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C202

Programming Assignment 04

2017.3.25.

Algorithm Analysis

A dictionary is one of the most widely-used and abstractions for data storage and retrieval. The dictionary abstract data type is implemented in a variety of manners, the most common being the use of a linked list to store underlying data and the second being a standard array implementation. The issue with a standard array implementation is that for efficiency of operation, for the programmer, we must have advance knowledge about the total size of the data set to be organized.

In the programming assignment four, using the code form Lab 06, we need to write a code testing the words in the file of book. Additionally, we should search between the word and search between the character and character. For this project, we will implement a spell checker, and using the randomized random_dictionary.txt give in the list files. To notice all words are in lowercase. And then, reading in the oliver.txt examine the first character of each word, and traverse one of the 26 linked list.

I am trying to implement dictionary using LinkedList. First, I have created the linked list dictionary in alphabetical order. Then have the words in the dictionary searched in a text file then do a intersect method to see if any words intersect. I also count the words after finding the words or not find the word. If the words is not found, just print this out "unable to read the file". And then, we should count the total number of comparisons and the average number of comparisons for words. That will know what words can be searched.

Finally, in this programming, we should know how to use LinkesList, and Sorted the array. A linked list is very similar to an array in a way that both are structures capable of storing elements sequentially. For the project, the dictionary entries are stored in an array sorted in increasing order of key value. To find a key, a binary search must be performed. This array will contain one linked list for each letter of the alphabet. When a word is added to the dictionary it will be added to the linked list corresponding to the first letter of the word

Output:

run:

Waiting for searching complete...

Waiting for searching complete...

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Words are found: 796518

Total cpmparison: 2807311546

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Words are not found: 173165

Total comparisions: 1295691228

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Average number of compaarisons for wors found: 3524

Average number of compaarisons for wors not found: 7482

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BUILD SUCCESSFUL (total time: 41 seconds)