

R Basics

More details here: <http://cran.r-project.org/doc/contrib/Baggott-refcard-v2.pdf>

1 Working with R

```
# The first functions to learn
?  
str  
# Workspace  
ls, exists, rm  
getwd, setwd  
q  
source  
install.packages, library, require  
# Help  
help, ?  
help.search  
apropos  
RSiteSearch  
citation  
demo  
example
```

2 Basic Operations

```
# Important operators and assignment  
%in%, match  
=, <-, <<-  
$, [, [[, head, tail, subset  
# Comparison  
all.equal, identical  
!=, ==, >, >=, <, <=  
is.na, complete.cases  
is.finite  
# Basic math  
*, +, -, /, ^, %%, %/%  
abs, sign
```

```

acos, asin, atan, atan2
sin, cos, tan
ceiling, floor, round
exp, log, log10, log2, sqrt
max, min, prod, sum
cummax, cummin, cumprod, cumsum, diff
pmax, pmin
range
mean, median, cor, sd, var
# Functions to do with functions
function
missing
return, invisible
# Logical & sets
&, |, !, xor
all, any
intersect, union, setdiff, setequal
which
# Vectors and matrices
c, matrix
# automatic coercion rules character > numeric > logical
length, dim, ncol, nrow
cbind, rbind
names, colnames, rownames
t
diag
as.matrix, data.matrix
# Making vectors
c
rep, rep_len
seq, seq_len, seq_along
rev
sample
choose, factorial, combn
(is/as).(character/numeric/logical/...)
# Lists & data.frames
list, unlist
data.frame, as.data.frame
split
expand.grid
# Apply & friends
lapply, sapply, vapply
apply
tapply
replicate

```

3 Common Data Structures

```

# Date time
ISOdate, ISOdatetime, strptime, strptime, date
difftime

```

```
julian, months, quarters, weekdays
# Character manipulation
grep, agrep
gsub
strsplit
chartr
nchar
tolower, toupper
substr
paste
# Factors
factor, levels, nlevels
reorder, relevel
cut, findInterval
interaction
options(stringsAsFactors = FALSE)
```