The R Programming Language: Quick Reference Sheet

Using R Studio	
<*ctrl* + *enter*>	Run selected lines of code, default is current line
<*ctrl* + *shift* + *enter*>	Run all code in the file
<*ctrl* + *shift* + *c*>	Comment selected lines of code, default is current line
<*ctrl* + *shift* + *f10*>	Clear global environment

Useful Packages	
magrittr	Package to include the pipe operator (*%>%*)
caret	**C**lassification **a**nd **re**gression **t**raining: contains models for machine learning and auxilary machine learning functions.
ggplot2	Extensive graphing utilities
dplyr	Provides remote access to databases and server-side computation methods.
dplyr	Provides interface for various database management systems (e.g., MySQL).

Basic Assignment and Operators	
=	Traditional assignment
<-	Equivalent to =, valid in all assignment contexts
->	Assigns preceding value to following variable
«-	Searches through parent environment for assignment
-»	Assigns preceding value to following variable in parent environment
f1 %>% f2	Pipes the output from f1 as input to f2 (*magrittr* package)

Graphing	
plot(<*x*>)	Creates all 2 axis scatter plots from entries on numeric vector *x*
hist(<*x*>)	Creates a histogram from numeric vector *x*
dotchart(<*x*>, <*label*>)	Creates dotplot of numeric vector *x* with optional character vector *label*
barplot(<*x*>)	Creates a barplot from numeric vector *x*
lines(<*x*>, <*y*>,<*type*>)	Creates line plot from numeric vectors *x,y*, connected by the line *type*
pie(<*x*>,<*label*>)	Creates piechart from numeric vector *x* with optional character vector *label*
boxplot(<*x*>, <*data*>)	Creates a boxplot from formula *x* and dataframe *data*

Stat tools	
quantile(<*x*>, <*probs*>)	Finds the percentile value *probs* based on numeric vector *x*
mean(<*x*>)	Returns the mean of numeric vector *x*
sd(<*x*>)	Returns the standard deviation of numeric object *x*
scale(<*x*>)	Returns standard scores for numeric vector *x*

Data Summary	
Summary(<*x*>)	Returns various stats on numeric object *x*
Head(<*x*>)	Returns the column names and first five vectors of object *x*
table(<*x*>)	Counts the number of entries for each value on each parameter of *x*
levels(<*x*>)	Returns valid entries for factor *x*
names(<*x*>)	Returns the names within object *x*

Lists, Vectors, Data frames	
General	Most data structures can be accessed by index (`matrix[1][2][3]`) or by row and column name `df$Petal.Width`
List	Contains elements of any type e.g., `y <- list(a=1, b="1")`
vector	Homogenous arrays e.g., `y <- (1,2,3)`
matrix	A vector with a row and column attribute e.g., `y <- matrix(c(1,2,3,4), nrow=2, ncol=2)`
Data Frame	A list of vectors of equal length e.g., `x = c("A","B","C")` `y = c(1, 2,3)` `z = data.frame(x,y)`