Data Structures Lab – Binary Search Tree (linked)

Overview

Implement a binary search tree of int using a **linked** implementation.

Part 1

Implement the following methods:

   void add(int item) – Adds item to the tree.

   void inorder() – Prints data using an in order traversal of the tree.

Write code to run these methods in main.

Part 2

Add the following methods to the binary search tree:

   bool hasItem(int target) – Return true if the item is in the tree and false otherwise.

   void preorder() – Prints data using a preorder traversal of the tree.

   void postorder() – Prints data using a post order traversal of the tree.

Part 3

Add the following method to the binary search tree:

   int sum();

This method should return the sum of all data in the binary search tree.

Part 4

Add the following method to the binary search tree:

   void delete(int target)

This method should delete the given element from the binary search tree.

Important: The search property should be preserved after the item is deleted.