Morgan Fissel

HW02 (AVL Diagrams) A310

Start with an empty tree:

Then insert 1:

insert 2:

2 is greater than 1, 2 goes to the right

insert 3:

3 is greater than 1, move right
3 is greater than 2, 3 goes to the right, but now the tree is not balanced and we must rotate left.

insert 5:

5 is greater than 2, move right
5 is greater than 3, 5 goes to the right, still balanced

insert 4:

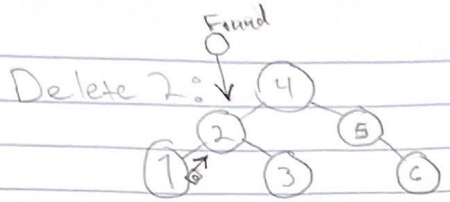
4 > 2, move right
4 > 3, move right
4 < 5, 4 goes to the left, unbalanced
now we double rotate left

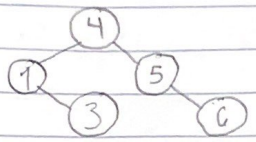
insert 6:

6 > 2, move right
6 > 4, move right
6 > 5, 6 goes to the right, unbalanced
must single rotate left

next page

Delete 2:





First we must Find 2: 2 > 4 look left
Found 2, node has two children,
move the greatest node 2's position
and delete 2, check balance, pass.

END.