

**School of Computer Engineering and Technology**

**ASSIGNMENT NO: 4**

**Problem Statement:**

Different Operations on List Data Structure.

**Aim:**

Write a python program to create, append and remove etc. operation on list.

**Objectives:**

To learn and implement List data structure.

**Theory:**

1. Write about Different data structures in python.
2. Write down about different operations performed on List

# Platform: Windows/Ubuntu-Python Editor(jupyter notebook)

**Algorithm/Pseudo code:** Students should write algorithm/Pseudo code for the given problem statement.

**Input:** Different list and operations

**Output:** DisplayDifferent operations performed on list.

***Exercises on list***

**Perform following exercises and upload a single file of jupyter notebook containing all exercise’s code and respective outputs.**

1) Define a list called list\_1 with four integer members, and find the output of the following

1) Access the first three elements from list\_1 using forward indices: list\_1[0:3]

2) Access the last element from list\_1 using the len function: list\_1[len(list\_1) - 1] 3) Access the last two elements from list\_1 by slicing: list\_1[-2:]

4) Access the first two elements using backward indices list\_1[:-2]

5) Reverse the elements in the string: list\_1[::-1]

**2) Accept** 20 values from user and save it in list. Perform following operations on it a) count similar elements of list and print their index value

b) count even and odd values of list

c) count positive and negative values of list.

**3) Accept 10** values from user and save it in list. Perform following operations on it a) Sort list in ascending order using sorted() function and display sorted list

b) sort list in descending order using sort() function

c) display length of list

**4) Accept two lists** from user and merge them using + in a single list

**5) An acronym is** a word formed by taking the first letters of the words in a phrase and making a word from them. For example, RAM is an acronym for “random access memory.” Write a program that allows the user to type in a phrase and then outputs the acronym for that phrase. Note: the acronym should be all uppercase, even if the words in the phrase are not capitalized.

**6) Write** a program to print the abbreviation of a month, given its number

**Conclusion:**

Studied python List Data Structure.

**FAQs:**

1. Is a list mutable? Explain with Example.
2. What is the difference between append and extend?
3. Do python lists store values or pointers?
4. What is the difference between “remove” and “pop”?