CPSC 2430-02 Fall 2017 Lab #3

Friday October 20, 2017

This lab will assist you in completing p3 and exercises your understanding of Binary Search Tree traversals, insertion and deletion.

Follow these steps:

1) Call your source code file “lab3.cpp”
2) Create a node to use which contains a data/key field of type int, and two pointers to children (left and right)
3) Write a function to construct a BST, with smaller values to the left and larger ones to the right.
4) Write a function to traverse the tree INORDER, recursively. This function should print the key/data value at each node to the screen.
5) Write a function to traverse the tree PREORDER, recursively. This function should print the key/data value at each node to the screen.
6) Write a function to traverse the tree POSTORDER, recursively. This function should print the key/data value at each node to the screen.
7) Write a function to delete ALL the nodes of the tree and return the root pointer to “null”.
8) In main, test all functions by creating a tree containing between 5 and 10 nodes, then call each of the traversal/print functions. Call the deletion function before ending the program.

Submit your program by typing the following command at the prompt in the same directory where the file is stored:

/home/fac/sreeder/submit/cpsc2430/lab3_runme