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Assignment 4: SEARCH

This search function takes in the inverted index file that indexer produces.

In the indexer I used for our program is a hash table with a linked list to a linked list. The big O is O(n).

The hash table has 36 bins. 0 to 9 are numbers and the rest are alphabetical order A to Z. So it gets the key using the hash function and checks if its digit or alphabet and hashes accordingly.

In our search function, search takes in the inverted index file that is produced by the indexer and uses that to search words arounding to sa <term> or so<term>.

We have 6 functions and a main in our search function. We input sa<term> or so<term> and it outputs the text files that the word is in and also the number of occurrences of that word.

It also shows in which directory the files are situated in.

Our read word function read the word from the output file one word at a time and stores it in a string and returns the string.

Function get files takes in a hash table and the word and it compares the word the the user is searching for and returns the value back.

Function union list takes in two nodes, combines two files together (so<term> function) and return the new head to the list.

Function intersect lists does the same thing as union lists except it creates the sa<term> function and returns the new head of the list.

Function cloneNode and clone pretty much makes a copy of the nodes. If we don't clone then we might overwrite the existing data structure.

So the big O of n for our search function is O(n).