Python Programming - 2301CS404

Lab - 5

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4B-448 8th batch

List

1. WAP to find sum of all the elements in a List.

```
In [25]:
l1 = [i for i in range(5)]
sum = 0
for i in l1:
    sum+=i
print("sum of 1 to 5:",sum)
```

sum of 1 to 5: 10

02) WAP to find largest element in a List.

```
In [15]:
l1 = [11,56,89,97,17,30]
max = l1[0]
for i in l1:
    if(i > max):
        max = i

print(max)
```

97

03) WAP to find the length of a List.

```
In [27]:
l1=[1,2,3,4,4,5,5,5,5]
print(len(l1))
```

9

04) WAP to interchange first and last elements in a list.

```
In [51]:
l1 = [1, 2, 3, 4, 5]
l1[0], l1[-1] = l1[-1], l1[0]
print("Modified list:",l1)
```

Modified list: [5, 2, 3, 4, 1]

05) WAP to split the List into two parts and append the first part to the end.

```
In [69]:
l1 = [1, 2, 3, 4, 5]
n = len(lst) // 2
l2 = l1[n:] + l1[:n]
print("Modified list:",l2)
```

Modified list: [4, 5, 1, 2, 3]

06) WAP to interchange the elements on two positions entered by a user.

```
In [71]: l1 = [1, 2, 3, 4, 5]
         pos1, pos2 = 1, 3
         l1[pos1], lst[pos2] = l1[pos2], l1[pos1]
         print("Modified list:",l1)
```

```
Modified list: [1, 4, 3, 4, 5]
```

07) WAP to reverse the list entered by user.

```
In [61]: lst = [1, 2, 3, 4, 5]
         print("Reversed list:",lst[::-1])
```

```
Reversed list: [5, 4, 3, 2, 1]
```

08) WAP to print even numbers in a list.

```
In [73]: l1 = [1, 2, 3, 4, 5,66]
         even = [x for x in lst if x % 2 == 0]
         print("Even numbers:", even)
```

```
Even numbers: [2, 2, 2, 4]
```

09) WAP to count unique items in a list.

```
In [75]: l1 = [1, 2, 2, 3, 4, 5, 5]
         unique_count = len(set(l1))
         print("Count of unique items:",unique_count)
```

```
Count of unique items: 5
```

10) WAP to copy a list.

```
In [79]: l1 = [1, 2, 3, 4, 5]
         copied_list = l1.copy()
         print("Copied list:",copied_list)
```

```
Copied list: [1, 2, 3, 4, 5]
```

11) WAP to print all odd numbers in a given range.

```
In [87]: start, end = 1, 10
         odds = [x for x in range(start, end + 1) if x % 2 != 0]
         print("Odd numbers:",odds)
```

```
Odd numbers: [1, 3, 5, 7, 9]
```

12) WAP to count occurrences of an element in a list.

```
In [120… l1 = [1, 1, 2, 6, 6, 2, 2, 7]
         element = 2
         count = l1.count(element)
         print(f"Occurrences of {element}:",count)
```

```
Occurrences of 2: 3
```

13) WAP to find second largest number in a list.

```
In [83]: lst = [1, 2, 3, 4, 5]
         second_largest = sorted(set(lst))[-2]
         print("Second largest number:",second_largest)
```

```
Second largest number: 4
```

14) WAP to extract elements with frequency greater than K.

```
In [123… lst = [1, 2, 2, 3, 3, 3, 4, 5, 5, 5,4 ,4 ,4]
         K = 2
         result = [x for x in set(lst) if lst.count(x) > K]
         print("Elements with frequency greater than",K,":",result)
```

```
Elements with frequency greater than 2 : [3, 4, 5]
```

15) WAP to create a list of squared numbers from 0 to 9 with and without using List Comprehension.

```
In [127... squares = [x**2 for x in range(10)]
          print("Squares (list comprehension):", squares)

          squares = []
          for x in range(10):
              squares.append(x**2)
          print("Squares (without list comprehension):",squares)
```

```
Squares (list comprehension): [0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
Squares (without list comprehension): [0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
```

16) WAP to create a new list (fruit whose name starts with 'b') from the list of fruits given by user.

```
In [131... fruits = ['banana', 'apple', 'blueberry', 'cherry']
          starts_with_b = [fruit for fruit in fruits if fruit.startswith('b')]
          print("Fruits starting with 'b':",starts_with_b)
```

```
Fruits starting with 'b': ['banana', 'blueberry']
```

17) WAP to create a list of common elements from given two lists.

```
In [133... list1 = [1, 2, 3, 4, 5]
          list2 = [4, 5, 6, 7, 8]
          common_elements = list(set(list1) & set(list2))
          print("Common elements:",common_elements)
```

```
Common elements: [4, 5]
```

In [ ]: