DICTIONARY Coding Questions

1. Write a program to count the number of times a character appears in a given string.
2. Write a program to convert a number entered by the user into its corresponding number in words. For example, if the input is 876 then the output should be 'Eight Seven Six'.
   (Hint. use dictionary for keys 0-9 and their values as equivalent words.)
3. Create a dictionary whose keys are month names and whose values are the number of days in the corresponding months.
   (a) Ask the user to enter a month name and use the dictionary to tell how many days are in the month.
   (b) Print out all of the keys in alphabetical order.
   (c) Print out all of the months with 31 days.
   (d) Print out the (key-value) pairs sorted by the number of days in each month.
4. Given the dictionary x = {'k1':'v1', 'k2':'v2', 'k3':'v3'}, create a dictionary with the opposite mapping, i.e., write a program to create the dictionary as : inverted_x = {'v1': 'k1' , 'v2' :'k2' , 'v3':'k3'}
5. Given two dictionaries say D1 and D2. Write a program that lists the overlapping keys of the two dictionaries, i.e., if a key of D1 is also a key of D2, then list it.
6. Write a program that checks if two same values in a dictionary have different keys. That is, for dictionary D1 = { 'a' : 10, 'b': 20, 'c' : 10}, the program should print **2 keys have same values** and for dictionary D2 = {'a' : 10, 'b' : 20, 'c' : 30} , the program should print **No keys have same values**.
7. Write a program to check if a dictionary is contained in another dictionary e.g., if

   d1 = {1:11, 2:12}
   d2 = {1:11, 2:12, 3:13, 4:15}

   then d1 is contained in d2.
8. A dictionary D1 has values in the form of lists of numbers. Write a program to create a new dictionary D2 having same keys as D1 but values as the sum of

the list elements e.g.,

D1 = {'A' : [1, 2, 3] , 'B' : [4, 5, 6]}

then

D2 is {'A' :6, 'B' : 15}

9. Create a dictionary 'ODD' of odd numbers between 1 and 10, where the key is the decimal number and the value is the corresponding number in words. Perform the following operations on this dictionary:

   (a) Display the keys
   (b) Display the values
   (c) Display the items
   (d) Find the length of the dictionary
   (e) Check if 7 is present or not
   (f) Check if 2 is present or not
   (g) Retrieve the value corresponding to the key 9
   (h) Delete the item from the dictionary corresponding to the key 9

10. Write a program to input your friends' names and their Phone Numbers and store them in the dictionary as the key-value pair. Perform the following operations on the dictionary:

    a) Display the name and phone number of all your friends
    b) Add a new key-value pair in this dictionary and display the modified dictionary
    c) Delete a particular friend from the dictionary
    d) Modify the phone number of an existing friend
    e) Check if a friend is present in the dictionary or not
    f) Display the dictionary in sorted order of names

11. Word Frequency in a Paragraph
12. Find Common Keys in Two Dictionaries
13. Invert Dictionary with Duplicate Value
    Input: d = {'a':1, 'b':2, 'c':1,'d':3, 'e':2}
    Output: {1: ['a', 'c'], 2: ['b', 'e'], 3: ['d']}
14. Using dictionary, print the first character that does not repeat.
    Input: "aabbccddeefg"
    Output: f
15. Using dictionary, count how many times each number appears.

16. Create a dictionary where keys are word lengths and values are lists of words.
    Input: ["cat","dog","elephant","rat","tiger"]
    Output: {3:['cat','dog','rat'], 5:['tiger'],8:['elephant']}
17. Sort dictionary in ascending order of values.