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Programming Assignment 4

Spell Check Utilizing Linked Lists

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Abstract

The problem that must be solved with this program is that it, by the end, must have the ability to check for misspellings of words. Not only this but it must determine how many words there are, how many are spelled correctly, how many misspellings there are, and how many dictionary comparisons there are for each of the words. The comparisons aspect can be used to determine the efficiency of the algorithm.

There must be a way to store not only the created dictionary but the text that will be analyzed. Also, there must be a way to read whichever device is used to store the texts. The words within each text must also be singled out so that they can be compared. This will involve building a text parser – a parser that not only finds each individual word, generally by finding the space (“ “) between each word, but one that makes sure to be rid of any special characters (numbers, punctuation, and other symbols).

To minimize time, the dictionary should be organized in a way that words of a certain type can be accessed instantly. Alphabetically is usually how dictionaries work so that’s a pretty good method to go with.

Essentially, this program will read a text file, find each word, convert that word into a simplified form (no capitals, no punctuation, etc.) and compare the words of the texts to determine misspellings.

Output

Words Found: 853600
Words Not Found: 34476
Average Comparisons of Words Found 3493
Average Comparisons of Words Not Found 93918