CS 10 Lab instructions (Video)

1. Upload your file only to the link that is provided for each lab.

2. Copy your lab programs with codes followed by their output to a text editor notepad++ or for the case of Mac you can use the textedit that comes with Macs. Starting, from question number 1 to the last question for the lab. You must number each lab question and each lab question that is coded must have the number of test runs specified(for example 5 test runs). A test run is defined as executing the program by clicking the compile and run. Failure to follow these instructions will result in a zero for that question.

3. Name your lab file with lastname_firstinitial_labnumber.txt and only upload this single file with all the programs for that specific lab. This .txt file will contain all the programs for your lab. You must name your file exactly as stated. You will get a zero if you do not do so. Example your name is Joe Smith, name your file ***lab01_smith_j.txt*** for example for lab number 1.

4. Lab must only be uploaded to link provided. Late lab, and lab file sent to my email or message through Canvas will not be accepted for any reason.

Windows users: use *notepad++* , download from the link below
https://notepad-plus-plus.org/downloads/

Mac Users : use *textedit* – comes with your Mac. Use finder to locate the program

Mac Users will have to read information of the link below to work and save file as .txt
https://beebom.com/how-save-files-txt-format-textedit-mac/

If you do not set the preferences to save your file as .txt then what you upload to Canvas it is not readable and you will get a zero. So, make sure you go to beebom.com and set that preference before saving your lab file with a .txt extension.
it

For each question you must have the top title with lab question number, student name and brief program description. If the top title is not provided then that question will be marked as wrong and you will not get any points for that question.

Each lab assignment will have its own specification on the number of test runs required (not necessary 5 as given in this instruction example). Please follow the instructions given in each lab assignment for the required number of test runs.

Example of a Lab for submission to Canvas:

Lab1

Question 1

```
#Student Name
#Description of program – This program finds the sum and average of 3 given integer numbers

# input data by user
num1 = 10
num2 = 20
num3 = 30

# Calculation of Sum and average
sum = num1 + num2 + num3
avg = sum / 3

# print the 3 numbers, sum and average
print('Number 1 is = ', num1)
print('Number 2 is = ', num2)
print('Number 3 is = ', num3)

print('The sum is', sum)
print('The average is', avg)

#ask user to quit program
input('\n\nPress the enter key to quit')


##Test run 1
##Number 1 is =  10
##Number 2 is =  20
##Number 3 is =  30
##The sum is 60
##The average is 20.0
##
##
##Press the enter key to quit
##
##
#Test run 2 for Q1
##Number 1 is =  10
##Number 2 is =  20
##Number 3 is =  30
##The sum is 60
##The average is 20.0
##
##
##Press the enter key to quit
```

```
##
##
##Test run 3 for Q1
##Number 1 is =  10
##Number 2 is =  20
##Number 3 is =  30
##The sum is 60
##The average is 20.0
##
##
##Press the enter key to quit
##
##
##Test run 4 for Q1
##Number 1 is =  10
##Number 2 is =  20
##Number 3 is =  30
##The sum is 60
##The average is 20.0
##
##
##Press the enter key to quit
##
##
##Test run 5 for Q1
##Number 1 is =  10
##Number 2 is =  20
##Number 3 is =  30
##The sum is 60
##The average is 20.0
##
##
##Press the enter key to quit
##
##

#Lab 1 Question 2
#Student Name
#Description of program – This program finds the sum and average of 3 numbers input by user

# input data by user
name = input("What\'s your name?")
num1 = int(input("Enter Number1 = "))  # you must specify the numeric datatype eg int
num2 = int(input("Enter Number2 = "))  # if you don’t then it will be a string
num3 = int(input("Enter Number3 = "))

# Calculation of Sum and average
sum = num1 + num2 + num3
avg = sum / 3
```

```
# print name, the 3 numbers, sum and average
print("\nWelcome to Python Programming ", name)
print('Number 1 is = ', num1)
print('Number 2 is = ', num2)
print('Number 3 is = ', numb3)

print('The sum is', sum)
print('The average is', avg)

#ask user to quit program
input('\n\nPress the enter key to quit')


##Test run 1 for Q2
##What's your name? William Shakespeare
##Enter Number1 = 10
##Enter Number2 = 20
##Enter Number3 = 30
##
##Welcome to Python Programming William Shakespeare
##Number 1 is =  10
##Number 2 is =  20
##Number 3 is =  30
##The sum is 60
##The average is 20.0
##
##
##Press the enter key to quit

##Test run 2 for Q2
##What's your name? Joe Smith
##Enter Number1 = 45
##Enter Number2 = 67
##Enter Number3 = 90
##
##Welcome to Python Programming Joe Smith
##Number 1 is =  45
##Number 2 is =  67
##Number 3 is =  90
##The sum is 202
##The average is 67.33333333333333
##
##
##Press the enter key to quit
##>>>
```

