Homework 5 (20 pts)

1. (6 pt) Write a Python program to create a dictionary for the following purpose. You are required to perform frequency listing on multiple strings given as input. Write a function frequency() that takes only one string at a time as input and builds a frequency listing of the characters contained in it. Represent the frequency listing as a Python dictionary and print the result in sorted order on 'key'.

   Note: The input strings will be given from the keyboard. The input strings are assumed to be one-line and the user enters one string in each line, and your program must get one-line strings from the keyboard until the user input is \end and then print the output for each string. Write this part of the program in a function named *q1()*

   Output Format:

   For each of the string inputs, print a dictionary that maps from frequencies to letters.

   For example:

   If first input string ="Never Give Up" and the second string string is \end, then the program should create a dictionary:

   frequencydict={'e' : 3, 'g': 1, 'i': 1, 'n': 1, 'p': 1, 'r': 1, 'u': 1, 'v': 2}

   The dictionary 'frequencydict' indicates that the letters 'g', 'i', 'n', 'p', 'r' and 'u' appear once; 'v' appears twice, and so on.

   Also, sort the dictionary by keys and print the result.

   Note: You may assume that the user always inputs a valid one line string (including \end). The input strings are not case-sensitive, i.e., 'a' and 'A' are assumed to be equivalent.

   If the first string input by the user is \end, then your program must print "Error".

   Case 1:

   Input:

   Never Give Up

   \end

   Then, your output should be:

   {'e': 3, 'g': 1, 'i': 1, 'n': 1, 'p': 1, 'r': 1, 'u': 1, 'v': 2}

Case 2:
Input:
Never Give Up
Balloons are blue
\end
Then, your output should be:
{'e': 3, 'g': 1, 'i': 1, 'n': 1, 'p': 1, 'r': 1, 'u': 1, 'v': 2}
{'a': 2, 'b': 2, 'e': 2, 'l': 3, 'n': 1, 'o': 2, 'r': 1, 's': 1, 'u': 1}

2. (4 pt) Write a python program to find the lower left corner (minimum x and minimum y value) for a list of point locations and print it. Input the list of point locations from the keyboard. Each point location will be input in a different line until \end is typed in. Consider the following case as an example.
Input :
1.2,2
5,4
2,3
6,5
\end
Then your Output should be : (1.2,2.0)
Write this program in a function named *q2()*.