Mastery Assignment #4 Basics
Fall 2022
Matthew Woodring

This file contains the basics of the fourth mastery assignment. It is intended to provide a basic overview of the assignment and help with any tricky parts.

General Overview:

- Submit your code on Zybooks in the "33. Mastery Assignment #4" section
- All code is automatically graded by Zybooks
- You can submit your code as many times as needed before the deadline
- The assignment is due Sunday, October 9th, 2022 by 11:59pm
- No late work is accepted
- There are no known errors in the grading script as of October 3rd, 2022

Task 1:

- The 'mod' or 'rem' function can be used to determine if a number is even or odd
- Is a 'while' or 'for' loop better for when you don't know the precise amount of iterations that will occur?
- The 'warning' function will be useful here
- Recall how to delete an element of a vector
- The 'writematrix' function will be useful here

Task 2:

- Is a 'while' or 'for' loop better for when you don't know the precise amount of iterations that will occur?
- The 'error' function will be useful here
- The 'polyval' and 'polyder' functions will be useful here
- Read the MATLAB documentation on the 'polyval' and 'polyder' functions and make sure you fully understand what they do
- Think about what it means if the polynomial evaluation of the derived polynomial (using the coefficients from Task 1) at the user's guess is '0'

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Task 3:

- Is a ‘while’ or ‘for’ loop better for when you don’t know the precise amount of iterations that will occur?
- The ‘polyval’ and ‘polyder’ functions will be useful here
- Read the MATLAB documentation on the ‘polyval’ and ‘polyder’ functions and make sure you fully understand what they do
- Make sure to check for division by zero!
- The ‘error’ function will be useful here
- You will likely need a temporary variable somewhere in your function
- The ‘abs’ function can be used to find the absolute value
- Be sure to keep track of the number of iterations you have performed
- The function can be efficiently coded in 12-14 lines of code

Task 4:

- Make sure to repeat the program starting at Task 2
- Make sure to repeat the menu if the user exits out of the menu
- Recall that a menu returns the index of the user’s choice
- Recall that exiting out of a menu returns the number ‘0’
- Is a ‘while’ or ‘for’ loop better for when you don’t know the precise amount of iterations that will occur?
- The ‘save’ function will be useful here

Mastery Assignment #4 can be tricky. It is not the most complex MA, but the wording is somewhat hard to digest and the formula can easily be implemented wrong if you are not paying careful attention. This is not an MA you want to wait until the last minute to start. Please make sure you can complete all of MA4 by yourself without the aid of notes or other people. Also, before the second exam, make sure you can complete MA4 in the recommended proficiency time of 35 - 60 minutes.