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Assignment 4

Spell Checker

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The program was designed to use the MyLinkedList class from lab 6 to create a spell checker for a text file, in this case the text file being Oliver. Because the MyLinkedList class was already created and worked correctly, the only class to be created was a client class. First, the dictionary has to be loaded into an array of linked lists, but the dictionary wasn't alphabetical. Before each word was loaded, the first letter had to be checked so it could be put in the correct linked list. Once the dictionary was set up, then the Oliver text file was read in, one word at a time. After reading in the word, it was changed to lower case because the dictionary was all in lower case. Because the text file had special characters in it, the word had to be searched and removed of them. Once special characters are removed, the corresponding linked list has to be searched for the word, using an overloaded contains method. The overloaded contains method contains an int array used to keep track of the number of computations for each word. The computations had to be put in an array because the contains method was in a different class than the client, where the count needed to be used. If an int was used, it wouldn't have been available outside of the class it was used in. However, arrays are reference variables, so it could be accessed across multiple classes. This saved time because now the array only had to be searched once to figure out if the word was found and how many comparisons it took.

run:

words found 800931

words not found 176729

Comps Found 2822036802

CompsNotFound 1318991028

Average comps for words found 3523.0

Average comps for words not found 7463.0

BUILD SUCCESSFUL (total time: 11 minutes 26 seconds)