भारतीय सूचना प्रौद्योगिकी संस्थान गुवाहाटी

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY GUWAHATI

Data Structure Lab, B.Tech 2nd Semester

Assignment -7

1. Write a C program for finding the level that has the maximum sum in the binary tree.
2. User provides preorder and inorder traversals of a binary tree. Construct the binary tree from these given traversal orders.
3. Write a program that takes a binary tre from user and then displays the order in which nodes are traversed in inorder, preorder and postorder traversal.
4. Write a C program for finding the number of half nodes (nodes with only one child) in the binary tree.
5. Given a binary search tree (BST), find the lowest common ancestor (LCA) of two given nodes. The **LCA** of two nodes `p` and `q` in a BST is the lowest node (node with maximum depth) in the tree that has both `p` and `q` as descendants.