Assignment No 5: (Lists)

Aim: a. Write a Python program to find a list of Strings with exactly two occurrences of “MIT” and at least one occurrence of “ADT”. Input: [“MIT”, “SOE”, “MIT” , “ADTU”, “ADT”, “Loni”, “Design”, “Food”, “Technology”]

b. Extend the program for the following integer inputs. Input: [100, 35, 23, 100, 45, 89, 90] //Exactly 2 occurrences of 100 and at least 2 occurrences of 90 Input: [90, 110, 130, 150, 170, 200, 200] //At Least 2 occurrences of 200 and exactly one occurrence of 130

c. Write a Python program that accepts a list of integers and checks the length and the third element. Return true if the length of the list is more than 10 and the third element occurs twice in the said list.

d. Sort the list in ascending order.

Objective: To understand the use of for List.

Theory: Lists are used to store multiple items in a single variable.

Lists are one of 4 built-in data types in Python used to store collections of data, the other 3 are Tuple, Set, and Dictionary, all with different qualities and usage.

Code(a):

```
var = ["MIT", "SOE", "MIT" , "ADTU", "ADT", "Loni", "Design", "Food",
"Technology"]
MITcount = var.count("MIT")
ADTcount = var.count("ADT")
if MITcount == 2 and ADTcount>=1:
    print(f"The occurrence of MIT is {MITcount} and that of ADT is
{ADTcount}. ")
else:
    print("Condition not satisfied.")
```

Output:

```
C:\Users\soura\AppData\Local\Microsoft\WindowsApps\python3.10.exe "C:/
The occurrence of MIT is 2 and that of ADT is 1.

Process finished with exit code 0
```

Code(b):

```
var1 = [100, 35, 23, 100, 45, 89, 90]
Huncount = var1.count(100)
nincount = var1.count(90)
if Huncount == 2 and nincount >=2:
    print(f"The occurrence of 100 in list is {Huncount} times and the
occurrence of 90 in the same list is {nincount}.")
else:
    print(f"The occurrence of 100 in list is {Huncount} times and the
occurrence of 90 in the same list is {nincount}. Hence condition is not
satisfied")

var2 = [90, 110, 130, 150, 170, 200, 200]
twocount = var2.count(200)
onecount = var2.count(130)
if twocount == 2 and onecount == 1:
    print(f"The occurrence of 200 in list is {twocount} times and the
occurrence of 130 in the same list is {onecount}.")
else:
    print("Condition not satisfied.")
```

Output:

```
Assignment5
C:\Users\soura\AppData\Local\Microsoft\WindowsApps\python3.10.exe "C:/SOURAV/CODE/Python codes/Python Assignment/Assignment5.py"
The occurrence of 100 in list is 2 times and the occurrence of 90 in the same list is 1. Hence condition is not satisfied
The occurrence of 200 in list is 2 times and the occurrence of 130 in the same list is 1.

Process finished with exit code 0
```

Code(c):

```
A = list(input("Enter the elements of the array: ").split())
print(A[2])
B = len(A[2])
C = len(A)
print("The length of the 3rd element of the list is: ",B)
if C>10 and A.count(A[2])>1:
    print("True")
else:
    print("False")
```

Output:

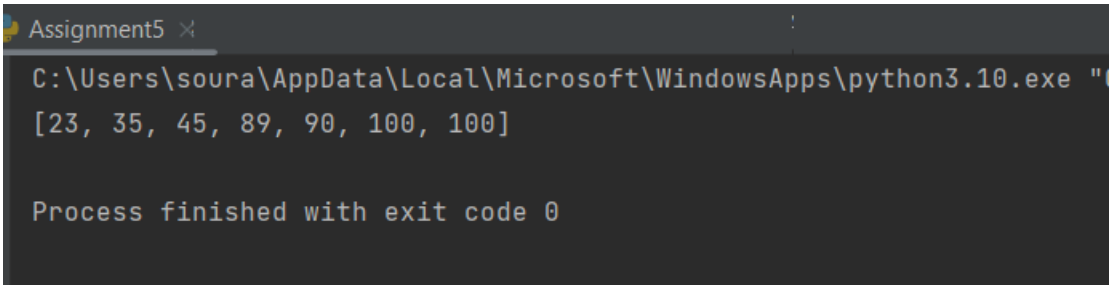
```
Assignment5
C:\Users\soura\AppData\Local\Microsoft\WindowsApps\python3.10.exe "C:/SOURAV/CODE/Python cod
Enter the elements of the array: 2134123 124235436 3145264745866974644243 123124 124214
31452647458669746442 43
The length of the 3rd element of the list is:  22
False

Process finished with exit code 0
```

Code(d):

```
var1 = [100, 35, 23, 100, 45, 89, 90]
var1.sort()
print(var1)
```

Output:



Conclusion: Hence, we have learned the implementation of for list.