**Practical No: 10**

**Aim:** Write /execute simple ‘Python’ program: Merge Two Lists and Sort it

**Course Outcome:** Develop ‘Python’ programs using List, Tuples andDictionary.

**Requirements: Computer, Python 3.3.34, Vs Code.**

**Theory:**

A [list](https://www.etutorialspoint.com/index.php/python/python-lists) is a sequence of indexed and ordered values. It is mutable, which means we can change the order of elements in a list. It contains a list of any type of data objects with a comma separated and enclosed within a square bracket. Each element of the list has an index, starting with 0, 1 and so on. For accessing an item, a square bracket is used with the list name.

When we are working with multiple lists, we may come to the situation where we need to merge two lists and sort them. In this post, we will use integer numbers in both lists so that we can easily sort them.

**Program to merge two lists and sort it**

First, we have created two empty lists and stored them in two variables. Next, we have taken the total number for the first list from the user input using predefined function **input()**. We looped over the range and took a list item from the user and append it to the first created list. Similarly, we have taken the total number or the second list and looped over them and taken list item input from the user and appended to the second list. Next, we have merged both lists using the '+' operator and then sort the list. At last, we print the final list to the user

**Flowchart:**

**Program:**

List1 = []

List2 = []

NE1 = int(input("Enter number of element in the first list: "))

for i in range(0,NE1):

    Ls1 = int(input("Enter Elements: "))

    List1.append(Ls1)

    print(List1)

NE2 = int(input("Enter number of element in the second list:"))

for i in range(0,NE2):

    Ls2 = int(input("Enter Elements "))

    List2.append(Ls2)

    print(List2)

MergedList = List1 + List2

print()

print("Merged List",MergedList)

MergedList.sort()

print()

print("Sorted Merged List: ",MergedList)

**Output/Result:**

Enter number of element in the first list: 4

Enter Elements: 45

[45]

Enter Elements: 87

[45, 87]

Enter Elements: 94

[45, 87, 94]

Enter Elements: 61

[45, 87, 94, 61]

Enter number of element in the second list:3

Enter Elements 54

[54]

Enter Elements 98

[54, 98]

Enter Elements 57

[54, 98, 57]

Merged List [45, 87, 94, 61, 54, 98, 57]

Sorted Merged List: [45, 54, 57, 61, 87, 94, 98]

**Conclusion: Hence we have merged and sorted two lists.**