In [1]:
```
# 1. Write a Python program to sum all the items in a list.
```

In [10]:
```
list1=[10,20,30,40]
print("sum :",sum([i for i in list1]))
```

```
sum : 100
```

In [3]:
```
# 2. Write a Python program to get the largest number from a list.
```

In [1]:
```
list=[33,55,11,99,22,88]
list.sort()
print("Largest number is :",list[-1])
```

```
Largest number is : 99
```

In [8]:
```
# 3. Write a Python program to count the number of strings from a given list of strings.
# The string length is 2 or moreand the first and last characters are the same.
```

In [4]:
```
names=["anna","luca","angel","benett","pauls","nayan"]
len([i for i in names if i[0]==i[-1]])
```

Out[4]: 2

In [5]:
```
# 4. Write a Python program to remove duplicates from a list.
```

In [3]:
```
nums=[1,2,3,4,5,4,6,6,7,7]
print("List:",nums)
N=[]
for i in nums:
    if i not in N:
        N.append(i)
print("List after removal of duplicates:",N)
```

```
List: [1, 2, 3, 4, 5, 4, 6, 6, 7, 7]
List after removal of duplicates: [1, 2, 3, 4, 5, 6, 7]
```

In [4]:
```
# 5. Write a Python program to check if a list is empty or not.
```

In [5]:
```
a=[11,22,33,44,55]
if a!=[]:
    print("List is not empty")
else:
    print("List is empty")
```



```
List is not empty
```

In [6]:
```
# 6. Write a Python program to filter the list if the length of the character is < 4
```

In [7]:
```
item=["apple","cat","swim","run","six","banana","watermelon"]
a=[i for i in item if len(i)<4]
print(a)
```

```
['cat', 'run', 'six']
```

In [8]:
```
# 7.Write a Python program to find the second largest number in a list.
```

In [9]:
```
list=[33,55,11,99,22,88]
list.sort()
print("Second largest number is :",list[-2])
```

```
Second largest number is : 88
```

In [10]:
```
# 8. Write a Python program to reverse a list at a specific location.
```

In [19]:
```
list=[1,2,3,4,5,6]
list[4::-1]
```

Out[19]:
```
[5, 4, 3, 2, 1]
```

In [20]:
```
# 9. Write a Python program to check if a list is a palindrome or not. Return true otherwise false.
```

In [21]:
```
a=[1,2,3,3,2,1]
n=a[::-1]
if n == a:
    print("True")
else:
    print("False")
```

```
True
```

In [23]:
```
a=[1,2,3,4,5]
n=a[::-1]
if n == a:
    print("True")
else:
    print("False")
```

```
False
```

In [24]:
```
# 10. Write a Python a program to find the union and intersection of two lists.
```

In [25]:
```
x=[10,20,40,55,60,75,28]
y=[55,23,40,28,66]
u=x+y
print("union of list:",u)
print("intersection of list :",[i for i in x if i in y ])
```

```
union of list: [10, 20, 40, 55, 60, 75, 28, 55, 23, 40, 28, 66]
intersection of list : [40, 55, 28]
```

In [26]:
```
# 11.Write a Python script to sort (ascending and descending) a dictionary by value
```

In [31]:
```
fruits={"apple":30 , "banana":45 ,"cherry":25}
d=sorted([(i,j) for i,j in fruits.items()])
print("ascending order:",d)
```

```
ascending order: [('apple', 30), ('banana', 45), ('cherry', 25)]
```

In [36]:
```
print("descending order:",d[::-1])
```

```
descending order: [('cherry', 25), ('banana', 45), ('apple', 30)]
```

In [37]:
```
# 12. Write a Python script to check whether a given key already exists in a dictionary.
```

In [38]:
```
fruits={"apple":30 , "banana":45 ,"cherry":25}
if "apple" in fruits:
    print("yes")
```

```
yes
```

In [39]:
```
# 13.Write a Python program to sum all the values in a dictionary.
```

In [42]:
```
fruits={"apple":30,"banana":40,"cherry":10}
addd=fruits.values()
addd
sum({i for i in addd})
```

Out[42]: 80

In [43]:
```
# 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 [45]:
```
length=int(input("Input:"))
{i:i**2 for i in range(1,length+1) if length<10}
```

```
Input:9
```

Out[45]: {1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81}

In [46]:
```
#15.Write a Python program to sort a given dictionary by key.
```

In [49]:
```
car={"brand":"Ford","model":"Mustang","year":1997}
for i in sorted(car.keys()):
    print(i)
```

```
brand
model
year
```

In [50]:
```
# 16.  Write a Python program to create a dictionary from a string.
```

In [51]:
```
mydict="dictionary"
{i:mydict.count(i) for i in mydict }
```

Out[51]: {'d': 1, 'i': 2, 'c': 1, 't': 1, 'o': 1, 'n': 1, 'a': 1, 'r': 1, 'y': 1}

In [52]:
```
# 17. Write a Python program to get the top three items in a shop.
```

In [56]:
```
item={'apple': 45.50, 'banana':35, 'cherry': 41.30, 'kiwi':55, 'mango': 24}
a=sorted(item.items(), key=lambda item:item[1])
x=len(item)
y=int(input("number of top items:"))
a[x-y:x]
```

```
number of top items:4
```

Out[56]:
```
[('banana', 35), ('cherry', 41.3), ('apple', 45.5), ('kiwi', 55)]
```