MATLAB Quick Guide

Symbol/ Command	Name	Description	Example
help	help	Help menu for any command or symbol in MATLAB	`Help :` `Help sum`

%	comment	MATLAB comment symbol; MATLAB will skip any line beginning with the % symbol	`a = 1 % comments here…`
			`% this will all`
			`% be ignored!`
			`% except for the a = 1`

*	multiply	Symbol for multiplication	`a = 5 * 5 ;`
/	divide	Symbol for division	`b = 5 / 1 ;`

;	semi-colon	(1) Tells MATLAB to suppress the output (do not print value, equation, etc. to screen)
		(2) Also used to separate rows in a matrix
			`a = 2 ;`
			`b = 5 * a + 2 + a ;`
			`A = [ 1 , 2 , 3 ; 4 ,`
			`2 , 0 ] ;`

.	dot	Tells MATLAB to perform an operation on an element by element basis	`C = A .* A ;`
[ ]	square brackets	Used for defining matrix elements	`C = [ 1 , 2 ; 3 , 4] ;`
( )	parenthesis	Used for organizing pieces of an equation	`c=2 + (5+3)^2 + (b.*b)`
^	caret, hat	"Raised to the power of"…	`c = a .^ 2 ;`
sqrt( )	square root	Command for computing the square root	`e = sqrt( c ) ;`
pi	π	Mathematical symbol for 3.1415926..	`a = pi ;`
whos	whos	Command that lists all of the variables defined in your current MATLAB session	`whos` *Prints information for a b c A C e, etc.*
inv( )	inverse	Computes the inverse of a matrix	`D = inv( C ) ;`
'	transpose	Computes the transpose of a matrix, shortcut for `transpose(x)`	`D = C' ;` `D = transpose( C ) ;`
zeros(m,n)	zeros	Command for defining an m x n matrix of zeros	`E = zeros( 2 , 2 ) ;`
ones(m,n)	ones	Command for defining an m x n matrix of ones	`E = ones( 2 , 2 ) ;`

`size( )`	size	Command for printing the number of rows and columns of a vector or matrix	`size( E ) ;`
`sum( )`	sum	Command for summing all of the elements of a given vector	`f = sum( 3 , 2 , 1 ) ;`
`min , max`	min, max	Command for printing the minimum or maximum values in a vector.	`g = min( 3 , 2 , 1 ) ;` `h = max( 3 , 2 , 1 ) ;`
`imagesc`	imagesc	Command for plotting a 2-D array of values	`imagesc( E )`
`hist( )`	histogram	Command for plotting a histogram from the input values	`j = hist( g ) ;`
`help graph3d`		Help menu and command list for many graphing features (includes colormaps)	
`clear`	clear	Clears all variables in memory; if given an argument(s), will just clear those specified variables	`clear` `clear f, g, h, j`
`clc`	command line clear	Will clear the command line display, but will not erase memory	`clc` *You will be given a clean command line*
`fopen fread fclose`	fopen, read, close	Commands for opening a file, reading it, and closing the file	*See examples in Lab 1.*