Principles of Computer Science Lab

The goal of this lab is to implement insertion into a binary search tree (or a sorted binary tree) while maintaining the AVL condition as discussed in the class.

You are provided with the following files:

- BTNode.java, which implements a binary tree node;
- LinkedBinaryTree.java, which implements a binary tree;
- Product.java, which implements a produce, which we want to store in the binary tree;
- ProductComparator.java, which implements a scheme to compare the values of two products; and
- lab11.java, which implements the primary driver for this lab.

You are asked to implement three methods in LinkedBinaryTree.java. The first method (**insert**) inserts Product objects in the binary tree while maintaining the sort condition but not maintaining the AVL condition. The second method (**insert_avl**) inserts a Product objects into the binary tree while maintaining the AVL condition. The last method (**print_dot**) prints out the contents of the binary tree in dot format.

As usual your methods should work correctly irrespective of the actual insertion order of Product objects into the binary tree.