

Programming Assignment 4

Due: Friday, October 26, 11:55PM

Objective:

Compute the frequency of words in a text file and print the words and frequencies in descending order of frequency. You must use STL `list` objects to manipulate your data.

This project is intended to give you practice in using list iterators and in storing non-primitive objects in data structures.

Example:

Input file: The red rooster sat near the red barn under a red sun.

Output:

red	3
the	2
rooster	1
sat	1
near	1
barn	1
under	1
a	1
sun	1

Getting Started: You're given code that will read a text file and store all the words in that file in a `list<string>` data structure. The program as given simply prints the words to the console in the order that they appear in the list. You're also given a text file that will be used for testing your program.

Suggested Implementation:

1. Create a structure or class that holds a pair of attributes: a string which will hold a word and an integer that will hold the frequency of that word.
2. Create a list that holds instances of your structure.
3. Scan through the initial list of words.
If the word does not appear in your word/frequency list, add a new entry for that word with a frequency of 1.
If the word does already appear in your word/frequency list, increment its frequency.
4. Sort the word/frequency list by comparing the frequencies.
5. Print the sorted list to the console.

Submission:

- Submit only the file (program04-main.cpp) containing your modified code.
- Copy your program output from the console and paste it at the end of your source in a `/* */` comment.
- Don't forget to put your name in the comment at the top of the file.