Course Title: Programming Language II
Course Code: CSE 111
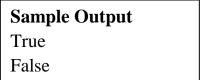**Semester: Summer 2020**
Assignment no: 5
Topic: Dictionary and Tuples

Easy

1. Write a python code that checks if the value exists in a dictionary or not. First input line will be the given dictionary separated by commas. The **keys will be lowercase alphabets (a-z)** and the **values will be integers**. After that, it takes several inputs to check whether they exist or not until the word "STOP" comes.

Sample Input

a: 100, b: 200, c: 300, d: 400

200

600

Sample Output

True

False

2. Write python code to get the key corresponding to the minimum and maximum value from a given dictionary which will be comma separated.

Sample Input

Physics: 82, Math : 65,History: 75

Sample Output

Minimum: Math

Maximum: Physics

3. Write a python program that reads 10 numbers **as values** from the user, but does not allow the user to enter duplicates. This means that if a number has been entered already, the program will not accept it as input again and instead ask the user to enter a different number. **Use a dictionary to solve the problem**.

Medium

1. Write a Python program to combine two dictionaries into one by adding values for common keys. Input contains two comma separated dictionaries. Print the new dictionary and create a **tuple** which contains unique values in sorted order.

Sample Input
a: 100, b: 100, c: 200, d: 300
a: 300, b: 200, d: 400, e: 200

Sample Output
{ 'a': 400, 'b': 300, 'c': 200,'d': 700, 'e': 200}
Values: (200, 300, 400, 700)

2. Write a python program which prints the frequency of the numbers that were given as input by the user. Stop taking input when you find the string "STOP". Do not print the frequency of numbers that were not given as input. **Use a dictionary to solve the problem**

Sample Input
10
20
20
30
10
50
90
STOP

Sample Output
10 - 2 times
20 - 2 times
30 - 1 times
50 - 1 times
90 - 1 times

3. Write python code to invert a dictionary. It should print a dictionary where the keys are values from the input dictionary and the values are lists of keys from the input dictionary having the same value. **Make sure the program handles multiple same values.**

Sample Input
key1 : value1, key2 : value2, key3 : value1

Sample Output
{ "value1" : ["key1", "key3"], "value2" : ["key2"] }

Hard

1. Two words are anagrams if they contain all of the same letters, but in a different order. For example, "evil" and "live" are anagrams because each contains one "e", one "i", one "l", and one "v".

Write a program that reads two strings from the user and determines whether or not they are anagrams. **Use a dictionary to solve the problem.**

Sample Input
evil
live

Sample Output
Those strings are anagrams.

2. On some basic cell phones, text messages can be sent using the numeric keypad. Because each key has multiple letters associated with it, multiple key presses are needed for most letters. Pressing the number once generates the first character listed for that key. Pressing the number 2, 3, 4 or 5 times generates the second, third, fourth or fifth character.

Key	Symbols
1	.,?!:
2	ABC
3	DEF
4	GHI

5	JKL
6	MNO
7	PQRS
8	TUV
9	WXYZ
0	Space

Write a program that displays the key presses needed for a message entered by the user. Construct a dictionary that maps from each letter or symbol to the key presses needed to generate it. Then use the dictionary to create and display the presses needed for the user's message.

Sample Input	Sample Output
Hello, World!	4433555555666110966677755531111