WEEK 5 - ASSIGNMENT 1 DICTIONARY

Q1. Write a Python function that takes a dictionary as input where the values are lists. The function should return a new list containing all the elements from all the lists in the dictionary.

It should have at least 3-4 keys and any amount of elements can be in a list.

```
Input dictionary: {'A': [1, 2, 3], 'B': [4, 5, 6]}
Output: [1, 2, 3, 4, 5, 6]
```

Q2. Create a function named **countChar** which will accept a string as a parameter. Create a dictionary having frequency of each character.

```
# Example 1
print(countChar("heellloo"))

# Output
{'h': 1, 'e': 2, 'l': 3, 'o': 2}

# Example 2
print(countChar("delhi delhi"))

# Output
{'d': 2, 'e': 2, 'l': 2, 'h': 2, 'i': 2, ' ': 1}
```

Q3. Write a Python function that takes a dictionary as input where the values are lists of integers. The function should return a new dictionary where the values are lists containing only the even integers from the original lists.

```
Input dictionary: {'A': [1, 2, 3, 4], 'B': [5, 6, 7, 8]}

Output: {'A': [2, 4], 'B': [6, 8]}
```

Q4. Write a Python function that takes two dictionaries as input, where the values are lists. The function should merge the lists corresponding to the same keys in both dictionaries into a single list and return a new dictionary with these merged lists.

```
Input dictionaries
{'A': [1, 2, 3], 'B': [4, 5, 6]}
and
{'A': [7, 8], 'B': [9, 10]}


Output: {'A': [1, 2, 3, 7, 8], 'B': [4, 5, 6, 9, 10]}
```

Q5. Write a Python program to combine two dictionary by adding values for common keys.

d1 = {'a': 100, 'b': 200, 'c':300}

d2 = {'a': 300, 'b': 200, 'd':400}

Sample output: {'a': 400, 'b': 400, 'd': 400, 'c': 300}

Q6. Write a Python program to create a dictionary of keys x, y, and z where each key has as value a list from 11-20, 21-30, and 31-40 respectively.

Access the **fifth value** of each key from the dictionary.

{'x': [11, 12, 13, 14, 15, 16, 17, 18, 19],

'y': [21, 22, 23, 24, 25, 26, 27, 28, 29],

'z': [31, 32, 33, 34, 35, 36, 37, 38, 39]}

Output

15

25

35

Q7. Store name as a Key, and 5 marks in a List as a value in dictionary. Store details of at least 5 students. Print the total marks with percentage of each and every student.

Q8. Store name as a Key, and 5 marks in a List as a value in dictionary. Store details of at least 5 students. Print only the total marks of every student in ascending order.

Q9. Given a dictionary with key-value pairs, remove all the keys with values **greater than K**, including mixed values.

Input : test_dict = {‘Gfg’ : 3, ‘is’ : 7, ‘best’ : 10, ‘for’ : 6, ‘xyzx’ : ‘CS’}, K = 7

Output : {‘Gfg’ : 3, ‘for’ : 6, ‘xyzx’ : ‘CS’}

Explanation : All values greater than K are removed. Mixed value is retained.

Input : test_dict = {‘Gfg’ : 3, ‘is’ : 7, ‘best’ : 10, ‘for’ : 6, ‘qqqq’ : ‘CS’}, K = 1

Output : {‘qqqq’ : ‘CS’}

Explanation : Only Mixed value is retained.

Q10. A Python dictionary contains List as a value. Write a Python program to clear the list values in the said dictionary.

Original Dictionary:

{'C1': [10, 20, 30], 'C2': [20, 30, 40], 'C3': [12, 34]}

Clear the list values in the said dictionary:

{'C1': [], 'C2': [], 'C3': []}