TASK3

GO_STP_7364

Assignment/Task 3

Q.1 Write a Python Program to sort (ascending and descending) a dictionary by value.

In [11]:
```
dic={"a":1,"b":3,"s":0,"h":8}
print(sorted(dic.items(), key=lambda a:a[1]))

print(sorted(dic.items(),key=lambda x:x[1],reverse=True))
```

```
[('s', 0), ('a', 1), ('b', 3), ('h', 8)]
[('h', 8), ('b', 3), ('a', 1), ('s', 0)]
```

Q.2 Write a Python Program to add a key to a dictionary.

Sample Dictionary : {0: 10, 1: 20} Expected Result : {0: 10, 1: 20, 2: 30}

In [12]:
```
dictionary={0:10,1:20}
dictionary["2"]=30
dictionary
```

Out[12]:
```
{0: 10, 1: 20, '2': 30}
```

Q.3 Write a program asks for City name and Temperature and builds a dictionary using that Later on you can input City name and it will tell you the Temperature of that City.

In [27]:
```
n=int(input())
city_name=[input("Enter city name ") for i in range(n)]
print(city_name)


Temperature=[int(input("Enter Temperature ")) for i in range(n)]
print(Temperature)

a=dict(zip(city_name,Temperature))
print(a)

x=input("enter city name of which you want to know temp ")

if x in a:
    print(a[x], "Degree celcius" )
else:
    print("Not in our data")
```

```
3
Enter city name uk
Enter city name hp
Enter city name asr
['uk', 'hp', 'asr']
Enter Temperature 13
Enter Temperature 15
Enter Temperature 20
[13, 15, 20]
{'uk': 13, 'hp': 15, 'asr': 20}
enter city name of which you want to know temp hp
15 Degree celcius
```

Q. 4 Write a Python program to convert list to list of dictionaries.

Sample lists: ["Black", "Red", "Maroon", "Yellow"], ["#000000", "#FF0000", "#800000", "#FFFF00"]

Expected Output: [{'color_name': 'Black', 'color_code': '#000000'}, {'color_name': 'Red', 'color_code': '#FF0000'}, {'color_name': 'Maroon', 'color_code': '#800000'}, {'color_name': 'Yellow', 'color_code': '#FFFF00'}]

In [30]:
```
color=["Black", "Red", "Maroon", "Yellow"]
color_code=["#000000", "#FF0000", "#800000", "#FFFF00"]

x=[{"color name":a,"color_code":b} for a,b in zip(color,color_code)]
x
```

Out[30]:
```
[{'color name': 'Black', 'color_code': '#000000'},
 {'color name': 'Red', 'color_code': '#FF0000'},
 {'color name': 'Maroon', 'color_code': '#800000'},
 {'color name': 'Yellow', 'color_code': '#FFFF00'}]
```

Q. 5 We have following information on Employees and their Salary (Salary is in lakhs),

Employee Salary John 14 Smith 13 Alice 32 Daneil 21

#1.Using above create a dictionary of Employees and their Salary

#2 :Write a program that asks user for three type of inputs, print: if user enter print then it should print all Employees with their Salary in this format, John ==>14 Smith ==>13 Alice ==>32 Daneil ==>21 add: if user input adds then it should further ask for an Employee name to add. If Employee already exists in our dataset then it should print that it exists and do nothing. If it doesn't then it asks for Salary and add that new Employee/Salary in our dictionary and print it #3 :remove: when user inputs remove it should ask for an Employee to remove. If an Employee exists in our dictionary then remove it and print a new dictionary using format shown above in (a). Else print that Employee doesn't exist!

#4) : query: on this again ask the user for which Employee he or she wants to query. When a user inputs that Employee it will print the Salary of that Employee.

In [46]:
```
employee=["john","smith","alice","daneil"]
salary=[14,13,32,21]

#1
dictionary=dict(zip(employee,salary))

#2 :
for i,j in dictionary.items():
    print(i , "==>" , j)


data=input()

if data=="add":
    new_data=input("Enter employee name : ")

    if new_data in dictionary:
        print("Data already exists")
    else:
        salary=int(input("Salary :  "))

        dictionary[new_data]=salary

if data=="remove":
    new_data=input("Enter employee name : ")

    if new_data in dictionary:
        dictionary.pop(new_data)
    else:
        print("It doesn't exist")

if data=="query":
    new_data=input("Enter employee name : ")

    print("salary",dictionary[new_data])


print(dictionary)
```

```
john ==> 14
smith ==> 13
alice ==> 32
daneil ==> 21
query
Enter employee name : smith
salary 13
{'john': 14, 'smith': 13, 'alice': 32, 'daneil': 21}
```

Question on sets

Q.1 What is the difference between a set and a frozenset? Create any set and try to use frozenset(setname).

set is an unordered and unique collection of elements and is mutable in nature while frozenset is a type of set which is mutable in nature.

In [56]:
```
set_1=set([1,2,3,4,5,4,3,2,1])
print(set_1)
set_1.add(9)
print(set_1)

frozenset_1=frozenset([1,2,3,4,5,4,3,21,1])
print(frozenset_1)

frozenset_1.add(12) #immutable in nature
```

```
{1, 2, 3, 4, 5}
{1, 2, 3, 4, 5, 9}
frozenset({1, 2, 3, 4, 5, 21})

---------------------------------------------------------------------------
AttributeError                            Traceback (most recent call last)
<ipython-input-56-2c90c417053f> in <module>
      7 print(frozenset_1)
      8
----> 9 frozenset_1.add(12) #immutable in nature

AttributeError: 'frozenset' object has no attribute 'add'
```

Q.2 Find the elements in a given set that are not in another set

```
set1 = {10,20,30,40,50}

set2 = {40,50,60,70,80}

Difference between set1 and set2 is {10,20,30}
```

In [58]:
```
set1 = {10,20,30,40,50}
set2 = {40,50,60,70,80}

print(set1.difference(set2))
print(set2.difference(set1))
```

```
{10, 20, 30}
{80, 60, 70}
```