DATA STRUCTURES - CS 261 (SPRING 2015)

Assignment #4 – Questions

Keeley Abbott
Theodore Duchow-Pressley

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1. Show the binary search tree built by adding numbers in this specific order, the graph is empty to start with (50, 20, 100, 10, 130, 30, 21).

2. The trouble with binary search trees is that they can become unbalanced depending on the order you insert values in. Give an order for inserting the values 1 through 7 such that the resulting tree is a full binary search tree.

There are many possible orders that satisfy a balanced tree, however what they all have in common is that each depth of the binary tree must be assigned in order. One such possible ordering is given:

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4, 2, 6, 3, 5, 1, 7
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3. Part A and B

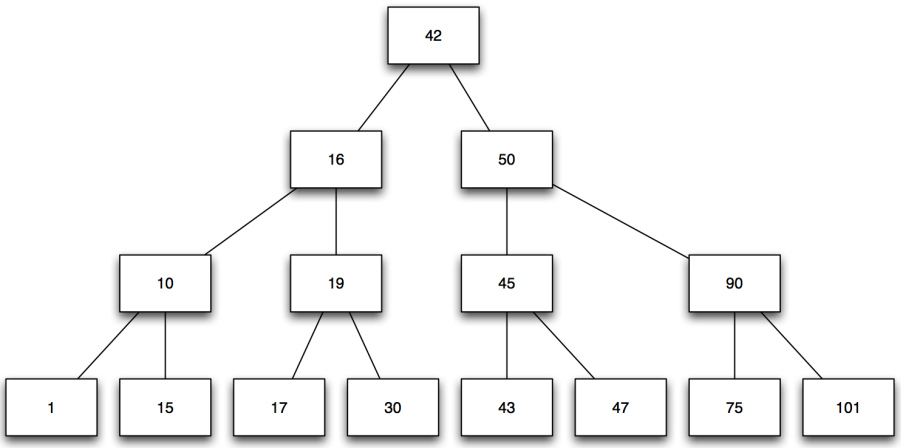

Figure 1: *Provided BST # 3*

Part A
Show the tree after removing the value 16.
Part B
Using the tree produced by Part A, show the tree after removing the value 17.