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Python Programming - 2301CS404

Lab - 5

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List

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

In [5]:
```
l = [12,34,21,13,45]
sum = 0
for i in l:
    sum += i
print("Sum : ",sum)
```

```
Sum :  125
```

02) WAP to find largest element in a List.

In [6]:
```
l = [12,34,21,13,45]
max = l[0]
for i in l:
    if (max < i):
        max = i
print("Max : ",max)
```

```
Max :  45
```

03) WAP to find the length of a List.

In [8]:
```
l = [12,34,21,13,45]
length = 0
for i in l:
    length += 1
print("Length Of List : ",length)
```

```
Length Of List :  0
```

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

In [22]:
```
l = [12,34,56,78,90]
if (len(l) == 0 or len(l) == 1):
    print("List is Empty or contains only one elemant.")
else:
    temp = l[0]
    l[0] = l[-1]
    l[-1] = temp
print(l)
```

```
[90, 34, 56, 78, 12]
```

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

In [20]:
```
l = [12,1,2,3,5,6,7,9]
l1 = l[0:int(len(l)/2)]
l2 = l[int(len(l)/2):len(l)]
l2.extend(l1)
print(l2)
```

```
[5, 6, 7, 9, 12, 1, 2, 3]
```

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

In [23]:
```
l = [12,1,2,3,5,6,7,9]
print("Length of the List : ",len(l))
p1 = int(input("Enter the Position : "))
p2 = int(input("Enter the Position : "))
if (len(l)==0 or p1>len(l) or p2>len(l)):
    print("Length of the list is small then position.")
temp = l[p1]
l[p1] = l[p2]
l[p2] = temp
print(l)
```

```
[12, 1, 3, 2, 5, 6, 7, 9]
```

07) WAP to reverse the list entered by user.

In [25]:
```
n = int(input("Enter the Total Numbers you want to add: "))
l1 = list()
for i in range(0,n):
    l1.append(int(input("Enter the Number : ")))
print(l1)
```

```
[1, 2, 3, 4, 5]
```

08) WAP to print even numbers in a list.

In [26]:
```
n = int(input("Enter the size : "))
l1 = list()
```

```
for i in range(0,n):
    l1.append(int(input("Enter the Number : ")))
even = []
for i in l1:
    if (i % 2 == 0):
        even.append(i)
print(even)
```

```
[2, 4]
```

09) WAP to count unique items in a list.

In [38]:
```
l = [1,2,3,4,5,2,3,4]
print(l)
l2 = set(l)
print(l2)
```

```
[1, 2, 3, 4, 5, 2, 3, 4]
{1, 2, 3, 4, 5}
```

10) WAP to copy a list.

In [39]:
```
l = [1,2,3,4,5]
l2 = l.copy()
print(l2)
```

```
[1, 2, 3, 4, 5]
```

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

In [42]:
```
start = int(input("Enter the Starting Point : "))
end = int(input("Enter the Ending Point : "))
for i in range(start,end+1):
    if (i % 2 != 0):
        print(i)
```

```
1
3
5
7
9
```

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

In [46]:
```
l1 = [12,34,5,6,5,6,12,78,90,90]
l2 = list(set(l1))
for i in l2:
    print(i,":",l1.count(i))
```

```
34 : 1
5 : 2
6 : 2
12 : 2
78 : 1
90 : 2
```

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

In [49]:
```
l = [1,2,3,4,5]
max1 = l[0]
for i in l:
    if (max1 < i):
        max1 = i
l.remove(max1)
max2 = l[0]
for i in l:
    if (max2 < i):
        max2 = i
print("Second Largest : ",max2)
```

```
Second Largest :  4
```

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

In [57]:
```
l1 = [12,34,5,6,5,6,12,90,90,90]
k = int(input("Enter the frequency : "))
l2 = list()
for i in l1:
    if (l1.count(i) > k):
        l2.append(i)
l2 = list(set(l2))
print(l2)
```

```
[90, 12, 5, 6]
```

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

In [61]:
```
l1 = []
for i in range(0,10):
    l1.append(i ** 2)
print (l1)

l2 = [i ** 2 for i in range(0,10)]
print(l2)
```

```
[0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
[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 [67]:
```
n = int(input("Enter the size : "))
l = list()
fruits = list()
for i in range(0,n):
    fruits.append(input("Enter the Fruit Name : "))

for fruit in fruits:
    if(fruit[0] == 'b'):
        l.append(fruit)
print(l)
```

```
['banana', 'blue bary']
```

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

In [3]:
```
l1 = [1,2,3,4,5]
l2 = [1,3,5,7,9]
newList = []
for i in l1:
    if(i in l2):
        newList.append(i)
print(newList)
```

```
[1, 3, 5]
```