Python

Assignment 2

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

In [7]:
```
def sum_list_items(lst):
    total_sum = 0
    for item in lst:
        total_sum += item
    return total_sum

# Example usage:
sample_list = [1, 2, 3, 4, 5]
result = sum_list_items(sample_list)
print("The sum of the list items is:", result)
```

```
The sum of the list items is: 15
```

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

In [9]:
```
max(sample_list)
```

Out[9]: 5

In [ ]:
```

```

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.

In [11]:
```
list2=['abc' ,'xyz' , '1221']
print("total length of list : "+str(len(list2)))
cnt=0
for e in list2:
    if len(e)>2 and e[0]==e[-1]:
        cnt=cnt+1
print('strings with same first and last letter : '+str(cnt))
```

```
total length of list : 3
strings with same first and last letter : 1
```

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

In [12]:
```
list2=['abc' ,'xyz' , '1221', 5,4,5]
list3=list(set(list2))
print(list3)
```

```
[4, 5, 'abc', 'xyz', '1221']
```

In [ ]:
```

```

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

In [13]:
```
list4=[]
if len(list4)==0:
    print("list is empty")
else:
    print("list is not empty")
```

```
list is empty
```

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

In [14]:
```
list2=['abc' ,'xyz' , '1221']
list3=[]
for e in list2:
    if(len(e)<4):
        list3.append(e)
print(list3)
```

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

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

```
In [16]: list4=[15,56,25,46,85,97,88,72]
         list4.sort()
         print("second largest number is : "+str(list4[-2]))

         second largest number is : 88
```

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

```
In [17]: list4=[15,56,25,46,85,97,88,72]
         list4[5:2:-1]

Out[17]: [97, 85, 46]
```

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

```
In [18]: list4=[14,45,45,14]
         revlist=list4[::-1]
         if list4==revlist:
             print("list is palindrome")
         else:
             print("list is not palindrome")

         list is palindrome
```

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

```
In [19]: s1 = {0,2,4,6,8};
         s2 = {1,2,3,4,5};
         print("union is :", s1 | s2 )
         print("intersection is:", s1 & s2)

         union is : {0, 1, 2, 3, 4, 5, 6, 8}
         intersection is: {2, 4}
```

---

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

In [20]:
```
dict1={'a':1,'b':5,'c':4,'d':3}
print("ascending values")
print(sorted(dict1.values()))
print("descending values")
print(sorted(dict1.items(), key = lambda x: x[1],reverse=True))
```

```
ascending values
[1, 3, 4, 5]
descending values
[('b', 5), ('c', 4), ('d', 3), ('a', 1)]
```

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

In [28]:
```
dict1={'a':1,'b':5,'c':4,'d':3}
ky=input("enter a key to check : ")
if ky in dict1.keys():
    print("the given key is present")
else:
    print("doesnot contain the given key")
```

```
enter a key to check : c
the given key is present
```

---

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

In [2]:
```
dict1={'a':1,'b':5,'c':4,'d':3}
sum = 0
for i in dict1.values():
    sum = sum + i
print(sum)
```

```
13
```

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.

In [5]:
```
x=int(input("enter a number less than 10 : "))
dictnum = {}
if x<10:
    for i in range(1, x+1):
        dictnum[i] = i * i
        print(dictnum)
else:
    print("entered number is greater than 10")
```

```
enter a number less than 10 : 5
{1: 1}
{1: 1, 2: 4}
{1: 1, 2: 4, 3: 9}
{1: 1, 2: 4, 3: 9, 4: 16}
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
```

---

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

In [6]:
```
dict1={'a':1,'x':5,'c':4,'z':3}
print(sorted(dict1.keys()))
```

```
['a', 'c', 'x', 'z']
```

---

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

In [8]:
```
wrd='learnpython'
win_count_dict={}
cnt=0
for k in wrd:
    cnt=wrd.count(k)
    win_count_dict[k]=cnt
print(win_count_dict)
```

```
{'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 [9]:

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

x1=list(data.values())
x1.sort(reverse=True)
x=x1[:3]
for i in x:
    for j in data.keys():
        if(data[j]==i):
            print(str(j)+" : "+str(data[j]))
```

```
item4 : 55
item1 : 45.5
item3 : 41.3
```