CS 1160 – Introduction To Computer Programming

Lab 5 – Calculator Program

Learning Objectives

- Learn how to write menu-driven programs
- Learn how to write functions

Overview

Your “main” function will ask the user to pick a mathematical operation to perform, and then prompt the user for two numbers. Use a loop with input validation to check that the user has entered a valid input. Use if and elif statements in your “main” to call the function for the corresponding character input. Your program will have 4 functions, “addNums”, “subtractNums”, “multNums”, “divNums”, “modNums”. These functions should print the result of the corresponding operation inside the function (your functions should not return a value).

The Program

This program will require accepting user input for which mathematical operation the user wants to perform and the numbers to perform the operation on. If the user enters an invalid mathematical operation selection, the program should ask the user to reenter a selection until it is valid. The program should loop until the user wants to quit. An example execution of the program is below:

```
Welcome to my calculator! Here are the following choices:
a - addition
s - subtraction
m - multiplication
d - division
o - modulo
q - quit program
Enter the mathematical operation [a, s, m, d, o, q]: k
Invalid input!
Enter the mathematical operation [a, s, m, d, o, q]: a
Enter the first number in the operation: 4.5
Enter the second number in the operation: 9
4.5 + 9.0 = 13.5
Enter the mathematical operation [a, s, m, d, o, q]: m
Enter the first number in the operation: 10
Enter the second number in the operation: 5
10.0 x 5.0 = 50.0
Enter the mathematical operation [a, s, m, d, o, q]: q
```

How to Submit

Save your .py Python program with your code and submit it to the drop box in Pilot.

Grading

This lab is worth 3.000 points, distributed as follows:

Task	Points
Successfully displayed list of operations	0.750
Successfully validated the operation selection	0.750
Successfully calculated each mathematical result	0.750
Successfully loop until user quit the program	0.750
Total	3.000