ASSIGNMENT/TASK 3

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Question on Dictionary-

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

```
need = {'orange':20, 'Banana':40, 'Apple':30, 'Mango':50}
ascending_need = sorted(need.items(), key = lambda x: x[1])
descending_need = sorted(need.items(), key = lambda x: x[1],reverse=True)

print(ascending_need)
print(descending_need)
```

```
[('orange', 20), ('Apple', 30), ('Banana', 40), ('Mango', 50)]
[('Mango', 50), ('Banana', 40), ('Apple', 30), ('orange', 20)]
```

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}

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

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.

```
ctemp = {}
while True:
  cname = input('Enter the city Name:')
  temp = float(input('Enter the Temprature:'))
  ctemp[cname]=temp
  choice = input('If You Need add more Cities:')
  if choice == 'yes':
    continue
  elif choice == 'no':
    break
  else:
    print('invalid input')
  check = input("Enter the city:").strip()
```

```
print('Temprature is {} is {} C',format(check,ctemp.get(check)))
```

```
Enter the city Name:Kanpur
Enter the Temprature:30
If You Need add more Cities:no
```

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'}]

```
colorname = ["Black", "Red", "Maroon", "Yellow"]
colorcode =  ["#000000", "#FF0000", "#800000", "#FFFF00"]
colordict =[]
for name, code in zip(colorname,colorcode):
  colordict.append({'colorname': name, 'colorcode': code})
print(colordict)
```

```
[{'colorname': 'Black', 'colorcode': '#000000'}, {'colorname': 'Red', 'colorcode': '#FF0
```

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,
a.print: if user enter print then it should print all Employees with their Salary in this format,
1.John ==>14
2.Smith ==>13
3.Alice ==>32
4. Daneil ==>21
b.add: if user input adds then it should further ask for an Employee name to add. If Employee already
c.remove: when user inputs remove it should ask for an Employee to remove. If an Employee exists in c
d.query: on this again ask the user for which Employee he or she wants to query. When a user inputs t
```

```
def print_details():
  print()
```

```
    print()
    for key,value in employee.items():
      print('{} ==> {}'.format(key,value))
  def add():
    name = input("\n Enter the Employee Name:".capitalize())
    if name in employee.keys():
      print("Employee already exists")
      return
    else:
      salary = int(input("Enter Salary:"))
      employee.update({name:salary})
      print_details()
  def pop():
    name = input("\n Enter the employee name:").capitalize()
    if name in employee.keys():
      employee.pop(name)
      print('Employee removed')
      print_details()
    else:
      print('Employee doesnot exists')
  def query():
    name = input("\n Enter the Employee Name:").capitalize()
    if name in employee.keys():
      print('Salary of the employee is', employee[name])
    else:
      print("Employee dosen\,t exists")

  employee = {'John' : 14, 'Snith' : 13, 'Alice' : 12, 'Daneil' : 21}
  while True:
    print()
    print('1)print all records \n2)Add new record \n3)Remove a record \n4) Query \n5)Exist')
    choice = input('Eneter your choice:')
    if choice =='1':
      print_details()
    elif choice == '2':
      add()
    elif choice == '3':
      pop()
    elif choice == '4':
      query()
    elif choice == '5':
      break
    else:
      print('Invalid Input')


       1)print all records
       2)Add new record
       3)Remove a record
       4) Query
       5)Exist
       Eneter your choice:3
```

```
 Enter the employee name:alice
Employee removed

John ==> 14
Snith ==> 13
Daneil ==> 21

1)print all records
2)Add new record
3)Remove a record
4) Query
5)Exist
Eneter your choice:2

 enter the employee name:John
Employee already exists

1)print all records
2)Add new record
3)Remove a record
4) Query
5)Exist
Eneter your choice:4

 Enter the Employee Name:Snith
Salary of the employee is 13

1)print all records
2)Add new record
3)Remove a record
4) Query
5)Exist
Eneter your choice:5
```

Questions on Sets-

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

ANS.Frozen set is an immutable version of a python set object. Elements of a set cen be modified at any time, but elements of the frozen set remain the same afer creation.

```
simple = {1,1,2,3,4,4,5,6}
frozen = frozenset(simple)

simple.add(7)
print('set:', simple)
print('frozense:', frozen)
```

```
set: {1, 2, 3, 4, 5, 6, 7}
frozense: frozenset({1, 2, 3, 4, 5, 6})
```

Q.2 Find he elements in a given set that are not in anoher set

```
set1 = {10,20,30,40,50}
set2 = {40,50,60,70,80}
print("Difference between he sets:",set1.difference(set2))
```

```
Difference between he sets: {10, 20, 30}
```