python-programming-lab-5

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Python Programming - 2301CS404

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Lab - 5

1 List

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

[1]:
```
l1 = [1,2,3,4,5]
sum = 0
for i in l1:
    sum+=i
print(sum)
```

```
15
```

1.0.2 02) WAP to find largest element in a List.

[2]:
```
l1 = [1,20,15,87,3,4,5]
max = l1[0]
for i in l1:
    if(i > max):
        max = i
print(max)
```

```
87
```

1.0.3 03) WAP to find the length of a List.

[3]:
```
l1 = [1,20,15,87,3,4,5]
print(len(l1))
```

```
7
```

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

[4]:
```
l1 = [1,20,15,87,3,4,5]
first = l1[0]
last = l1.pop()
l1.append(first)
l1[0] = last
print(l1)
```

```
[5, 20, 15, 87, 3, 4, 1]
```

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

[6]:
```
l1 = [1,2,3,4,5,6,7,8,9,10]
n = int(len(l1)/2)

firstpart = l1[:n]
secondpart = l1[n:]

print(firstpart)
print(secondpart)

secondpart.extend(firstpart)
print(secondpart)
```

```
[1, 2, 3, 4, 5]
[6, 7, 8, 9, 10]
[6, 7, 8, 9, 10, 1, 2, 3, 4, 5]
```

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

[7]:
```
l1 = [1,20,15,87,3,4,5]

n1 = int(input("Enter 1st position "))
n2 = int(input("Enter 2st position "))

temp = l1[n1]
l1[n1] = l1[n2]
l1[n2] = temp

print(l1)
```

```
Enter 1st position  1
Enter 2st position  2
```

```
[1, 15, 20, 87, 3, 4, 5]
```

1.0.7 07) WAP to reverse the list entered by user.

[8]:
```
n1 = int(input("Enter size of list "))
l1 = []
for i in range(0,n1):
    l1.append(int(input("Enter number ")))
l1.reverse()
print(l1)
```

```
Enter size of list  3
Enter number  1
Enter number  2
Enter number  3
```

```
[3, 2, 1]
```

1.0.8 08) WAP to print even numbers in a list.

[9]:
```
n1 = int(input("Enter size of list "))
l1 = []
l2 = []
for i in range(0,n1):
    l1.append(int(input("Enter number ")))
for i in l1:
    if(i%2 == 0):
        l2.append(i)
print(l2)
```

```
Enter size of list  5
Enter number  1
Enter number  2
Enter number  3
Enter number  4
Enter number  5
```

```
[2, 4]
```

1.0.9 09) WAP to count unique items in a list.

[10]:
```
n1 = int(input("Enter size of list "))
l1 = []
l2 = []
count = 0
for i in range(0,n1):
    l1.append(int(input("Enter number ")))
for i in l1:
    if i not in l2:
        l2.append(i)
        count+=1
```

```
print(count)
print(l2)
```

```
Enter size of list  5
Enter number  1
Enter number  2
Enter number  3
Enter number  4
Enter number  5

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

1.0.10 10) WAP to copy a list.

[11]:
```
n1 = int(input("Enter size of list "))
l1 = []
l2 = []
for i in range(0,n1):
    l1.append(int(input("Enter number ")))
for i in l1:
    l2.append(i)
print(l2)
```

```
Enter size of list  5
Enter number  4
Enter number  4
Enter number  4
Enter number  4
Enter number  4

[4, 4, 4, 4, 4]
```

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

[12]:
```
n1 = int(input("Enter size of list "))
l1 = []
l2 = []
for i in range(0,n1):
    l1.append(int(input("Enter number ")))
ran = int(input("Enter range "))
for i in range(0,ran):
    if(l1[i]%2 != 0):
        l2.append(l1[i])
print(l2)
```

```
Enter size of list  5
Enter number  1
Enter number  2
```

```
Enter number  3
Enter number  4
Enter number  5
Enter range  4
```

```
[1, 3]
```

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

[13]:
```
n1 = int(input("Enter size of list "))
l1 = []
for i in range(0,n1):
    l1.append(int(input("Enter number ")))
ele = int(input("Enter element to count "))
count = l1.count(ele)
print(count)
```

```
Enter size of list  5
Enter number  1
Enter number  1
Enter number  1
Enter number  2
Enter number  3
Enter element to count  2
```

```
1
```

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

[14]:
```
n1 = int(input("Enter size of list "))
l1 = []
for i in range(0,n1):
    l1.append(int(input("Enter number ")))
l1.sort()
n = int(len(l1))
print(l1[n-2])
```

```
Enter size of list  5
Enter number  1
Enter number  2
Enter number  3
Enter number  4
Enter number  5
```

```
4
```

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

[16]:
```
l1 = [1, 2, 2, 3, 3, 3, 4, 4, 4, 4, 5]
k = 2

freq = {}

for num in l1:
    if num in freq:
        freq[num] += 1
    else:
        freq[num] = 1

result = []

for num, count in freq.items():
    if count > k:
        result.append(num)

print("Elements with frequency greater than", k, ":", result)
```

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

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

[15]:
```
l1 = [0,1,2,3,4,5,6,7,8,9]
l2 = []
for i in l1:
    l2.append(i**2)
print(l2)

l3 = [i**2 for i in l1]
print(l3)
```

```
[0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
[0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
```

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

[19]:
```
fruits = input("Enter a list of fruits : ").split()

b_fruits = [fruit for fruit in fruits if fruit.lower().startswith('b')]

print("Fruits starting with 'b':", b_fruits)
```

```
Enter a list of fruits :  bb
```

```
Fruits starting with 'b': ['bb']
```

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

[18]:
```
n1 = int(input("Enter size of list 1 "))
l1 = []
for i in range(0,n1):
    l1.append(int(input("Enter number ")))
n2 = int(input("Enter size of list 2 "))
l2 = []
for i in range(0,n2):
    l2.append(int(input("Enter number ")))

common_elements = [element for element in l1 if element in l2]

print("Common elements:", common_elements)
```

```
Enter size of list 1  5
Enter number  1
Enter number  2
Enter number  3
Enter number  4
Enter number  5
Enter size of list 2  5
Enter number  2
Enter number  3
Enter number  4
Enter number  5
Enter number  6
Common elements: [2, 3, 4, 5]
```

[ ]: