Assignment – Dictionary

1.Write a Python program to print all unique values in a dictionary.

Sample Data : [{"V":"S001"}, {"V": "S002"}, {"VI": "S001"}, {"VI": "S005"}, {"VII":"S005"}, {"V":"S009"},{"VIII":"S007"}]

Expected Output : Unique Values: {'S005', 'S002', 'S007', 'S001', 'S009'}

```
#print unique value

SampleData = [{"V":"S001"},{"V":"S002"},{"VI":"S001"},{"VI":"S005"},{"VII":"S005"},
              {"V":"S009"}, {"VIII":"S007"}]
#print(SampleData)
dataSet= set()
for i in SampleData:
    for i in i.values():
        dataSet.add(i)

print(dataSet)
```

```
uniqueVlaue
C:\Users\user\PycharmProjects\NovemberPY\venv\Scripts\python.exe C:/Users/user/PycharmProjects/N
{'S001', 'S002', 'S009', 'S005', 'S007'}

Process finished with exit code 0
```

2.Write a Python program to combine values in python list of dictionaries.

Sample data: [{'item': 'item1', 'amount': 400}, {'item': 'item2', 'amount': 300}, {'item': 'item1', 'amount': 750}]

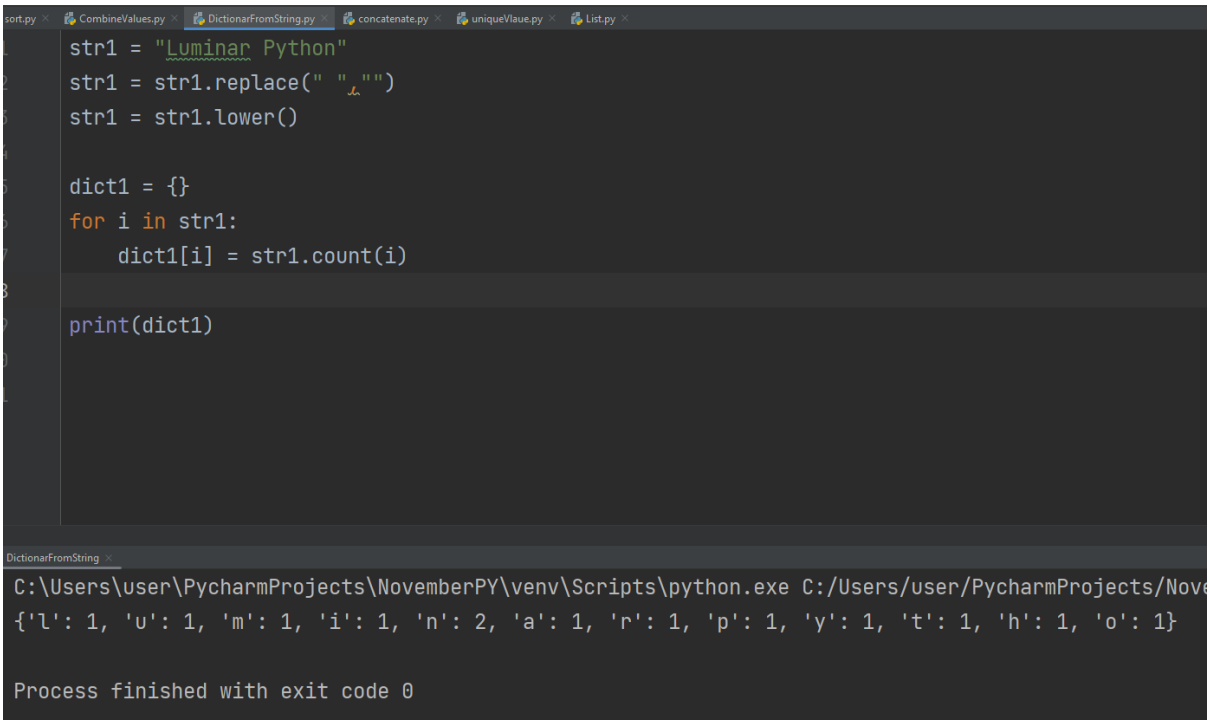
Expected Output: Counter({'item1': 1150, 'item2': 300})

```
SampleData = [{"item": "item1", "amount": 400},
              {"item": "item2", "amount": 300},
              {"item": "item1", "amount": 750}]
print(SampleData)
itemDict = {}
for i in SampleData:
    a = list(i.values())
   # print(f'a= {a}')
    if a[0] not in itemDict:
        itemDict[a[0]] = a[1]
    else:
        v = itemDict[a[0]]
        itemDict[a[0]] = v+a[1]
print(itemDict)
```

```
CombineValues
C:\Users\user\PycharmProjects\NovemberPY\venv\Scripts\python.exe C:/Users/user/PycharmProjects/NovemberP
[{'item': 'item1', 'amount': 400}, {'item': 'item2', 'amount': 300}, {'item': 'item1', 'amount': 750}]
{'item1': 1150, 'item2': 300}
```

