Lab 6: Lists and dictionaries

Task 1:
Write a program to count the number of strings where the string length is 2 or more and the first and last character are the same. Take strings from a given list of strings.

```
Input: ['aba','abc','b','3223','sue','34231','xy']
Output: 2
```

Task 2:
Write a program to check if two given lists have exactly two common elements.

```
Input: l1=[1,2,3,4,5], l2=[4,5,6,7,8]
Output: True
Input: l1=[1,2,3,4,5], l2=[5,6,7,8,9]
Output: False
```

Task 3:
Write a script to concatenate following dictionaries to create a new one.

Input: dic1={1:10, 2:20}; dic2={3:30, 4:40}; dic3={5:50, 6:60}
Output: {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Task 4:
Write a script to check if a number given by the user is a key of the dictionary.

```
d = {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}
```

Task 5:
Write a script which iterate over dictionary using `for` loop, giving an information which colour correspond to which number.

```
Input: d = {'Red': 1, 'Green': 2, 'Blue': 3}
Output:     Red corresponds to  1
            Green corresponds to  2
            Blue corresponds to  3
```

Task 6:
Write a script to sort a dictionary by key.

```
Input: color_dict = {'red':'#FF0000', 'green':'#008000', 'black':'#000000',
'white':'#FFFFFF'}
Output: black: #000000
        green: #008000
```

```
red: #FF0000
white: #FFFFFF
```

Task 7:
Write a script to sort a list alphabetically in a dictionary.

```
Input: {'n1': [2, 3, 1], 'n2': [5, 1, 2], 'n3': [3, 2, 4]}
Output: {'n1': [1, 2, 3], 'n2': [1, 2, 5], 'n3': [2, 3, 4]}
```

Task 8:
Write a program to convert a list into a nested dictionary of keys.

```
Input: list = [1, 2, 3, 4]
Output: {1: {2: {3: {4: {}}}}}
```