

## HW4 - 8) AVL Tree Rotation

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### **8) AVL Tree Rotation**

Insert integers and rotate to maintain AVL Tree rules (pictures below)

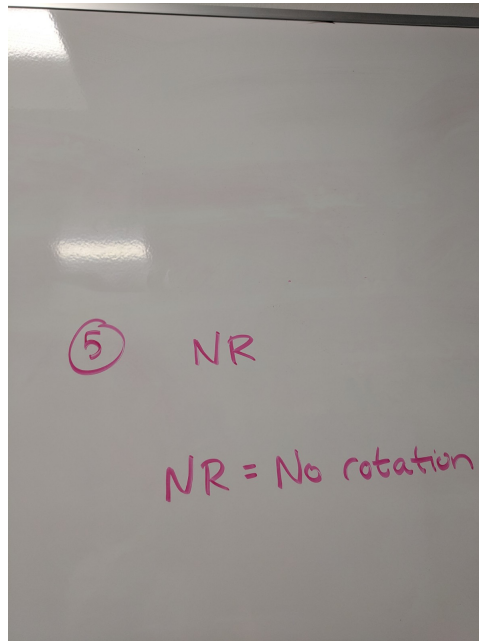


Figure 1: Insert 5

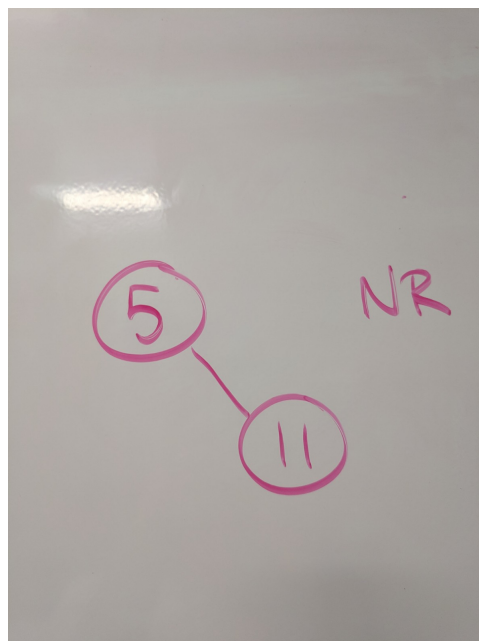


Figure 2: Insert 11

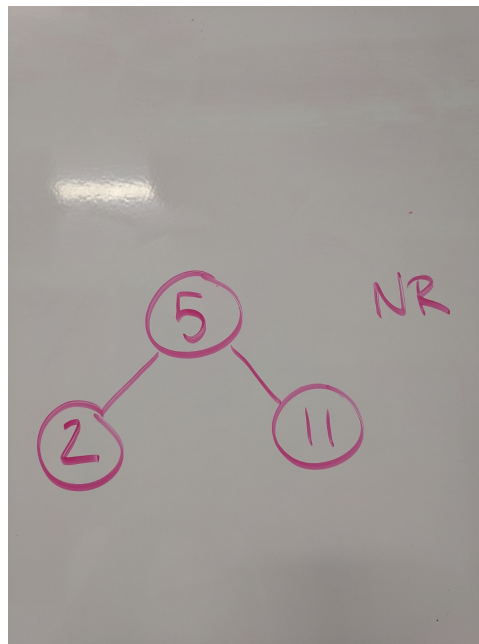


Figure 3: Insert 2

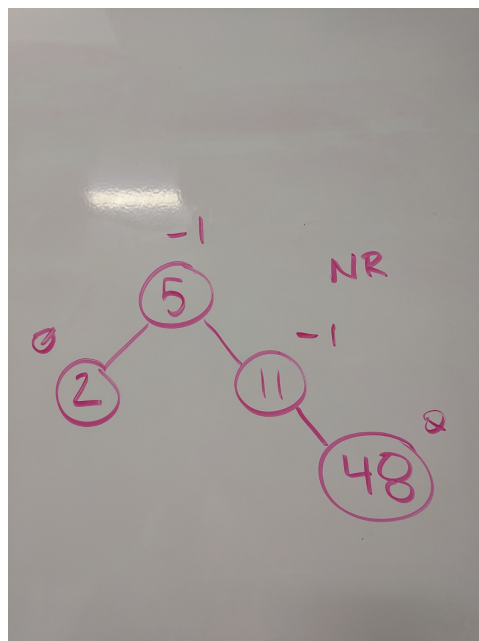


Figure 4: Insert 48

