ECE 250 *Algorithms and Data Structure*
Department of Electrical and Computer Engineering
University of Waterloo

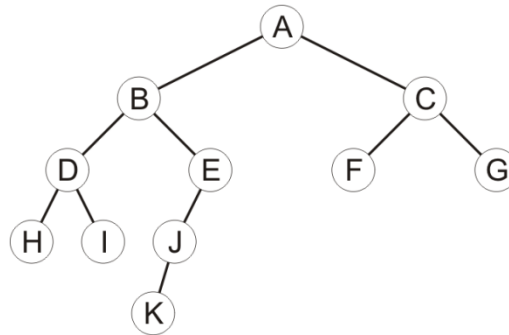**6.3*a*** Perform an in-order traversal of the binary tree shown in Figure 1.

Figure 1. A binary tree.

6.3*b* An in-order traversal of a binary search tree is performed, and each time a node is visited, it is inserted into a new binary search tree. What is the shape of the resulting tree?

6.3*c* Suppose we have a binary search tree as described in class. Implement an in-order traversal that prints out the entries in the tree in the form

$$3 < 4 = 4 = 4 < 5 < 6 < 7 = 7 < 8$$

where 3, 4, 4, 4, 5, 6, 7, 7, 8 are the entries in the binary search tree. If the tree is empty, print nothing. Hint: pass-by-reference.