ENGI 1331 Workshop Basic Functions Activity
MW 5:30 PM
Week 1 - Class 2 - 08/24/22

Look at the MATLAB file ‘basicFunctionScriptWeek1Class2’ and use it to answer the following questions.

1. Notice that line 1 contains the ‘%%’ special character, line 3 contains the ‘%{‘ special character, and line 17 contains the ‘%’ special character. What is the purpose of each of these special characters? For any of those lines, remove the special character. Does the program still work?

    - The ‘%%’ indicates a section break. It allows you to organize your code into sections that can be run indepent of the rest of the code in your file.
    - The ‘%{‘ indicates a block comment. It allows you to write a longer comment without having to comment each individual line using the ‘%’ character.
    - The ‘%’ indicates a comment. It allows you write non-executable code in your file in order to write notes and descriptions.

2. Run your program and when the first output statement ‘Enter your name: ‘ appears, click both the ‘Ctrl’ and ‘C’ button on your keyboard at the same time. What happens?

    - The program immediately terminates. This operation is most useful when you have run your program several times sequentially or if you have an infinite loop.

3. Notice that lines 30 and 33 end with a semicolon. What is the point of these semicolons? What happens if you remove them? What happens if you add a semicolon to the end of line 38?

    - The ‘;’ character suppresses outputs from the command window. This is used when you perform operations in MATLAB that you do not want to appear in the command window.
    - Nothing happens because ‘fprintf’ is not affected by the semicolon character. This is because ‘fprintf’ is printing something to the command window so it cannot, by definition, be suppressed from the command window.

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4. Notice that the ‘input’ function on line 30 contains a ‘s’ while the ‘input’ function on line 33 does not. Why does line 30 need the ‘s’? If you remove it, does the program still work?

- Line 30 needs the ‘s’ because the ‘input’ function, by default, expects an input of a number. If you want to use the ‘input’ function to take in a string input, you must use the ‘s’ identifier.

5. Lines 38, 41, and 44 contain the ‘\n’ special character. What does this character do? Does the output change if you remove it?

- The ‘\n’ is the newline character. It prints a new line to the command window. You can think about this as an e**n**ter key (Thanks Sofia!). It is good coding practice to use this character when appropriate.
- Yes, the output will change since a newline is no longer printed.

6. The ‘fprintf’ statements on lines 38, 41, and 44 all contain single quotes. Does anything change if you use double quotes?

- No, the ‘fprintf’ function accepts both single and double quotes. There is a difference in single and double quotes in MATLAB, but this difference is not relevant to the ‘fprintf’ function.

7. The ‘fprintf’ statements on lines 41 and 44 contain the identifiers ‘%s’ and ‘%d’, respectively. These identifiers are also called conversion specifiers. What do these identifiers do? Try switching the identifiers. Does the program still work? Try removing second argument of the ‘fprintf’ function (the variable after the comma). Does the program still work?

- These identifiers act as placeholders for a variable you want to display to the command window.
- No, the program errors because the identifiers’ data types do not match the variables’ data types.
- No, the program errors because you removed the variable for the placeholder. You told MATLAB to expect a variable here, and then did not provide one, which causes an error.