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

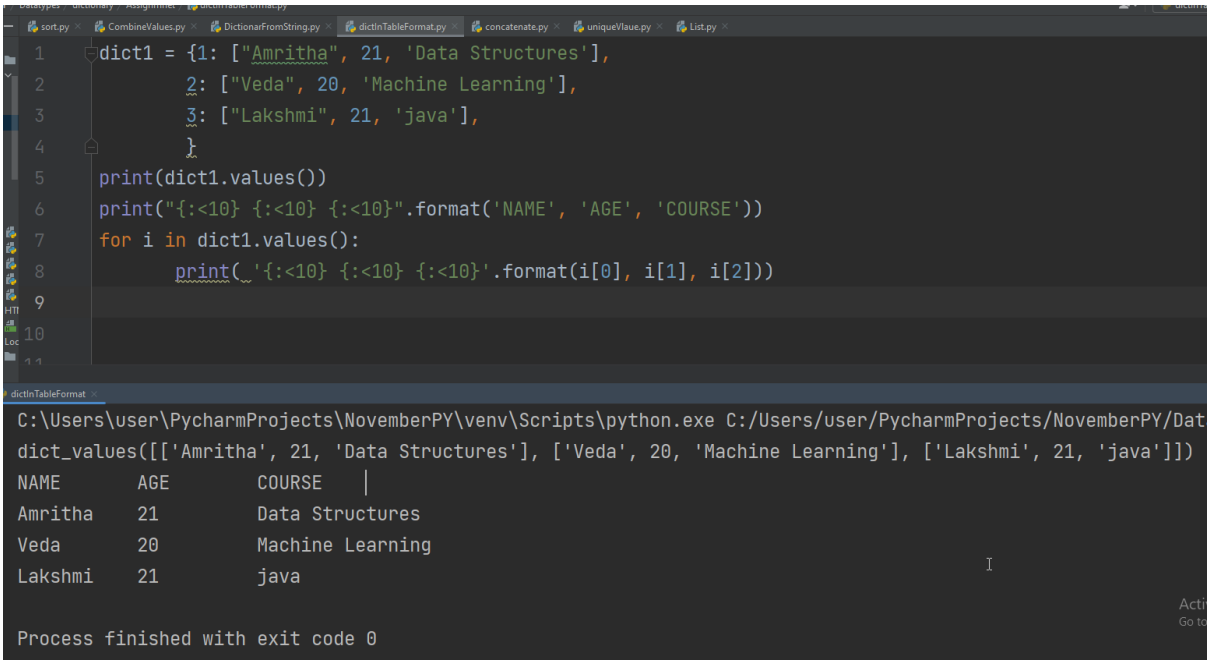
Note: Track the count of the letters from the string.



```
str1 = "Luminar Python"
str1 = str1.replace(" ","")
str1 = str1.lower()

dict1 = {}
for i in str1:
    dict1[i] = str1.count(i)

print(dict1)
```

```
C:\Users\user\PycharmProjects\NovemberPY\venv\Scripts\python.exe C:/Users/user/PycharmProjects/Nove
{'l': 1, 'u': 1, 'm': 1, 'i': 1, 'n': 2, 'a': 1, 'r': 1, 'p': 1, 'y': 1, 't': 1, 'h': 1, 'o': 1}

Process finished with exit code 0
```

