

Lab # 6 Binary Search Tree (Recursive) (10 marks)

class BSTRecursive defines a binary search tree (using recursion). It has **root** and **size** as its fields. You are to write the following methods for class BSTRecursive: (The description of each method is given at its source code comment.)

```
private int numNodes(BSTNode n)
```

```
private int numLeaves(BSTNode n)
```

```
private BSTRecursive greaterThan(BSTNode n, int v)
```

```
private String toStringInOrder(BSTNode n)
```

```
private boolean isBST(BSTNode n)
```

```
private BSTNode findParentForwardDirection(BSTNode n, BSTNode d,  
BSTNode parent)
```

JUnit is given for each method. **All methods must be written using recursion! If you do not use recursion in any method, you will not get any mark for that method, even though the test cases are correct.**

How to submit:

Submit the jar file of your project (the jar file must include all your java files and test cases) to Courseville (zipped all files together and name it **YourID_Lab06_BSTRecursive** where YourID is your student ID).