**Homework #1: functions and strings**

**The main goal of this first homework is to complete a relatively straightforward C++ program by taking advantage of your Java knowledge.   Keep in mind that at the ﻿statement level, if your code can compile and run in Java, it will pretty much be accepted by C++ and also does what you expect in C++.**

* **Problem description:** Given a string variable string s; , initialize s such that it contains a paragraph in English text. You can do so within your program by either (1) hardcoding the initial value, e.g., string s("hello world");  or (2) read in the initial value from the keyboard by calling the getline( ) function. Furthermore, this paragraph consists of no more than 100 tokens. Tokens are sequences of contiguous characters separated by any of the specified delimiters (e.g., white spaces). Please implement a C++ program to perform the following two tasks on s:
  1. Implement the function void getLetterFreq(string s); to identify the frequency of each unique letter ('a'-'z', case insensitive) in s.  This function will call the "cout <<" statement(s) to print out the frequencies on the screen.
  2. Implement the function  void StrToTokens(string s); to identify and print all the tokens contained in s on the standard output (i.e., cout). For simplicity, only white spaces will be considered as delimiters. For instance, the string "what's that thing?" contains three tokens: "what's", "that" and "thing?". You **are not allowed to call existing functions such as strtok() for this task**.  Specifically, you are required to loop through the input string one character at a time to separate the input string to different tokens.  Please store the tokens in an array (such as vector<string>) before printing out all the tokens.
  3. Implement the main() function that  (1) declares and initializes the string s, and (2) calls the above two functions.
* **Example input and output:**

      Suppose s="Always remember that you are unique.  Just like everyone else."    
        
      The function getLetterFreq(s)  will print out the following information (yours might be in a different format):

      {'a': 4, 'b': 1, 'e': 11, 'i': 2, 'h': 1, 'k': 1, 'j': 1, 'm': 2, 'l': 3, 'o': 2, 'n': 2, 'q': 1, 's': 3, 'r': 4, 'u': 4, 't': 3, 'w': 1, 'v': 1, 'y': 3}

       The output of  StrToTokens(s);  will be 'Always', 'remember', 'that', 'you', 'are', 'unique.', 'Just', 'like', 'everyone', 'else.' ﻿  
  
**Grading**:  This homework will be graded for a total of 60 points, 20 points per function.    
  
**Submission requirement:** Submit your source code in one cpp file on iLearn by the due time.