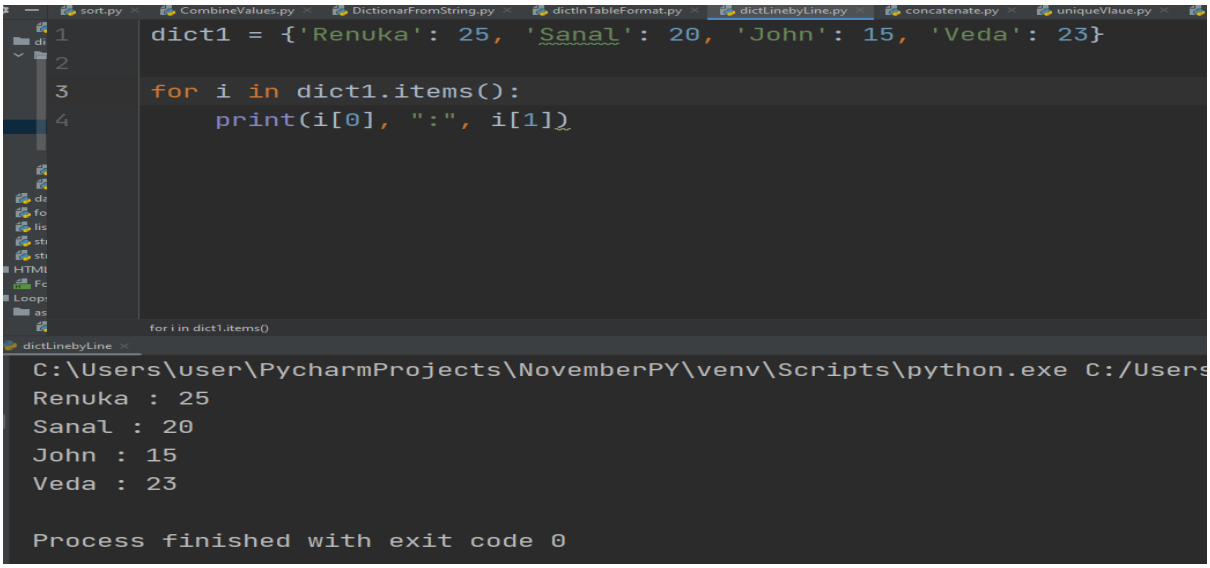
4.Write a Python program to print a dictionary in table format.



```
dict1 = {1: ["Amritha", 21, 'Data Structures'],
         2: ["Veda", 20, 'Machine Learning'],
         3: ["Lakshmi", 21, 'java'],
         }
print(dict1.values())
print("{:<10} {:<10} {:<10}".format('NAME', 'AGE', 'COURSE'))
for i in dict1.values():
      print('{:<10} {:<10} {:<10}'.format(i[0], i[1], i[2]))
```

```
C:\Users\user\PycharmProjects\NovemberPY\venv\Scripts\python.exe C:/Users/user/PycharmProjects/NovemberPY/Dat
dict_values([['Amritha', 21, 'Data Structures'], ['Veda', 20, 'Machine Learning'], ['Lakshmi', 21, 'java']])
NAME       AGE        COURSE
Amritha    21         Data Structures
Veda       20         Machine Learning
Lakshmi    21         java

Process finished with exit code 0
```

5.Write a Python program to print a dictionary line by line.



```
dict1 = {'Renuka': 25, 'Sanal': 20, 'John': 15, 'Veda': 23}

for i in dict1.items():
    print(i[0], ":", i[1])
```

```
C:\Users\user\PycharmProjects\NovemberPY\venv\Scripts\python.exe C:/Users
Renuka : 25
Sanal : 20
John : 15
Veda : 23

Process finished with exit code 0
```

