Data Science Lab (CS 356)

Assignment 2

Date: 17.01.2022 **Due date to submit : 24.01.2022**

Instructions to submit the lab assignment

- ***a. Add proper comment lines for each important step of the code.***
- ***b. All the codes should be in same file.***
- ***c. Name each file as rollnumber_assignmentnumber.pdf.***
- ***d. Upload the program file in google classroom.***

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1. Write a python program to create a list with n number of items (where n should be atleast 6) with different types (integer, float, string) and perform the following functions:
   a. Count the length of the list
   b. Access the last element in the list using negative indexing.
   c. Add one item to a list using the append()method.
   d. Add several items using the extend()method.
   e. Add a list as an item to the existing list (nested list).
   f. Use the index operator to access the items at various location within the list. [Access 3 different index from the list] *[provide comments to mention the location]*
   g. Add an element to the list at the specified index using insert() method. *[provide comments to specify the index]*
   h. Replace an existing element from the list at a specified location. *[provide comments to specify the index]*
   i. Add duplicate elements to the list.
   j. Remove the item at the given index from the list using pop() method.
   k. Sort the elements of the given list in a specific ascending or descending order.
   l. Reverse the elements of the list using reverse() method.

2. Write a Python program to create a tuple with n different data types and implement the two methods: count() and index().
3. Write a Python program to create two sets (S1 and S2) with n number of different elements [*add elements to the sets S1 and S2, such that there are atleast 2 common elements between them*] and perform the following functions:
   a. Perform union and intersection
   b. Add elements using add () and update () methods
   c. Perform S1 – S2
   d. Find the Symmetric Difference of S1 and S2