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

In [1]:

```
import operator
d = {1: 2, 3: 4, 4: 3, 2: 1, 0: 0}
print('Original dictionary : ',d)
sorted_d = sorted(d.items(), key=operator.itemgetter(1))
print('Dictionary in ascending order by value : ',sorted_d)
sorted_d = dict( sorted(d.items(), key=operator.itemgetter(1),reverse=True))
print('Dictionary in descending order by value : ',sorted_d)
```

```
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}
```

2) Write a Python script to add a key to a dictionary. Go to the editor

Sample Dictionary : {0: 10, 1: 20}

In [3]:

```
d = {0:10, 1:20}
d.update({2:30})
print(d)
```

```
{0: 10, 1: 20, 2: 30}
```

3) Write a Python script to merge two Python dictionaries

In [4]:

```
d1 = {'a': 100, 'b': 200}
d2 = {'x': 300, 'y': 200}
d = d1.copy()
d.update(d2)
print(d)
```

```
{'a': 100, 'b': 200, 'x': 300, 'y': 200}
```

4) Write a Python program to sum all the items in a dictionary.

In [5]:

```
my_dict = {'data1':100,'data2':-54,'data3':247}
print(sum(my_dict.values()))
```

```
293
```

5) Write a Python program to combine two dictionary adding values for common keys.

d1 = {'a': 100, 'b': 200, 'c':300}
d2 = {'a': 300, 'b': 200, 'd':400}

In [6]:

```
from collections import Counter
d1 = {'a': 100, 'b': 200, 'c':300}
d2 = {'a': 300, 'b': 200, 'd':400}
d = Counter(d1) + Counter(d2)
print(d)
```

```
Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})
```

6) Select the all correct way to remove the key ‘marks‘ from a dictionary

student = {
"name": "Emma",
"class": 9,
"marks": 75}
a) student.pop(“marks”)
b) del student[“marks”]
c) student.popitem()
d) dict1.remove(“key2”)

In [9]:

```
student = {
"name":"Emma",
"class": 9,
"marks": 75
}
```

In [12]:

```
student.pop("marks")
```

Out[12]:

```
75
```

In [23]:

```
student = {
"name":"Emma",
"class": 9,
"marks": 75
}
del student ["marks"]
```

Ans:a)student.pop("marks") b) del student["marks"]

7) Write a Python program to count number of items in a dictionary value that is a list.

In [24]:

```
dict =  {'Alex': ['subj1', 'subj2', 'subj3'], 'David': ['subj1', 'subj2']}
ctr = sum(map(len, dict.values()))
print(ctr)
```

```
5
```