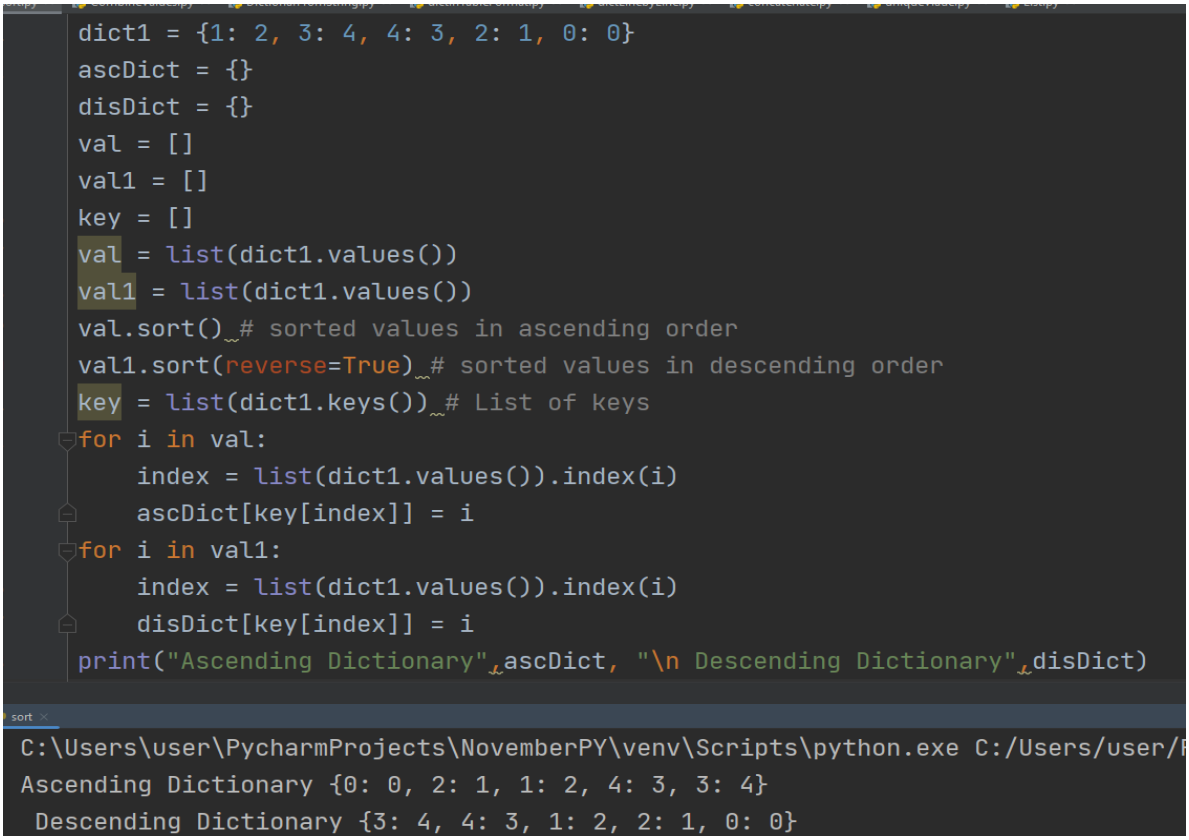
6. Write a Python program to sort (ascending and descending) a dictionary by value.

Expected O/P:

Original dictionary : {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}

Dictionary in ascending order by value : [(0, 0), (2, 1), (1, 2), (4, 3), (3, 4)]

