MATLAB 101
Homework #1, June 20, 2014

Remember doc and google!

1. Make sure MATLAB is installed
2. Open MATLAB and adjust interface to your liking from preferences. Try using a color and font that is easy on your eyes. Try docking/undocking and moving around windows. Look around at menus and buttons to see what they do. Save a custom layout for yourself. Look and see where matlab stores its default functions (see path).

3. Create a variable of ones named 'x' with 2 rows and 6 columns, and show it
4. Create a new variable of twos names 'x2' with 2 rows and 6 columns. (Hint __.*x)
5. Create a matrix of all even numbers from 1 to 100. Store it in variable called 'evenNum'
6. Create a matrix of all odd numbers from 1 to 100, and store in 'oddNum'
7. Create a new matrix, 'evenOdd' with first row being values of 'evenNum', and 2nd row being values of 'oddNum'. (Hint1: [a;b]; Hint2: doc cat)
8. Set the (2,5) entry of 'x' to twice the value there. **Do not hard code the value.**

9. Save the script and email to me.

Too easy? Optional Homework++:

10. Repeat problem 5 and 6 using for loops and conditionals (if/else statements). (Hint: doc mod)
11. Create the 'evenOdd' matrix from above by first making a one dimensional matrix of the even numbers then the odd numbers, ie [2, 4, … ,100, 1, 3, 5, … 99], then put the odd numbers in the second row using reshape command. (Hint, somevariable(:), doc reshape)
12. Make two functions for creating the matrix 'evenNum', that take an argument N, which specifies the maximum number (no longer hard coding 100). One function should use the colon operator, while the other should use the for loop. Then create a loop and time the functions as N increases. Plot the timing differences as a function of N from 1 to 1000000. (Hint: tic toc, plot, hold on, xlabel, ylabel, title, legend)