COEN 79L – Object-Oriented Programming and Advanced Data Structures

Lab 9:

The Bag Class with a Binary Search Tree

The Assignment:
Implement the bag template class using a binary search tree to store the items.

Purposes:
Ensure that you understand and can use binary search tree.

Files that you must write:

1. `bag6.h`: Header file for this version of the bag class.
2. `bag6.template`: The implementation file for the new bag class. There are four functions in this implementation file that you must implement. These files are marked with the words `STUDENT WORK.`

Other files that you may find helpful:

1. `bintree.h`: and bintree.template This is the binary tree node template class.
2. `bagtest.cxx`: A simple interactive test program.
3. `bagexam.cxx`: A non-interactive test program that will be used to grade the correctness of your bag class.

Discussion of the Assignment
Implement your work in two parts: (1) The `insert` and `count` functions, and (2) The `bst_remove_all` and `bst_remove_max` functions. Don't move to step 2 until you have completely finished and tested step 1.