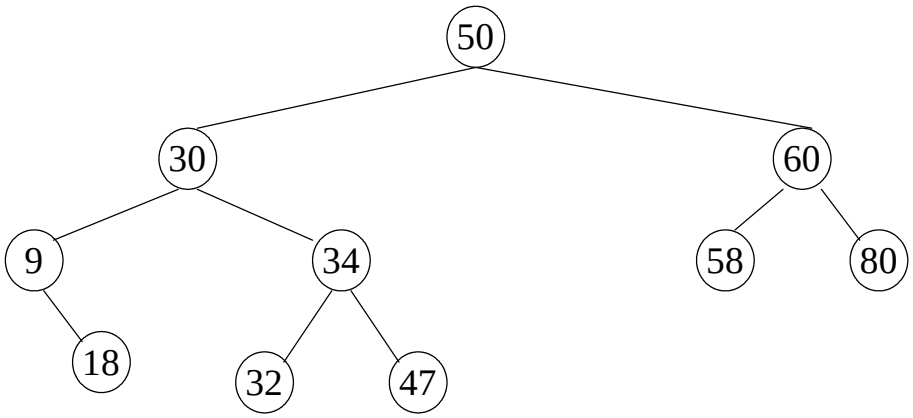
Team #:_____ Name:_____
Absent:

1. Consider the Binary Search Tree (BST):



a. What would be the result of an inorder traversal?

b. Starting at the root, how would you find the node containing “32”?

c. Starting at the root, when would you discover that “70” is not in the BST?

d. Starting at the root, where would be the “easiest” place to add “70”?

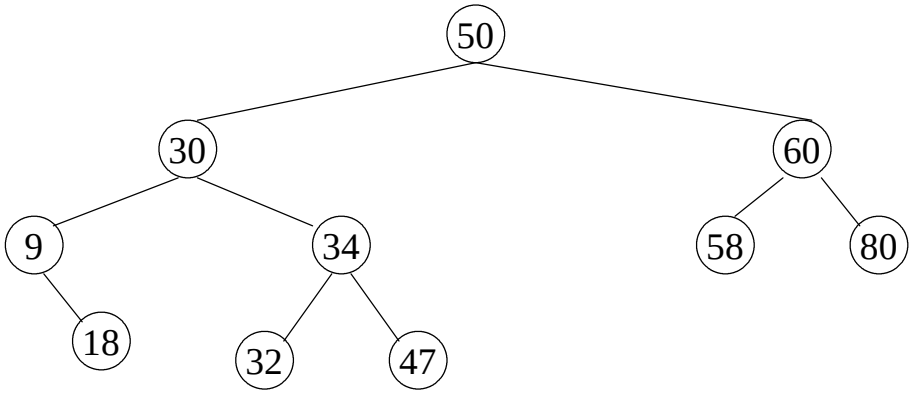
2. If a BST contains n nodes and we start searching at the root, what would be the worst-case theta Θ( ) notation for a successful search? (Draw the shape of the BST leading to the worst-case search)

3. a) If a BST contains n nodes, draw the shape of the BST leading to best, successful search in the worst case.

b) What is the worst-case theta Θ( ) notation for a successful search in this BST?

Team #:_____ Name:_____
Absent:

4. Consider the Binary Search Tree (BST):



a. What would be the result of deleting 58 from the BST?

b. What would be the result of deleting 9 from the BST?

c. What would be the result of deleting 50 from the BST?

5. One technique when programming is to convert a hard problem into a simpler problem. Deleting a BST node that contains two children is a hard problem. Since we know how to delete a BST node with none or one child, how could we convert "deleting a node with two children" problem into a simpler problem?