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CISP - 430

Assignment 7

3/15/2018

## Part 0 - AVL Tree Hand Execution

### Description:

The goal for this assignment was to hand execute the algorithm that makes an AVL tree. This height ordered tree automatically balances itself as items are inserted into it. My diagrams are to include the tree before and after each insertion. In addition, they must indicate the pivot node and the balance factors of each node. I was to do this for a total of 3 different sequences.

### Sequence 1: (1,3,4,5,6,9,7,8,2)

**Note:** This diagram is very large. As a result, it will take up the next three pages.

**Sequence 2: (9,7,2,8,1,3,5,4,6)**

**Note:** This diagram is very large. As a result, it will take up the next three pages.

**Sequence 3: (60,35,80,55,30,25,10,75,50,15,40,95,20,45,90,85,70,65)**

**Note:** This diagram is very large. As a result, it will take up the next four pages.

## **Conclusion**

This assignment was interesting. Being able to diagram a tree that automatically balances itself was neat. I can easily see how this type of tree could be used implement huge, complex, but efficient structures. If I find the time I might try my hand at programming one of these trees.