GIT Department of Computer Engineering

CSE 222/505 - Spring 2023 Homework #5 Report

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1. SYSTEM REQUIREMENTS

When the program executes you should input file name first and you should call createtree function and when you move nodes you should put -> between nodes

2. PROBLEM SOLUTION APPROACH

Problem solution of reading file and create tree:

I took lines in file and send it to addelementtoarr to add to arraylist after separating them from ;.

Then I wrote create tree function it has 2 for loops for 2 dimensions and I used one nod like iterator and assigned it to root in first loops beginning. And if a node is not already exists I create one if one node in path exists I assign iterator to that node to add to it.

Problem solution of Bfs search:

I have a helper function that fills queue. In helper function I have another queue that I use to go back to nodes childs. After filling queue in helper function I poll elements from it and search for the word.

Problem solution of Dfs search:

I have a helper function that fills queue. In helper function I have a stack that I use to go back to nodes childs. After filling queue in helper function I poll elements from it and search for the word.

Problem solution of Post versal search:

I have a helper function that fills stack. In helper function I have a stack that I use to go back to nodes childs. After filling queue in helper function I pop elements from it and search for the word.

Problem solution of move:

I have a function first calls copytree function to create a copy of tree to show difference in a different jtree then it calls findnode function with s and to strings and assigns returned value of function to empty nodes. if nodes are null this means nodes we search for are not existing. if the one we want to move is null we print node doesn't exists. if node we want to move other node to is null we create a node.İf we try to move root and child of a root it throws exception then function calls find path which finds the node we should add this node but after getting this node we should check the return node to being root childs sibling if so we should add the node with its parents. When we do that we have to be carefull about child number if the node we want to move has a sibling we cant move parent with it so we create copy of parent and move sibling to copied parent And we create another jframe to show old tree.

Find node function creates string arraylist and adds the path to it then uses bfshelp function to create a tree to search.

Search in path function search same nodes in the childiren of the node we want to move are node to. If it finds it returns that node if not it returns null.