PRACTICAL NO 5

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

Code :

```python
def DictInput():
    Size = int(input("Enter the size of dictionary : "))
    for x in range(Size):
        Key = input("Enter Key    : ")
        Val = int(input("Enter value : "))
        DictMain.update({Key:Val})

DictMain = dict()
DictSortA = dict()
DictSortD = dict()
DictInput()
for key in sorted(DictMain, key=DictMain.get):
    DictSortA[key] = DictMain[key]
for key in sorted(DictMain, key=DictMain.get, reverse = True):
    DictSortD[key] = DictMain[key]
print("\nSort by values")
print(f"Ascending Sort:: {DictSortA}")
print(f"Decending Sort:: {DictSortD}")
```

Output :

```
Enter the size of dictionary : 3
Enter Key    : hdd
Enter value : 2000
Enter Key    : ssd
Enter value : 9000
Enter Key    : dvd
Enter value : 4000

Sort by values
Ascending Sort:: {'hdd': 2000, 'dvd': 4000, 'ssd': 9000}
Decending Sort:: {'ssd': 9000, 'dvd': 4000, 'hdd': 2000}

Enter the size of dictionary : 2
Enter Key    : pd
Enter value : 1200
Enter Key    : cd
Enter value : 400

Sort by values
Ascending Sort:: {'cd': 400, 'pd': 1200}
Decending Sort:: {'pd': 1200, 'cd': 400}
```

b) Write a Python script to concatenate following dictionaries to create a new one.

Sample Dictionary :
dic1={1:10, 2:20}
dic2={3:30, 4:40}
dic3={5:50,6:60}
Expected Result : {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}.

Code :

```python
def DictInput():
    for x in range(3):
        DictSize = int(input(f"Enter the size of {x+1}
        dictionary : "))
        if   x==0 :
            Dict1={input("Enter key    : "):int(input("Enter Value :
            ")) for x in range(DictSize)}
        elif x==1 :
            Dict2={input("Enter key    : "):int(input("Enter Value :
            ")) for x in range(DictSize)}
        elif x==2 :
            Dict3={input("Enter key    : "):int(input("Enter Value :
            ")) for x in range(DictSize)}
    print("\nYour entered dictionaries are as follows")
    print(f"1 :: {Dict1}")
    print(f"2 :: {Dict2}")
    print(f"3 :: {Dict3}")
    print("Yout concatenate dictionary is as follow ")
    print(f"4 :: {Dict1|Dict2|Dict3}")
DictInput()
```

Output :

```
Enter the size of 1 dictionary : 2
Enter key    : yashodip
Enter Value : 5000
Enter key    : vaibhavi
Enter Value : 6000
Enter the size of 2 dictionary : 1
Enter key    : gauri
Enter Value : 9000
Enter the size of 3 dictionary : 1
Enter key    : shruti
Enter Value : 4000

Your entered dictionaries are as follows
1 :: {'yashodip': 5000, 'vaibhavi': 6000}
2 :: {'gauri': 9000}
3 :: {'shruti': 4000}
Yout concatenate dictionary is as follow
4 :: {'yashodip': 5000, 'vaibhavi': 6000, 'gauri': 9000,
'shruti': 4000}
```

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

Code :
```python
def DictInput():
    DictSize=int(input("Enter the size of dictionary : "))
    Dict1={int(input("Enter key   : ")):int(input("Enter Value : "))
for x in range(DictSize)}
    print("\nYour entered dictionaries are as follows")
    print(f"dict :: {Dict1}")
    print("For all the keys in the dictionary")
    print(f"sum  :: {sum(Dict1.keys())}")
    print("For all the values in the dictionary")
    print(f"sum  :: {sum(Dict1.values())}")
 DictInput()
```

Output :
```
Enter the size of dictionary : 5
Enter key    : 1
Enter Value : 10
Enter key    : 2
Enter Value : 20
Enter key    : 3
Enter Value : 30
Enter key    : 4
Enter Value : 40
Enter key    : 5
Enter Value : 50

Your entered dictionaries are as follows
dict :: {1: 10, 2: 20, 3: 30, 4: 40, 5: 50}
For the keys in the dictionary
sum   :: 15
For the values in the dictionary
sum   :: 150
```