

1. Write a Python program to sum all the items in a list.

```
In [24]: list=[1,3,5,77,8,9]

In [25]: total= sum(list)
          print("total:",total)

          total: 103
```

2. Write a Python program to get the largest number from a list.

```
In [2]: list=[22,.97,6,90,765,89]

In [3]: max(list)

Out[3]: 765
```

3. Write a Python program to count the number of strings from a given list of strings. The string length is 2 or more and the first and last characters are the same.

Sample List : ['abc', 'xyz', 'aba', '1221']

Expected Result : 2

```
In [50]: l1=['abc','xyz','aba','1221']

In [52]: print("length of list",len(l1))
          l2=[]
          for x in l1:
              if len(x)>=2 and x[0]==x[-1]:
                  l2.append(x)
          print(l2)
          len(l2)

          length of list 4
          ['aba', '1221']

Out[52]: 2
```

4. Write a Python program to remove duplicates from a list.

```
In [13]: l1=['abc','xyz','abc','xyz']
         s=set(l1)
         l2=list(s)
         print(l2)

['xyz', 'abc']
```

5. Write a Python program to check if a list is empty or not.

```
In [3]: l1=[]
        l2=[33,78]
        if len(l1)==0:
            print("the list is empty")
        else:
            print("the list have elements")

the list is empty

In [4]: l1=[]
        l2=[33,78]
        if len(l2)==0:
            print("the list is empty")
        else:
            print("the list have elements")

the list have elements
```

6. Write a Python program to filter the list if the length of the character is < 4

Sample List : ['abc', 'xyz', 'aba', '1221']

Expected Result: ['abc', 'xyz', 'aba']


```
In [11]: l1=['abc','xyz','aba','1221']
l2=[]
for x in l1:
    if len(x)<4:
        l2.append(x)
print(l2)

['abc', 'xyz', 'aba']
```

7. Write a Python program to find the second largest number in a list.

```
In [24]: l1=[12,45,87,98,78,65,89]
l1.sort()
print("2nd largest number:",l1[-2])

2nd largest number: 89
```

8. Write a Python program to reverse a list at a specific location.

```
In [50]: l1=[11,23,44,56,78]
l2=[]
l3=[]
l2.extend(l1[:2])
print(l2)
l3.extend(l1[2:5])
print(l3)
l3.reverse()
print(l3)
l2.extend(l3)
print(l2)

[11, 23]
[44, 56, 78]
[78, 56, 44]
[11, 23, 78, 56, 44]
```

9. Write a Python program to check if a list is a palindrome or not. Return true otherwise false.

```
In [61]: l1=[12,34,56,34,12]
         if l1==l1[::-1]:
             print("this is a pallindrome")
         else:
             print("this is not pallindrome")

this is a pallindrome
```

10. Write a Python a program to find the union and intersection of two lists.

```
In [63]: l1=[1,2,3,4,5]
         l2=[3,8,9,0]
         l1.extend(l2)
         s=set(l1)
         l2=list(s)
         print("the union is:",l2)

the union is: [0, 1, 2, 3, 4, 5, 8, 9]
```

```
In [2]: l1=[1,2,3,4,5]
        l2=[3,1,8,9,0]
        l3=[]
        for x in l1:
            if x in l2:
                l3.append(x)
        print("the intersection is:",l3)

the intersection is: [1, 3]
```

11. Write a Python script to sort (ascending and descending) a dictionary by value


```

In [47]: s={'x':3,'y':9,'z':7}
         x=s.values()
         print(x)
         a=list(x)
         a.sort()
         print("ascending value:",a)
         b=list(x)
         b.sort(reverse=True)
         print("descending value:",b)

dict_values([3, 9, 7])
ascending value: [3, 7, 9]
descending value: [9, 7, 3]

```

12. Write a Python script to check whether a given key already exists in a dictionary.

```

In [79]: d={'x':5,'y':7,'z':9}
         x=input("enter the key:")
         if x in d.keys():
             print("the key already exist")
         else:
             print("key not found")

enter the key:y
the key already exist

```

13. Write a Python program to sum all the values in a dictionary.

```

In [81]: s={'x':3,'y':4,'z':7}
         x=s.values()
         print(x)
         total=sum(x)
         print("sum of all values:",total)

dict_values([3, 4, 7])
sum of all values: 14

```

14. Write a Python program to create a dictionary with a number and its corresponding square from 1 to input number. And also check if the input number is less than 10

Eg:

Input : 3

Output : {1:1, 2:4, 3:9}

```
In [88]: a=int(input("enter the number:"))
result={}
if range(1,11):
    for i in range(1,a+1):
        result[i]=i*i
print(result)

enter the number:4
{1: 1, 2: 4, 3: 9, 4: 16}
```

15. Write a Python program to sort a given dictionary by key.

```
In [46]: d={'x':4,'a':6,'z':5}
sorted(d.items())

Out[46]: [('a', 6), ('x', 4), ('z', 5)]
```

16. Write a Python program to create a dictionary from a string.

Note: Track the count of the letters from the string.

Sample string : 'learnpython'

Expected output: {'l': 1, 'e': 1, 'a': 1, 'r': 1, 'n': 2, 'p': 1, 'y': 1, 't': 1, 'h': 1, 'o': 1}

```
In [2]: st="learnpython"
dic={}
for y in st:
    if y in dic:
        dic[y]+=1
    else:
        dic[y]=1
print(dic)

{'l': 1, 'e': 1, 'a': 1, 'r': 1, 'n': 2, 'p': 1, 'y': 1, 't': 1, 'h': 1, 'o': 1}
```

17. Write a Python program to get the top three items in a shop.

Sample data: {'item1': 45.50, 'item2': 35, 'item3': 41.30, 'item4': 55, 'item5': 24}

```
In [42]: sample={'item1':45.50,'item2':35,'item3':41.30,'item4':55,'item5':24}
a=sorted(sample.items(),key=lambda x:x[1],reverse=True)
print(a)
for k,v in a[:2]:
    print(k,v)

[('item4', 55), ('item1', 45.5), ('item3', 41.3), ('item2', 35), ('item5', 24)]
%s:%d item4 55
%s:%d item1 45.5
%s:%d item3 41.3
```