Data Science Bootcamp

Assignment: 01

Deadline: Friday 24 Nov, 2023 6PM

Instructor: Faisal Amin

1. Write a program to iterate the first 10 numbers, and in each iteration, print the sum of the current and previous number.

2. Print the following pattern

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

3. List is given below:

numbers = [12, 75, 150, 180, 145, 525, 50]

Write a program to display only those numbers from a list that satisfy the following conditions

i. The number must be divisible by five
ii. If the number is greater than 150, then skip it and move to the next number
iii. If the number is greater than 500, then stop the loop

4. Display Fibonacci series up to 10 terms

The Fibonacci Sequence is a series of numbers. The next number is found by adding up the two numbers before it. The first two numbers are 0 and 1.

For example, 0, 1, 1, 2, 3, 5, 8, 13, 21. The next number in this series above is 13+21 = 34.

5. Write a program to use the loop to find the factorial of a given number.

The factorial (symbol: !) means to multiply all whole numbers from the chosen number down to 1.

For example: calculate the factorial of 5
5! = 5 × 4 × 3 × 2 × 1 = 120

6. Write a program to iterate a given list and count the occurrence of each element and print to show the count of each element.

sample_list = [11, 45, 8, 11, 23, 45, 23, 45, 89]

Expected Output:
Printing count of each item 11: 2, 45: 3, 8: 1, 23: 2, 89: 1

7. Given two lists, l1 and l2, write a program to create a third list l3 by picking an odd-index element from the list l1 and even index elements from the list l2.

Given:

l1 = [3, 6, 9, 12, 15, 18, 21]
l2 = [4, 8, 12, 16, 20, 24, 28]

Instructions for submitting the Assignment:

- Make sure that you have a Github Account
- Make an individual repo for the assignments and upload your assignment in that repository
- Submit your Github Repo link to submit your Assignment