Due date: 2/29 (Monday)

(a) Part I

Add two public member functions into class BST:

(1) int height() /* returns the height of the BST tree */
(2) int leafCount() /* returns the number of leaf nodes in the BST tree */

In the template code emailed to you, a function for building a BST tree is provided and in main() a tree has been built and displayed. You are asked to call the two new functions and print their return values.

(b) Part II

Write a new public member function in the BST class to copy the BST tree to the BST tree specified in the function’s parameter (‘dest_tree’).

void copyTree(BST<Key, E>& dest_tree);

Initially, ‘dest_tree’ is an empty tree. After the copying, ‘dest_tree’ must be exactly the same as the BST tree. That is, the output of dest_tree.print() is the same as that of this->print().

In the main() function, call copyTree() to copy the tree built in Question(a) to another tree. Then you need to call the BST’s print() function to show the contents of both trees.