Assignment 3

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

```
import operator
d = {'a':25, 'b':40, 'c':10, 'e':15, 'f':50, 'g':20}
print(f"Original dictionary: {d}")

asc_sorted_d = sorted(d.items(), key=operator.itemgetter(1))
print(f"Dictionary in ascending order: {asc_sorted_d}")

dec_sorted_d = sorted(d.items(), key=operator.itemgetter(1), reverse=True)
print(f"Dictionary in descending order: {dec_sorted_d}")
```

```
Original dictionary: {'a': 25, 'b': 40, 'c': 10, 'e': 15, 'f': 50, 'g': 20}
Dictionary in ascending order: [('c', 10), ('e', 15), ('g', 20), ('a', 25),
Dictionary in descending order: [('f', 50), ('b', 40), ('a', 25), ('g', 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}

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```
d.update({2:30})
print(d)
```

```
{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.

```
city_temp_dict = dict()
while(True):
  city = input("Enter the city name: ").strip()
  temperature = float(input("Enter the temperature in fahrenheit: ").strip())
  city_temp_dict[city] = temperature
  ans = input(print(f"Do you want to continue (Yes/No): ")).strip()
  if not ans.lower() == "yes":
    break
requiredcity = input("Enter the city for which you want to check temperature? ")
print(f"The temperature of %s is %.2f °F "%(requiredcity,city_temp_dict[required
```

✓ 0s completed at 8:29 AM

```
Enter the city for which you want to check temperature? mumbai
The temperature of mumbai is 76.00 °F
```

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'}]

```
color_name = ["Black", "Red", "Maroon", "Yellow"]
color_code = ["#000000", "#FF0000", "#800000", "#FFFF00"]
print([{'color_name': val1, 'color_code': val2} for val1, val2 in zip(color_name
```

```
[{'color_name': 'Black', 'color_code': '#000000'}, {'color_name': 'Red', 'c
```

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

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a) 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
b) 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
c) remove: when user inputs remove it should ask for an Employee to remove. If an Employee

```
    for a in Dict:
      print(a,"==>",Dict[f"{a}"])
  elif val == 'add':    # add employee
    emp= input("Enter the name of the Employee to be added: ")
    if emp.title() in Dict.keys():
      print(f"{emp} name is already existing!")
    else:
      salr = input(f"Enter the salary of the {emp} ")
      Dict.update({emp : salr})
      print(Dict)
  elif val == 'remove':   # remove employee
    name = input("Enter the name of the employee to be removed? ")
    if name in Dict:
      Dict.pop(name)
      print(Dict)
    else:
      print(f"Sorry!!, {name} doesn't exist in the data!")
  elif val == 'query':    #
    emp= input("Enter the name of the employee you want to query: ").title()
    if emp in Dict.keys():
      print(f"The salary of {emp} is {Dict[emp]}")
    else:
      print(f"The employee named {emp} doesn't exist!!")
  else:
    print("Enter a valid choice")
  ans = input(print(f"Do you want to continue (Yes/No): ")).strip()
  if not ans.lower() == "yes":
    break

     Enter your choice (print or add or remove or query): add
     Enter the name of the Employee to be added: mukesh
                                                                    'mukesh': '45000'}
     no
```

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Questions on Sets-

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

```
{'n', 'F', 'e', 'o', 'S', 'z', 'r'}
```

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}

```
set1 = {10,20,30,40,50}
set2 = {40,50,60,70,80}
print("Original sets given:")
print(set1)
print(set2)
print(f"Elements present in set1 but not in set2: {set1.difference(set2)}")
print(f"Elements present in set2 but not in set1: {set2.difference(set1)}")
```

```
Original sets given:
{40, 10, 50, 20, 30}
{70, 40, 80, 50, 60}
Elements present in set1 but not in set2: {10, 20, 30}
Elements present in set2 but not in set1: {80, 60, 70}
```

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