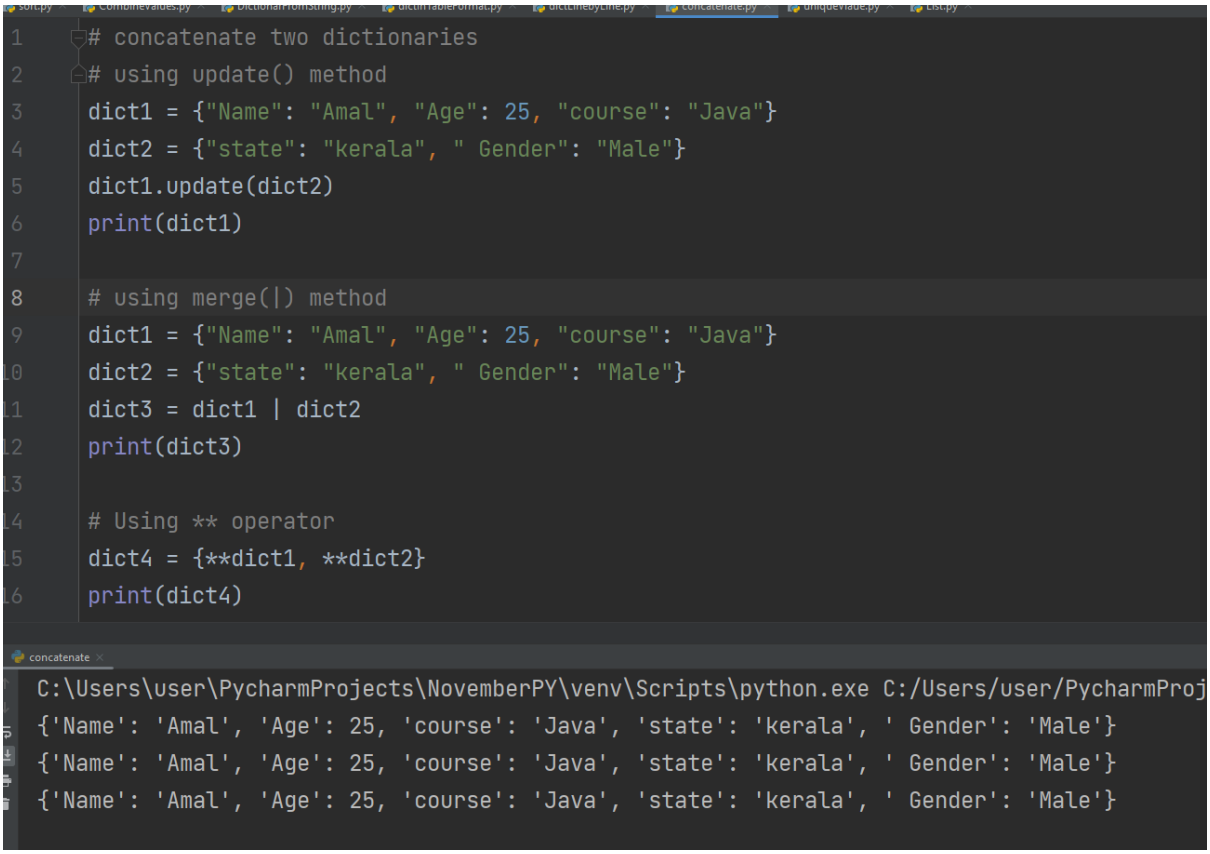
Dictionary in descending order by value : {3: 4, 4: 3, 1: 2, 2: 1, 0: 0}



```
dict1 = {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}
ascDict = {}
disDict = {}
val = []
val1 = []
key = []
val = list(dict1.values())
val1 = list(dict1.values())
val.sort() # sorted values in ascending order
val1.sort(reverse=True) # sorted values in descending order
key = list(dict1.keys()) # List of keys
for i in val:
    index = list(dict1.values()).index(i)
    ascDict[key[index]] = i
for i in val1:
    index = list(dict1.values()).index(i)
    disDict[key[index]] = i
print("Ascending Dictionary", ascDict, "\n Descending Dictionary", disDict)
```

```
C:\Users\user\PycharmProjects\NovemberPY\venv\Scripts\python.exe C:/Users/user/
Ascending Dictionary {0: 0, 2: 1, 1: 2, 4: 3, 3: 4}
 Descending Dictionary {3: 4, 4: 3, 1: 2, 2: 1, 0: 0}
```

7. Write a Python script to concatenate two dictionaries to create a new one.



```python
# concatenate two dictionaries
# using update() method
dict1 = {"Name": "Amal", "Age": 25, "course": "Java"}
dict2 = {"state": "kerala", " Gender": "Male"}
dict1.update(dict2)
print(dict1)

# using merge(|) method
dict1 = {"Name": "Amal", "Age": 25, "course": "Java"}
dict2 = {"state": "kerala", " Gender": "Male"}
dict3 = dict1 | dict2
print(dict3)

# Using ** operator
dict4 = {**dict1, **dict2}
print(dict4)
```

```
C:\Users\user\PycharmProjects\NovemberPY\venv\Scripts\python.exe C:/Users/user/PycharmProj
{'Name': 'Amal', 'Age': 25, 'course': 'Java', 'state': 'kerala', ' Gender': 'Male'}
{'Name': 'Amal', 'Age': 25, 'course': 'Java', 'state': 'kerala', ' Gender': 'Male'}
{'Name': 'Amal', 'Age': 25, 'course': 'Java', 'state': 'kerala', ' Gender': 'Male'}
```