***BE 1600***

***Introduction to***

***Programming and Computation***

***Python Lab***

**Lab 06**

20 points

**Due by the end of the lab session**

Assignment Objectives:

* To introduce nested loops
* To write Boolean expressions using relational and logical operators.
* To implement selection control using selection statements.
* To understand the accumulator variable
* To generate random numbers

*Solution for this lab will not be posted on Canvas; however, the solution of any of the lab problems can be discussed in the class upon request of a student.*

All labs must be submitted by the Canvas. **No email or hard copy** is accepted. You must follow the following format:

* Submit your file to the Canvas. You must submit your file on time; otherwise, you will receive zero.
* You can upload your file as many times as you like. Only the last attempt counts because the last file you uploaded is the only file your instructor will see.
* There will be several modules on the Canvas. You need to upload your file using the correct module on the Canvas.
* Name the lab file: *Lab (labt number)*
* To upload your file(s):
* In Course Navigation, click the ASSIGNMENTS module.
* Click the title of the assignment.
* Click the **Submit** Assignment button.
* Add **File**. ...
* **Submit** Assignment. ...
* View **Submission**.

*It is your responsibility to make sure that the file is uploaded correctly. If you uploaded a wrong file, you receive zero; files will not be accepted after due date even if you have a prove that the file is created before the due date.*

***Make sure you review the Cheating & Plagiarism policy on Canvas.***

Write a menu driven program that prints the menu in the sample run. The program allows the user to run the program as long as the user wishes.

* If a user selected 1, the program prints a random number between 1 and 100.
* If a user selected 2, the program prints a random even number between 1 and 100.
* If a user selected 3, the program generates and prints 10 random numbers between 1 and 100.
* If a user selected 4, the program generates and prints 5 random odd numbers between 1 and 100 and their sum.
* If a user selected 5, the program exits.

Here is a sample run:

Enter 1 to generate a random number between 1 and 100

Enter 2 to generate a random even number between 1 and 100

Enter 3 to generate 10 random numbers between 1 and 100

Enter 4 to generate 5 random odd numbers between 1 and 100 and print them with their sum

Enter 5 to exit

1

Random number between 1 and 100: 58

Enter 1 to generate a random number between 1 and 100

Enter 2 to generate a random even number between 1 and 100

Enter 3 to generate 10 random numbers between 1 and 100

Enter 4 to generate 5 random odd numbers between 1 and 100 and print them with their sum

Enter 5 to exit

2

Random even number between 1 and 100: 28

Enter 1 to generate a random number between 1 and 100

Enter 2 to generate a random even number between 1 and 100

Enter 3 to generate 10 random numbers between 1 and 100

Enter 4 to generate 5 random odd numbers between 1 and 100 and print them with their sum

Enter 5 to exit

3

10 random numbers: 56 9 44 15 63 32 70 62 14 16

Enter 1 to generate a random number between 1 and 100

Enter 2 to generate a random even number between 1 and 100

Enter 3 to generate 10 random numbers between 1 and 100

Enter 4 to generate 5 random odd numbers between 1 and 100 and print them with their sum

Enter 5 to exit

4

Random odd numbers and their sum: 23 37 25 99 17, sum = 201

Enter 1 to generate a random number between 1 and 100

Enter 2 to generate a random even number between 1 and 100

Enter 3 to generate 10 random numbers between 1 and 100

Enter 4 to generate 5 random odd numbers between 1 and 100 and print them with their sum

Enter 5 to exit

5