List

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

```
n = int(input("Enter size of list:"))
l1 = []
sum = 0
for i in range(1,n+1):
    x = int(input("Enter elements:"))
    l1.append(x)
    sum = sum+x
print(l1)
print(sum)
```

```
Enter size of list: 5
Enter elements: 1
Enter elements: 2
Enter elements: 3
Enter elements: 4
Enter elements: 5

[1, 2, 3, 4, 5]
15
```

02) WAP to find largest element in a List.

```
n = int(input("Enter size of list:"))
l2 = []
for i in range(1,n+1):
     x=int(input("Enter elements:"))
     l2.append(x)
print("List is:",l2)
print("Maximum value is:",max(l2))
```

```
Enter size of list: 4
Enter elements: 34
Enter elements: 87
Enter elements: 9076
Enter elements: 54

List is: [34, 87, 9076, 54]
Maximum value is: 9076
```

03) WAP to find the length of a List.

```
n = int(input("Enter size of list:"))
l3 = []
for i in range(1,n+1):
      x = int(input("Enter elements:"))
      l3.append(x)
print("List is:",l3)
length = len(l3)
print('Length Of List is:',length)
```

```
Enter size of list: 3
Enter elements: 34
Enter elements: 5
Enter elements: 7

List is: [34, 5, 7]
Length Of List is: 3
```

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

```
n = int(input("Enter size of list:"))
l4 = []
for i in range(1,n+1):
      x = int(input("Enter elements:"))
      l4.append(x)
print("List is:",l4)
if len(l4) >= 2:
    l4[0],l4[-1] = l4[-1], l4[0]
print(l4)
```

```
Enter size of list: 5
Enter elements: 1
Enter elements: 2
Enter elements: 34
Enter elements: 5
Enter elements: 6

List is: [1, 2, 34, 5, 6]
[6, 2, 34, 5, 1]
```

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

```
n = int(input("Enter size of list:"))
a = []
b = []
print("Elements are:")
for i in range(n):
      x = int(input())
```

```
     a.append(x)
part = len(a)//2
for i in range(part,len(a)):
     b.append(a[i])
for i in range(0,part):
     b.append(a[i])
print(b)
```

```
Enter size of list: 5

Elements are:

 1
 2
 3
 4
 5

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

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

```
n = int(input("Enter size of list:"))
a = []
b = []
print("Elements are:")
for i in range(n):
     x = int(input())
     a.append(x)
print("Enter two positions for interchange:")
n = int(input())
m = int(input())
b = a[n-1]
a[n-1] = a[m-1]
a[m-1] = b
print(a)
```

```
Enter size of list: 5

Elements are:

 1
 2
 3
 4
 5

Enter two positions for interchange:
```

```
 2
 5

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

07) WAP to reverse the list entered by user.

```
n = int(input("Enter size of list:"))
l7 = []
print("Elements are:")
for i in range(n):
     x = int(input())
     l7.append(x)
print("List is:",l7)
reverse = l7[::-1]
print("Reversed List is:",reverse)

Enter size of list: 4

Elements are:

 21
 95
 63
 89

List is: [21, 95, 63, 89]
Reversed List is: [89, 63, 95, 21]
```

08) WAP to print even numbers in a list.

```
n = int(input("Enter size of list:"))
l8 = []
print("Elements are:")
for i in range(n):
     x = int(input())
     l8.append(x)
print("List is:",l8)

for i in l8:
    if i % 2 == 0:
        print(i)

Enter size of list: 7

Elements are:

 21
 34
 56
 76
```

```
 89
 56
 11

List is: [21, 34, 56, 76, 89, 56, 11]
34
56
76
56
```

09) WAP to count unique items in a list.

```
n = int(input("Enter size of list:"))
l9 = []
print("Elements are:")
for i in range(n):
      x = int(input())
      l9.append(x)
print("List is:",l9)

print(len(set(l9)))

Enter size of list: 3

Elements are:

 1
 2
 2

List is: [1, 2, 2]
2
```

