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CS163

HW5 Questions

1.Using the search and replace is a great tool to modify code that wyou may have written and there are names which need to be changed, going through the entire file to find each word is very counter productive and can lead to may errors along the way. An example of that would be :%s/iold/new/g. This could also be very useful if I wanted to change a word from old to new that was written in the code various times throughout the implementation.

2.Ethics is a very important part of being in the computing industry simply because you have access to other peoples data and will be working with sensitive information when your are for example, working for a bank and are able to have access to other peoples private information. Being ethical in a sense were you wouldn't do anything that was not permitted is critical because the breach of information.

A. The order of items in an adjacency list’s edge list is an efficient approach because it is similar to a hash table where information can be directly accessed with O(1) performance from the hash table like implementation.

b) Since these are balanced trees, they are relatively a good abstraction due to their O(log2n) performance for insertion, and since they are balanced their height is shorter which would allow for faster performance due to less traversal down the tree.

c) Hash tables are a great ADT because of their O(1) performance with most operations, The downside to this ADT is that the data can never be displayed, another structure would need to be implemented for this operation. The BST on the other hand, can be displayed with the in order traversals method to print the elements in the tree to have the data sorted. This is the advantage for the BST but doesn't have as fast of indexing time with the hash table.