Darshan UNIVERSITY

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Python Programming - 2301CS404

Lab - 6

Roll No. : 352

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

In [6]:
```
length = int(input('Enter length of list:'))
list1 = []

for i in range(length):
    list1.append(int(input('Enter value:')))

print(sum(list1))
```

```
Enter length of list: 4
Enter value: 1
Enter value: 2
Enter value: 3
Enter value: 4
10
```

Using Map function

In [9]:
```
ans = 0
l1 = list(map(int, input('Enter a list:').split()))
for i in l1:
    ans += i

print(ans)
```

```
Enter a list: 1 2 3 4
10
```

02) WAP to find largest element in a List.

In [13]:
```
l1 = list(map(int, input('Enter a list:').split()))
print(f'Largest Element: {max(l1)}')
```

```
Enter a list: 1 2 3
Largest Element: 3
```

03) WAP to find the length of a List.

In [14]:
```
l1 = list(map(int, input('Enter a list:').split()))
print(f'Length of a List:{len(l1)}')
```

```
Enter a list: 4 2 1
Length of a List:3
```

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

In [15]:
```
l1 = list(map(int, input('Enter a list:').split()))
temp = l1[0]
l1[0] = l1[-1]
l1[-1] = temp

print(f'List: {l1}')
```

```
Enter a list: 1 2 3
List: [3, 2, 1]
```

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

In [17]:
```
l1 = list(map(int, input('Enter a list:').split()))

index = int(input('Enter Index: '))
l2 = l1[:index]
l3 = l1[index:]
l3.extend(l2)
print(l3)
```

```
Enter a list: 1 2 3 4
Enter Index:  2
[3, 4, 1, 2]
```

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

In [18]:
```
l1 = list(map(int, input('Enter a list:').split()))

e1 = int(input('Enter 1st element index to interchange: '))
e2 = int(input('Enter 2nd element index to interchange: '))

temp = l1[e1]
l1[e1] = l1[e2]
l1[e2] = temp

print(f'List after Interchange: {l1}')
```

```
Enter a list: 1 2 3 4 5
Enter 1st element index to interchange:  2
Enter 2nd element index to interchange:  0
List after Interchange: [3, 2, 1, 4, 5]
```

07) WAP to reverse the list entered by user.

In [26]:
```
l1 = list(map(int, input('Enter a list:').split()))

l1.reverse()
# l2 = l1[::-1]

print(f'Reverse List: {l1}')
```

```
Enter a list: 1 2 3
[3, 2, 1]
```

08) WAP to print even numbers in a list.

In [30]:
```
l1 = list(map(int, input('Enter a list:').split()))

result = [i for i in l1 if i % 2 == 0]
print(f'List of Even numbers: {result}')
```

```
Enter a list: 1 2 3
List of Even numbers: [2]
```

09) WAP to count unique items in a list.

In [34]:
```
l1 = list(map(int, input('Enter a list:').split()))

count = 0
for i in l1:
    if l1.count(i) == 1:
        count += 1

print(f'Count Unique items: {count}')
```

```
Enter a list: 1 2 1
Count Unique items: 1
```

10) WAP to copy a list.

In [31]:
```
l1 = list(map(int, input('Enter a list:').split()))

l2 = l1
print(f'Copy List: {l2}')
```

```
Enter a list: 1 2 3
Copy List: [1, 2, 3]
```

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

In [37]:
```
r1 = int(input('Enter starting range: '))
r2 = int(input('Enter ending range: '))

result = [i for i in range(r1,r2) if i % 2 == 1]
print(f'List of Odd numbers: {result}')
```

```
Enter starting range:  1
Enter ending range:  5
```

```
List of Odd numbers: [1, 3]
```

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

In [7]:
```
l1 = list(map(int, input('Enter a list:').split()))
seen = []
for i in l1:
    if not i in seen:
        count = l1.count(i)
        print(f"{i}({count})")
        seen.append(i)
```

```
1(3)
2(1)
3(1)
4(1)
List: [1, 2, 2, 1]
```

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

In [48]:
```
l1 = list(map(int, input('Enter a list:').split()))

l1.sort()

print(f'Second Largest Number: {l1[-2]}')
```

```
Enter a list: 1 2 3 4
Second Largest Number: 3
```

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

In [56]:
```
l1 = list(map(int, input('Enter a list:').split()))
k = int(input('Enter k:'))

l2 = []
seen = []
for i in l1:
    if not i in seen:
        if l1.count(i) > k:
            l2.append(i)
    seen.append(i)

print(f'List: {l2}')
```

```
Enter a list: 1 2 1 1 1
Enter k: 3
List: [1]
```

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

In [52]:
```
l1 = []
for i in range(0,10):
    l1.append(i*i)

print(f'List: {l1}')
```

```
l2 = [i*i for i in range(0,10)]
print(f'List: {l2}')
```

```
List: [0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
List: [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 [64]:
```
fruits = list(map(str, input('Enter a list:').split()))
result = [i for i in fruits if i[0] == 'b']
print(f'Result: {result}')
```

```
Enter a list: a b ba bac
Result: ['b', 'ba', 'bac']
```

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

In [4]:
```
l1 = list(map(int, input('Enter a list 1:').split()))
l2 = list(map(int, input('Enter a list 2:').split()))
l1.sort()
l2.sort()
result = []
i = 0; j = 0

while i < len(l1) and j < len(l2):
    if l1[i] == l2[j]:
        result.append(l1[i])
        i += 1; j += 1
    elif l1[i] > l2[j]:
        j += 1
    else:
        i += 1


print(f'Common Elements from two List: {result}')
```

```
Common Elements from two List: [1, 2]
[]
```