

```
1  /****
2  *
3  * TreeNode2 extends TreeNode by adding two child components, which are
4  * references other TreeNodes. Hence, TreeNode2 is used to represent binary
5  * syntactic constructs in a parse tree.
6  *
7  */
8  public class TreeNode2 extends TreeNode {
9
10     /**
11     * Construct this with the given id and child TreeNode references. Set the
12     * line and column fields to -1 to indicate that they have not been
13     * explicitly initialized.
14     */
15     public TreeNode2(int id, TreeNode child1, TreeNode child2) {
16         super(id);
17         this.child1 = child1;
18         this.child2 = child2;
19     }
20
21     /**
22     * A la the other constructor, but with line and column numbers.
23     */
24     public TreeNode2(int id, TreeNode child1, TreeNode child2, int line,
25                     int column) {
26         super(id, line, column);
27         this.child1 = child1;
28         this.child2 = child2;
29     }
30
31     /**
32     * Return the String representation of this subtree, which is the String
33     * value of its ID, followed on the next two indented lines by the
34     * recursive toString of its two children. See the documentation for <a
35     * href= "TreeNode.html#toString()">TreeNode.toString() </a> for a general
36     * description the way trees are represented as strings.
37     */
38     public String toString(int level) {
39         String indent = "";
40         for (int i = 0; i < level; i++) {
41             indent += " ";
42         }
43         return symPrint(id) + toStringLineAndColumn(" ") + "\n" +
44             indent + " " +
45             (child1 == null ? "null" : child1.toString(level+1)) + "\n" +
46             indent + " " +
47             (child2 == null ? "null" : child2.toString(level+1));
48     }
49
50     /** Reference to the left child of this node. */
51     public TreeNode child1;
52
53     /** Reference to the right child of this node. */
54     public TreeNode child2;
55
56 }
```