Engineering 6 Spring 2016
Section A07 – Lab 2

<u>Please read the following instructions carefully.</u>

Create a new "m-file" or script using the "New Script" button on the upper left-hand corner of the MATLAB window. Name this script **lab2.m** .

<u>NOTE:</u> do not change the location where the file will be saved MATLAB saves new scripts in a MATLAB folder by default. Also, make sure that you have a ".m" at the end of the file name.

Part 1:

Plot the following functions on the same figure. In order to overlay the plots, use Matlab's **hold** command. Use **linspace** to create a vector, x, that ranges from $[-7, 7]$ and includes 1000 points.

$$f(x) = x sin(10x)$$

$$g(x) = sin(10x)$$

Set the windows size for the plot by using the **axis()** function. The dimensions should be (-7, 7, -4, 4).

<u>NOTE:</u> Make sure to include axis labels, a title, and a legend. Lastly, each function should be plotted using a different color.

Part 2:

Every quarter, UC Davis hosts a blood drive. The organizers of the drive are interested in learning more about the donors. The following data was gathered.

Quarter and Year	(1)	(2)	(3)
	Fall 15	Winter 16	Spring 16
Age Group Totals (17 - 30)	51	62	74
Age Group Totals (31+)	45	78	71
Gender Totals (Male)	29	89	52
Gender Totals (Female)	67	51	93

Use logical indexing to find the **quarter(s)** when the following conditions were true:

    A. Male totals were larger than Female totals

    B. 17-30 age group totals were larger than the 31+ age group totals

    C. Female totals were larger than Male totals **or** the 31+ age group totals were larger than the 17-30 age group totals

Your final script should have the following structure:

    % First Name: <Your first name>
    % Last Name: <Your last name>
    % Stu. ID: <Your student ID>
    %% Part 1

    % Your code for Part 1 here…

    %% Part 2

    % Your code for Part 2 here…

To get credit for this lab, publish your lab2.m file and submit the published file, lab2.pdf, not the m-file.

Instructions on how to submit:
- Step 1: Login to smartsite.ucdavis.edu, and go to the ENG6 SQ 2016 page.
- Step 2: Click on Assignments on the left panel.
- Step 3: Click on Lab 2.
- Step 4: Attach your lab2.pdf file.
- Step 5: Check the honor pledge (the square checkbox).
- Step 6: Click Submit.
- Step 7: Look for the confirmation message on the webpage for successful submission.
- Step 8: Check your e-mail box for the confirmation e-mail from SmartSite.
  DO NOT DELETE THIS E-MAIL UNTIL YOU'VE RECEIVED A GRADE FOR THE ASSIGNMENT
- Step 9: Check Smartsite->Assignment->Lab 2 to see if attachment was uploaded correctly. If not, submit again.