Assignment 7

Q1 Write a Python program to get the maximum and minimum value in a dictionary.

Code and Output:

```
dictionary={'a':15,'b':30,'c':45,'d':60,'e':75}
a=max(dictionary.values())
b=min(dictionary.values())
print("maximum value is=",a)
print("minimum value is=",b)
```

```
maximum value is= 75
minimum value is= 15
```

Q2 Write a Python program to sum all the items in a dictionary

Code and Output:

```
dictionary={'a':15,'b':30,'c':45,'d':60,'e':75}
a=sum(dictionary.values())
print("sum of all the values of the dictionary is=",a)
```

```
sum of all the values of the dictionary is= 225
```

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Q3 Write a Python program to merge two Python dictionaries.

Code and Output:

```
dictionary1={'a':15,'b':30,'c':45,'d':60,'e':75}
dictionary2={'f':90,'g':105,'g':120,'h':135,'i':150}

dictionary1.update(dictionary2)
print(dictionary1)
```

```
{'a': 15, 'b': 30, 'c': 45, 'd': 60, 'e': 75, 'f': 90, 'g': 120, 'h': 135, 'i': 150}
```

Q4 Write a Python program to generate and print a dictionary that contains all even numbers (between 1 and n) in the form (x, x^3).

Code and Output:

```
dictionary={}
n=int(input("enter a number="))
for i in range(1,n+1):
    if(i%2==0):
        dictionary[i]=i**3
print(dictionary)
```

```
enter a number=5
{2: 8, 4: 64}
```

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Q5 Write a Python program to remove a key from a dictionary.

Code and Output:

```
dictionary={'a':15,'b':30,'c':45,'d':60,'e':75}
print(dictionary)
n=input("enter a key=")
del dictionary[n]
print(dictionary)
```

```
{'a': 15, 'b': 30, 'c': 45, 'd': 60, 'e': 75}
enter a key=e
{'a': 15, 'b': 30, 'c': 45, 'd': 60}
```

Q6 Write a Python program to remove duplicates from Dictionary.

Code and Output:

```
dictionary={'a':15,'b':30,'c':45,'d':60,'e':75,'f':90,'g':105,'g':120,'h':150,'i':150}
a=[]
new_dictionary=dict()
for key,val in dictionary.items():
    if val not in a:
        a.append(val)
        new_dictionary[key]=val
print(dictionary)
print(new_dictionary)
```

```
{'a': 15, 'b': 30, 'c': 45, 'd': 60, 'e': 75, 'f': 90, 'g': 120, 'h': 150, 'i': 150}
{'a': 15, 'b': 30, 'c': 45, 'd': 60, 'e': 75, 'f': 90, 'g': 120, 'h': 150}
```

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Q7 Write a Python program to combine two dictionaries adding values for common keys

for example: d1= {1: 10, 2: 20, 3: 30,5:10}

d2 = {4: 40, 5: 50, 6: 60,2:10}

output: {1:10, 2:30, 3:30, 4:40, 5:60, 6:60}

Code and Output:

```
dictionary1={'a':15,'h':30,'c':45,'d':60,'e':75}
dictionary2={'f':90,'g':105,'g':120,'h':135,'i':150}
for i,j in dictionary2.items():
    if i in dictionary1.keys():
        dictionary1[i]=j+dictionary1[i]
for i,j in dictionary2.items():
    if i not in dictionary1.keys():
        dictionary1[i]=j
print(dictionary1)
```

```
{'a': 15, 'h': 165, 'c': 45, 'd': 60, 'e': 75, 'f': 90, 'g': 120, 'i': 150}
```

Q8 Write a python program to find out the key based on the value.

Code and Output:

```
dictionary={'a':15,'h':30,'c':45,'d':60,'e':75}
n=int(input("enter a value="))
for i,j in dictionary.items():
    if(n==j):
        print(i)
```

```
enter a value=60
d
```

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Q9 Write a python program for dictionary of names of students and a list of their marks in 4 subjects. create another dictionary from this dictionary that has name of the students and their total marks. find out the topper and his/her marks.

Code and Output:

```
dictionary1={'pranjal':[85,90,88,94],'ashwini':[81,78,91,83],'sanal':[84,86,92,79],'tapan':[93,89,80,91]}
dictionary2={}
for i,j in dictionary1.items():
    dictionary2[i]=sum(j)
a=max(dictionary2.values())
for i,j in dictionary2.items():
    if(j==a):
        print(i,':',j)
```

```
pranjal : 357
```

Q10 Write a python program to reverse the dictionary values.

Code and Output:

```
dictionary={'a':15,'h':30,'c':45,'d':60,'e':75}
r=dict(reversed(list(dictionary.items())))
dictionary2={}
a=1
for i in r.values():
    dictionary2[a]=i
    a+=1
print(dictionary2)
```

```
{1: 75, 2: 60, 3: 45, 4: 30, 5: 15}
```

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Q11 Write a python program to accept a string from user, to find the frequency of each character with the help of dictionary.

Code and Output:

```
string=input("enter a string=")
dictionary1={}
for i in string:
    if i in dictionary1.keys():
        dictionary1[i]+=1
    else:
        dictionary1[i]=1
print(dictionary1)
```

```
enter a string=pranjal
{'p': 1, 'r': 1, 'a': 2, 'n': 1, 'j': 1, 'l': 1}
```

Q12 Write a python program to accept a string from user, to find the frequency of each word with the help of dictionary.

Code and Output:

```
string=input("enter a string=").split()
dictionary1={}
for i in string:
    if i in dictionary1.keys():
        dictionary1[i]+=1
    else:
        dictionary1[i]=1
print(dictionary1)
```

```
enter a string=pranjal tiwari pranjal tiwari pranjal tiwari pranjal tiwari
{'pranjal': 4, 'tiwari': 4}
```

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