Name: _____ Section: _____

Exam3 Part1. Spring 2015. A little Trajectory Engineering…

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

(_____/30pts) Complete the 30MC questions online. You may use your notes and MATLAB, but keep in mind you have 30minutes only and most questions can't be copy/pasted… DO NOT RUSH!

(_____/37pts) Over the two days, you are to create one program with one main and 2 functions. Today, you are responsible for only submitting the first function, and meet the requirements written below. The requirements for the main and for the second function will only be given to you Friday. Feel free to imagine in between the two days!

A few excel files are provided **on ERNIE**, under the link 4. EXAM, where you will **submit the function file ONLY, NO zip**. Download at least two, so you can test your function with two.

There is NO IF OR LOOPS IN THIS FUNCTION.

***Overall**:* These excel files have data for various trajectory possibilities, designed by different engineers, to travel from Earth to a star far far away. The function definition is responsible for uploading the data, asking the user to select a trajectory number, extracting the x/y coordinates for that path, as well as the power mode for the trajectory chosen.

***Specifics**:*

(3pts) The function has 1 parameter: an excel filename.
(3pts) The function has 4 return values: the vector of x values, the vector of y values, the number of the trajectory wanted (scalar), and the power type for the trajectory picked (a string NOT in a cell-array).
(2pts) Full documentation expected.

Please check your email/ernie tonight for any announcements. Feel free to ask for help from ANYONE this time ONCE THE EXAM IS OVER at 5pm!

***Requirements**:*

(3pts) The function uploads properly the data from the excel sheet.

(2pts) Filter the trajectory numbers available for that file. No duplicates should appear (2pts). Store that result in a new vector (2pts), as you will then need to convert that new vector to a cell array using the function `num2cell()` (3pts). This will provide the options for the `menu()` box (3pts) that lets the user pick the trajectory number they want. Use the index return value of `menu()` to also extract the actual trajectory number selected (3pts), as it is a return value. KEEP THIS SIMPLE (about 4lines)

(*If you get stuck here, comment all and just hardcode a trajectory number. THEN move on.)*

(3pts) Once the user has selected the trajectory number from the menu, slice again the data so you filter out the x and y coordinates of that particular trajectory as two separate vectors. (3pts) While it appears all trajectories are mixed in the file, the x/y coordinates are still in the correct order. Just slice and don't make changes to the order of the values.

(5pts) Determine the power type for the trajectory number chosen. Remember these can vary from file to file. Slice properly.