## allthemath.org Vol II Episode IV – R cheat sheet

## Matrices:

<pre>matrix(c(3,2,4,5,1,4),byrow=TRUE,nrow=2)</pre>	Create a $2 \times 3$ matrix with rows [3 2], [4 5], [1 4]
<pre>matrix(rep(0,28),nrow=7)</pre>	Create an all-zero $7 \times 4$ matrix
<pre>matrix(runif(28),nrow=7)</pre>	Create a $7 \times 4$ matrix with random numbers between 0 and 1
<pre>nrow(A), ncol(A)</pre>	Get the number of rows/columns of a matrix <b>A</b>
A[2,3]	Get the element at row 2, column 3 of the matrix $A$
A[,9]	Get column 9 of the matrix A
A[4,]	Get row 4 of the matrix A
t(A)	The transpose of the matrix A
A %*% x	Matrix-vector multiplication of ${\tt A}$ and ${\tt x}$
as.matrix(read.csv("filename",header=FALSE))	Read data from a comma-separated text file into a matrix

## *"if" statements:*

if (condition) { -- or -- if (condition) {
 ... statements ...
 ... statements ...
 } else {
 ... statements ...
 }
}

where "condition" can use <, >, <= ("less than or equal to"), >=, == ("equal to"), != ("not equal to"), && (logical "and"), and || (logical "or")