Lab Exercise 4 – Trees 2023

Question

a) Implement a **Node** class with suitable attributes to store employee number and name of employees.

b) Implement `displayNode ( )` method to display the details stored in a Node.

c) Implement the **Tree** class with the following data members and methods.

Tree
`Node root`

`Node find(int emp )`
`void insert(in emp, String name )`
`void inOrder( )`
`void preOrder( )`
`void postOrder( )`
`Node findRecursive( )`
`void deleteAll( )`

d) Implement a new method called `findRecursive( int emp)` which perform the find operation recursively.

e) Implement a method called `deleteAll( )` to remove all the Nodes from the tree.

f) Write a application to do the following.

i) Create a tree of 10 Nodes with the following details.

Employee Number	Name
149	Anusha
167	Kosala
047	Dinusha
066	Mihiri
159	Jayani
118	Nimal
195	Nishantha
034	Avodya
105	Bimali
133	Sampath

ii) Display the employee data using inorder, preorder and postorder traversing.

iii) Allow the user to input any employee number from the keyboard and display the employee details if the employee exists in the tree.

iv) Delete all the nodes from the binary search tree.

v) Display the tree after deleting nodes.