

Name: \_\_\_\_\_ Section: \_\_\_\_\_

Exam3 Part2. Spring 2015. A little Trajectory Engineering...

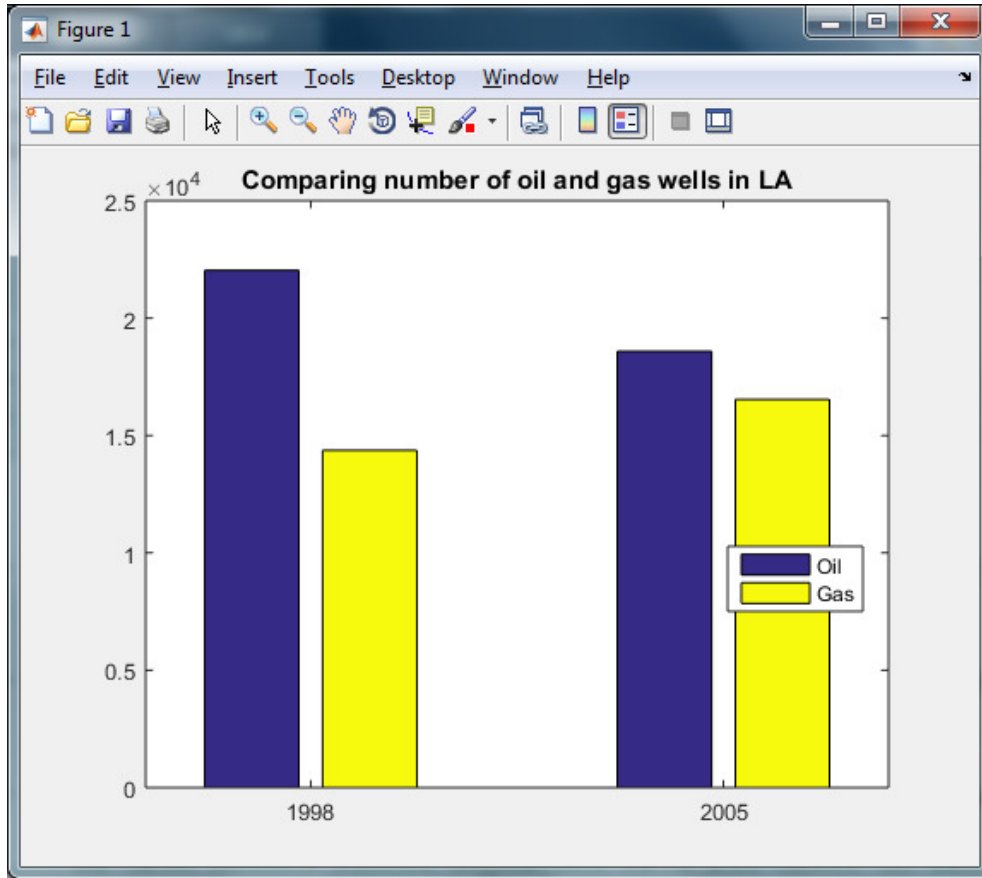
NO QUESTIONS ASKED during exam.  
Open Notes. Open MATLAB. NO google.

(\_\_\_\_\_/58pts) In day 1, you created a function that would load a given file and extract data for 2 separate years for one specific state. Today, you create the main code and a new function to visually compare these two years!

Submit the ZIP of your folder this time! It must contain the excel sheet, 1 main, and 2 functions.

There is NO IF OR LOOPS IN THIS PROGRAM AT ALL.

**Overall:** After prompting the user for a state and 2 years, visually show the two years in a bar graph, as well as indicate the values.



For the LA state, there were:  
in 1998  
22035 oil wells (14372 gas wells)  
in 2008  
19159 oil wells (18330 gas wells)

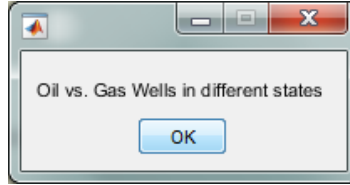
OK

**Requirements for the MAIN CODE (about 21 lines total)**

(3pts) The main code shall have all the appropriate clean up commands.

(3pts) Comments/Spacing/Variable names... the usual...

(3pts) There is always an introduction (Use a message of your choice). The user **must** click ok to proceed. (1pt)



(3pts) Call the function from day1. This will return 7 values. You have hopefully fixed, finished and completed it. As email/announcement stated, the function should ask for 2 years (1 after the other) and extract the oil and gas value for both. It now returns 2 years, 2 oil values, 2 gas values, and the string of the state (NOT a cell array).

(3pts) Call a new function (create function #2 – see requirements below) to create the bar graph.

(3pts) Create a final message to display in a message box. The formatting should be close to the one shown on page 1, with multiple lines of text. (3pts)

**Requirements for FUNCTION #2. Name it appropriately (1pt) (about 16 lines)**

(3pts) It has 7 parameters: the same as the return values from function #1.

(3pts) It returns nothing.

(3pts) full documentation

(3pts) comments, spacing...

To make the bar graph work properly, you will need to create the X and Y arrays.

- (3pts) X is a row vector that has the two years (in no particular order).
- (6pts) To create side-by-side bars, Y needs to be a matrix with 2 rows, 2 columns. The first row should contain the oil and gas totals associated with the year you placed in the first position of vector X. The second row should contain the oil then gas totals associated to the year you placed in the second position of the X vector.

(3pts) use `bar()` to create the side-by-side bar. The colors are automatic.

(3pts) create a title that shows the state picked by the user

(3pts) use a `legend()` to match your data. Make sure it covers the least amount of bars.

**QUESTION-** (FYI: can be answered just with part1!)

What is the trend in Florida between 1980 and 2000 (2 decades)? (2pts)

What is the trend in Florida between 2000 and 2009 (1 decade)? (2pts)

(1pt) Which state do you come from? \_\_\_\_ (If an international student, pick one!)

How does it compare to Louisiana (LA)?

**DONE DONE DONE DONE!!! See you Wednesday for a last lab (graded)**

**Submit final project by Tuesday night 11:59PM.**