**STAGE 1:** Implement the following methods in “BST.java” class:

/\*\* Return the height of this binary tree \*/

public int height() {

// Left as exercise

return 0;

}

/\*\* BreadthFirst traversal from the root \*/

public void breadthFirstTraversal() {

// Left as an exercise

}

**STAGE 2:** Implement the following methods in “Tree.java” class:

@SuppressWarnings("unchecked")

@Override

public default boolean containsAll(Collection<?> c) {

// Left as an exercise

return true;

}

@SuppressWarnings("unchecked")

@Override

public default boolean addAll(Collection<? extends E> c) {

// Left as an exercise

return true;

}

@SuppressWarnings("unchecked")

@Override

public default boolean removeAll(Collection<?> c) {

// Left as an exercise

return true;

}

@SuppressWarnings("unchecked")

@Override

public default boolean retainAll(Collection<?> c) {

// Left as an exercise

return true;

}

@Override

public default Object[] toArray() {

// Left as an exercise

return temp;

}

@SuppressWarnings("unchecked")

@Override

public default <T> T[] toArray(T[] array) {

// Left as an exercise

return array;

}

**STAGE 3:** Test your classes with “DriverBST.java” class. Output should be:

The height of tree is 0

The height of tree is 1

The height of tree is 2

The height of tree is 2

The height of tree is 3

The breadth-first traversal is Green Blue Red White

The pre-order traversal is Green Blue Red White

The breadth-first traversal is Tom George Jean Jane Kevin Jen Peter Kim Susan Michael Michelle

The height of tree1 is 8

The breadth-first traversal for tree2 is 50 45 59 35 48 51 58

The height of tree2 is 4

The breadth-first traversal for tree3 is 50 48 52 58

The height of tree3 is 3

tree2 contains all of tree3 ? false

The breadth-first traversal for tree2 is 50 45 59 35 48 51 22 58 52

The height of tree2 is 5

The breadth-first traversal for tree2 is 22 52

The height of tree2 is 2

The breadth-first traversal for tree3 is 50 48 58

The height of tree3 is 2

[35, 45, 48, 50, 51, 58, 59]

[35, 45, 48, 50, 51, 58, 59]