Assignment I6. MATLAB Exercise 1. (Individual – 20 points)

After installing and activating MATLAB 2016a and watching the video "Getting Started with MATLAB", follow the steps below. You will submit **two** screen captures/figures showing your work in a single PDF. You do not need a problem statement, but do need to use the homework header at the top of your file. The screen captures must display the MATLAB COMMAND WINDOW, the WORKSPACE, **and** the Current Folder in the Default Layout (Home>Layout>Default). The text must be readable when pasted in your homework document.   Suggestions for creating the screen capture include using Print Screen <Prt Scr> or a program like Snipping Tool that comes with Windows10.

Do NOT suppress the echo in this exercise (i.e, do not put a semicolon (;) on the end of each line).

1. Type **format compact** at the command line. This will remove blank space in the command window.
2. Clear the workspace by typing **clear** at the command line.
3. Create a variable **ppg** and store the value 1.95 in it – i.e., enter **ppg = 1.95** at the >>. Note that ppg is a scalar.
4. Create a new variable **gal** and store the value 13.5 in it. gal is also a scalar.
5. Create a new variable **cost** and store the product of the variables **ppg** and **gal** in it. Cost is a scalar.
6. Create a vector with three elements. The name of the vector will be your pid. Store your birthdate in the vector putting the month (entered as a number: 1 for Jan….12 for Dec) in the first element, the day in the second, and the year in the third.
7. Type the command which will show the value of the year you were born (i.e., will show the third element of the vector).
8. Change the year that is stored in your vector to 2016; i.e., store 2016 in the third element of the vector, e.g., yourpid(3) = 2016.
9. Do your first screen capture. Expand MATLAB to fill the screen and take a screen capture showing the Command Window and Workspace window after steps 1-8 have been completed. Make sure your Command Window shows all work for steps 1-8. Paste the screen capture in a WORD document with the homework header.
10. Clear the workspace (see step 2 above).
11. Clear the command window by typing **clc** at the command line.
12. Create two six-element row vectors, **Strain** and **Stress**, with values shown in the table below.   After creating the vectors, individually fix any values you incorrectly entered (as in step 8 above).

Strain	Stress	The values of **Strain** echoed in the command window will look different than what you enter. They will be displayed as values rounded to 4 places after the decimal. Notice if you look in workspace the values have not been changed.
0.000175	5315	
0.000365	10511	
0.000885	26134	
0.001440	42632	
0.002045	60458	
0.002585	76353	

13. Store the vectors **Strain** and **Stress** in a .mat file by typing **save w1data** at the command line. Let MATLAB save the file in the default location, the Documents/MATLAB directory.

14. Use the plot command to plot stress as a function strain. Strain should be on the x axis. Plot as a line or as points. You do not need to add axis labels or at title for this assignment.

15. Do your second screen capture. Expand MATLAB to fill the screen and take a screen capture showing the Command Window, Workspace Window, and Current Directory after step 14 has been completed. Make sure steps 12-14 are clearly shown in the Command Window. Paste the screen capture in your homework document.

16. Copy the plot window and paste it into your homework document. In the plot window use Edit>Copy Figure.

17. Submit your HW document to Canvas as a PDF. Use the given file naming convention.