##Test run 3 for Q2
##What's your name? Apple Tree
##Enter Number1 = 50
##Enter Number2 = 34
##Enter Number3 = 90
##
##Welcome to Python Programming Apple Tree
##Number 1 is = 50
##Number 2 is = 34
##Number 3 is = 90
##The sum is 174
##The average is 58.0
##
##
##Press the enter key to quit
##>>>

##Test run 4 for Q2
##What's your name? Seagate Harddrive
##Enter Number1 = 1500
##Enter Number2 = 4500
##Enter Number3 = 65
##
##Welcome to Python Programming Seagate Harddrive
##Number 1 is = 1500
##Number 2 is = 4500
##Number 3 is = 65
##The sum is 6065
##The average is 2021.6666666666667
##
##
##Press the enter key to quit
##>>>

##Test run 5 for Q2
##What's your name? Free food
##Enter Number1 = 45
##Enter Number2 = 90
##Enter Number3 = 54
##
##Welcome to Python Programming Free food
##Number 1 is = 45
##Number 2 is = 90
##Number 3 is = 54
##The sum is 189
##The average is 63.0
##
##
##Press the enter key to quit

##>>>

Paste the next question here

#Lab 1 Question 3
#Student Name
#Description of program – example: Program Calculates the total of a series of numbers

Your program codes here
Codes
Codes
. . .
End of program codes

#Test runs for Q3
#Your output for test run 1
#Some output
#Some output
#. . .
End test run 1

And so on . . .

Lab

1. Please first go over the Lab instructions including the video. The instructions show you how to prepare the lab for submission. There is a sample of how a lab submission would look like.

2. You are to put all your programs plus its output(test runs) into one single .txt file.

3. You are to correctly number each of the questions and submit **one file** to the link provided under Lab 1 module.

4. Windows users can download notepad++ and Mac users can use textEdit. Mac users please pay attention on how to set up your textEdit to save as .txt file correctly.

Test run

What is a test run?

1. A test run is running a program once. If you are required to provide 5 test runs, then you have to run the program 5 separate times. Sample test runs are usually provided for homework and you must also use the sample test runs provided. So, if a question provided you will one sample test run, then you will also use the data from the sample test run and submit that test run as one of the 5 test runs. Meaning you will provide 4 other test runs yourself to make up the 5 test runs required.

2. The sample test run also shows you the specifications of how the output must look like. Your output must look exactly like the sample test run output given.

for example, the sample test run given:

```
Enter a number : 20

The number entered is 20
```

Your test run output must look exactly the same as above. You cannot change any of the specifications. The example below changes the sample test run specs and will be graded as incorrect and you will receive a zero for that whole program set.

```
Hello, please input a number : 20

Thanks, the number you entered is 20
```

How do I know if my program runs correctly?

The nice thing about programming is that you know the answer.

If you are to write a program to calculate the area of a rectangle, and the user inputs the length and the width. You can check your answer by using a calculator and multiply the length and the width and then check if the answer from your program matches the calculator. This is call hand tracing.

The sample test run provided for you is a solution to the program you are to code. If your program came up with exactly the same output as the sample test run, then your program should be running correctly. But you should test with other input data to make sure that it will also perform correctly with your own test data.