# Assignment 3 Indexer Readme

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## Design:

Indexer is made up of two types of linked list structures. The first linked-list structure contains words sorted in alphabetical order. The second list structure is one of a file structure, that contains a file name and a sorted list of words that are contained within the file.

The indexer works by traversing the first list of all the words, and counting the occurrences in every file node within the second list. If the word is found, the indexer will print out the number of occurrences of the particular word in the file.

## Time Complexity Analysis:

The time complexity of this analysis is O(n+nm) because it depends on the number of tokens found in each file and how many of those tokens are found within the file list. N represents the number of tokens; m represents the number of files. The first n represents the storing of tokens, and the n*m represents the searching of each token in the list of files m.