c(x,y))	jpeg
barplot	par(mfcol=c(x,y))	bmp
matplot	points	dev.off
stemandleaf	lines	
qqnorm	legend	
qqline	abline	

Common options on plots

breaks (hist)	las	col.main
xlab, ylab	font	col.sub
main	bg	cex
lty	col	mex
pch	col.lab	

Statistical Tests

help(package=ctest)	chisq.test	power.prop.test
prop.test	var.test	fisher.test
binom.test	kruskal.test	mcnemar.test
t.test	cor.test	
wilcox.test	power.t.test	

Important options on statistical tests

p	paired	var.equal
mu	type	
alternative	conf.level	

ANOVA / Regression Commands

anova	contrasts	cut
aov	TukeyHSD	levels
lm	factor / as.factor	fitted
residuals	gl	predict

Useful R web pages:

Useful summary of commands by June Hill:

http://www.student.uwa.edu.au/~junehill/useR_00.html

Official R Website with Good Manuals:

<http://www.r-project.org/>

Various Labs on Elizabeth Purdom's website:

<http://www-stat.stanford.edu/~epurdom/>