10) WAP to copy a list.

```
n = int(input("Enter size of list:"))
l10 = []
print("Elements are:")
for i in range(n):
      x = int(input())
      l10.append(x)
print("List is:",l10)

copied = l10.copy()
print("Copy is List is:",copied)

Enter size of list: 5

Elements are:
```

```
 1
 2
 3
 4
 5

List is: [1, 2, 3, 4, 5]
Copy is List is: [1, 2, 3, 4, 5]
```

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

```
n1 = int(input("Enter Starting:"))
n2 = int(input("Enter Ending:"))

for i in range(n1,n2+1):
    if i % 2 != 0:
        print(i)
```

```
Enter Starting: 1
Enter Ending: 15

1
3
5
7
9
11
13
15
```

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

```
n = int(input("Enter size of list:"))
l12 = []
print("Elements are:")
for i in range(n):
     x = int(input())
     l12.append(x)
print("List is:",l12)
oc = int(input("Enter value for count"))
count = l12.count(oc)
print(f"Count of {oc} is: {count}")
```

```
Enter size of list: 5

Elements are:

 1
 1
 2
```

```
 4
 1

List is: [1, 1, 2, 4, 1]

Enter value for count 1

Count of 1 is: 3
```

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

```
n = int(input("Enter size of list:"))
l13 = []
print("Elements are:")
for i in range(n):
     x = int(input())
     l13.append(x)
print("List is:",l13)

sl = sorted(set(l13))[-2]
print("Second Largest Number of List is:",sl)
```

```
Enter size of list: 5

Elements are:

 1
 2
 3
 4
 5

List is: [1, 2, 3, 4, 5]
Second Largest Number of List is: 4
```

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

```
n = int(input("Enter size of list: "))
l14 = []

print("Elements are:")
for i in range(n):
    x = int(input())
    l14.append(x)
print("List is:", l14)

k = int(input("Enter key: "))

frequency = {}

for element in l14:
```

```
    frequency[element] = frequency.get(element, 0) + 1

print(f"\nElements appearing more than {k} times:")
found = False

for element, count in frequency.items():
    if count > k:
        print(f"Element {element} appears {count} times")
        found = True

if not found:
    print(f"No elements appear more than {k} times")
```

```
Enter size of list:  6

Elements are:

 1
 2
 2
 3
 2
 1

List is: [1, 2, 2, 3, 2, 1]

Enter key:  2


Elements appearing more than 2 times:
Element 2 appears 3 times
```

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

```
#
squares = []
for i in range(10):
    squares.append(i * i)
print("Squares using for loop:", squares)
```

```
Squares using for loop: [0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
```

```
# Method 2: Using List Comprehension
squares_comp = [i * i for i in range(10)]
print("Squares using list comprehension:", squares_comp)
```

```
Squares using 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.

```
n = int(input("Enter the number of fruits: "))

fruits = []

print("Enter the fruits:")
for i in range(n):
    fruit = input()
    fruits.append(fruit)

b_fruits = [i for i in fruits if i.lower().startswith('b')]
print("\nOriginal list:", fruits)
print("Fruits starting with 'b':", b_fruits)
```

```
Enter the number of fruits:  6

Enter the fruits:

 apple
 blueberry
 banana
 berry
 grape
 mango


Original list: ['apple', 'blueberry', 'banana ', 'berry', 'grape',
'mango']
Fruits starting with 'b': ['blueberry', 'banana ', 'berry']
```

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

```
n = int(input("Enter size of both list:"))

list1 = []
for i in range(1,n+1):
     x = int(input("Enter elements of First List:"))
     list1.append(x)
print("First List is:",list1)

list2 = []
for i in range(1,n+1):
     x = int(input("Enter elements of Second List:"))
     list2.append(x)
print("Second List is:",list2)

common_elements = [element for element in list1 if element in list2]

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

```
Enter size of both list: 6
Enter elements of First List: 1
Enter elements of First List: 2
Enter elements of First List: 3
Enter elements of First List: 4
Enter elements of First List: 5
Enter elements of First List: 6

First List is: [1, 2, 3, 4, 5, 6]

Enter elements of Second List: 6
Enter elements of Second List: 7
Enter elements of Second List: 8
Enter elements of Second List: 9
Enter elements of Second List: 0
Enter elements of Second List: 1

Second List is: [6, 7, 8, 9, 0, 1]
Common elements: [1, 6]
```