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Programming Assignment #4

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The concrete design of the program is to compare the difference of constructing a linked list that collect data and compares on average comparisons. The object of the program is to have one file be read and compared while the other file finds the words that are spelled correct and words spelled incorrect. Now when the program is printed, I tested it in three different forms. The first function was the add function. It just showed the print out of the original comparisons. The time complexity for this was around 48 seconds. The second function was add first which the comparisons was similarly the same, but the time was the shortest at around 2 minutes and 22 seconds. The final function was add last function, the time complexity fell in the middle of the other two comparisons. This time was 2 minutes and 37 seconds, but they all was about fifteen seconds apart. Using the Linked list for comparing words gives a high understanding of the concept on the reason why it is used, but the process is slow but accurate.

(Unaltered Dictionary)

average number of incorrect comparisons: 7381.378348704436

average of correct comparisons: 3559.0711131401654

BUILD SUCCESSFUL (total time: 48 seconds)

(letters 'a' & 'i' added to front)

run:

average number of incorrect comparisons: 6453.883491027733

average of correct comparisons: 3470.354347939136

BUILD SUCCESSFUL (total time: 48 seconds)

(letters 'a' & 'i' added to end)

run:

average number of incorrect comparisons: 7245.530012914818

average of correct comparisons: 3706.1130139552165

BUILD SUCCESSFUL (total time: 46 seconds)