Computer Science II	Lab 17C – HISTOGRAM TREE 2 PART 1	Lab Value - 100

Lab Goal : This lab was designed to teach you more about binary trees.

Lab Description : Write a program that uses ThingCount to store letters and letter counts. The data structure created for this program is similar to a Map. Each tree node will store a ThingCount and references to the left and right tree nodes that also store ThingCounts. Each ThingCount with its Object and count will occur at most once in the tree.

ThingCount – stores an Object and the Object's count

```
class ThingCount implements Comparable
{
   private int count;
   private Object thing;

   //constructors

   //set and get methods

   //equals method

   public int compareTo(Object obj){

     return 0;
   }

   //toString
}
```

Sample Data (ThingTester.java) :

```
ThingCount one = new ThingCount();
ThingCount two = new ThingCount('A',5);

System.out.println(one);
System.out.println(two);

ThingCount three = new ThingCount("hello", 7);
System.out.println(three);

System.out.println(three.getCount());
three.setCount(22);
three.setThing(54.12);
System.out.println(three);

System.out.println(three.equals(two));
two.setCount(22);
two.setThing(54.12);
System.out.println(two.equals(three));

System.out.println(three.compareTo(two));
two.setCount(11);
two.setThing(14.12);
System.out.println(two.compareTo(three));
System.out.println(three.compareTo(two));
```

Sample Output :

```
null - 0
A - 5
hello - 7
7
54.12 - 22
false
true
0
-1
1
```