Binary Search Tree (Recursive) (12 marks)

You are given a jar file, which contains all files needed for this question. Extract the all .java files and use them.

- **Submit only BSTRecursive.java on MyCourseville. You must submit only the BSTRecursive.java file, or your score will be 0.**
- **Read code and comments. The description of each method is given at its source code comment.**
- **JUnit is given for each method (2 marks for each test). Do not modify the test cases! Only the unmodified test cases will be used in the marking.**
- **All methods must be written using recursion (no loop allowed, no iterator allowed)! If you do not use recursion in a method, you will get 0 mark for that method, even though the test cases are correct.**

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:

```
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)
```

How to submit:

Submit **BSTRecursive.java** to MyCourseville.