1. Write a program to create a binary search tree and perform all the operations.
2. Write a program to count the number of nodes in a binary search tree.
3. Write a program that use either recursive and non-recursive functions to perform Binary search operations for a Key value in a given binary search tree.
4. Write a program to implement the tree traversal methods.
5. Suppose a complete binary tree is represented with an array. In this array, the root node is placed at index 0. The left and right child of any arbitrary node at the index i is placed at the index 2i + 1 and 2(i + 1), respectively. Write a program to construct the tree hierarchically by taking its data items as an array from the user and print the tree and then print the pre-order traversal result.
6. In a tournament tree, each non-leaf node represents the winner of the match played between the players represented by its children nodes. Such trees are used to record the winner at each level up to the root (the overall winner). Given a binary tree, write a program to verify whether it is a tournament tree or not.
7. Given a binary tree with integer-valued nodes, and a target value, determine whether there exists a root-to-leaf path in the tree. Modify your program to consider all paths, not just root-to-leaf paths.
8. Write a program to implement a Binary tree.
9. Write a program that takes a postfix expression and builds an expression tree based on the postfix expression.