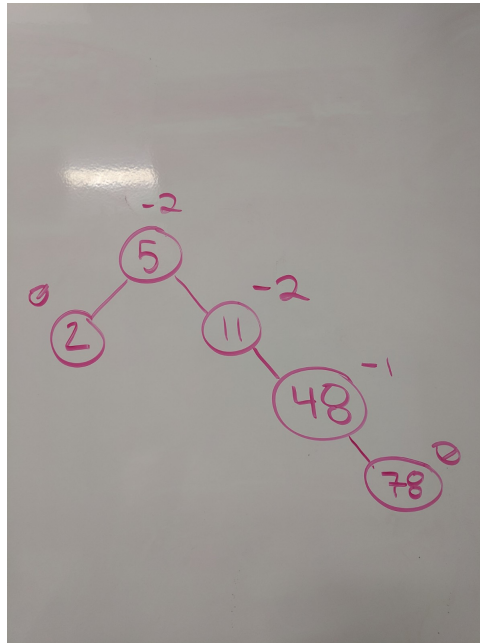


Figure 5: Insert 78

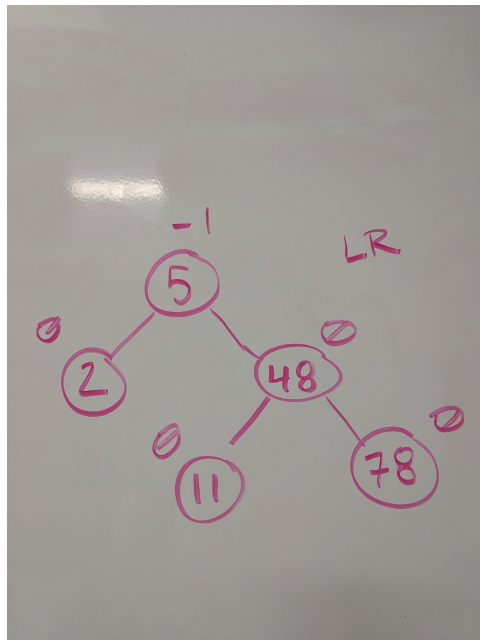


Figure 6: Left Rotation on right subtree of nodes 11, 48, and 78

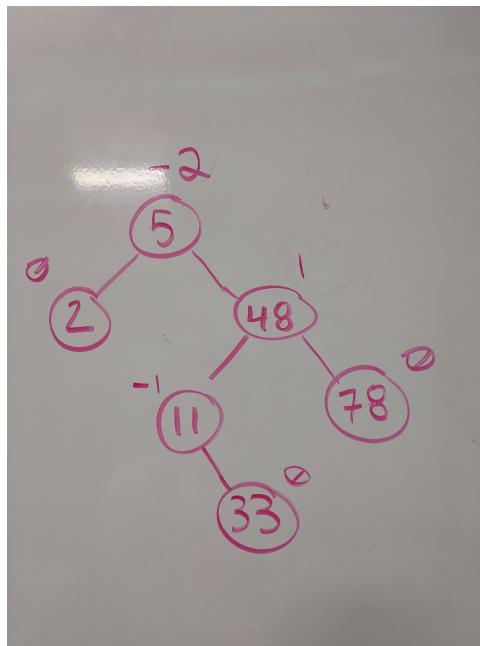


Figure 7: Insert 33

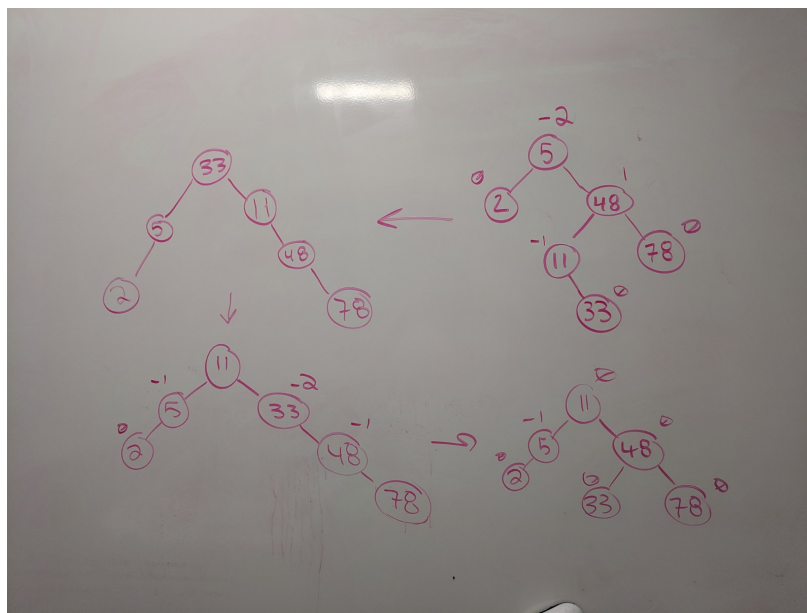


Figure 8: Right rotation on right subtree of nodes 33, 11, 48, and 78; rotate nodes 33 and 11; Left Rotation on right subtree of nodes 33, 48, 78

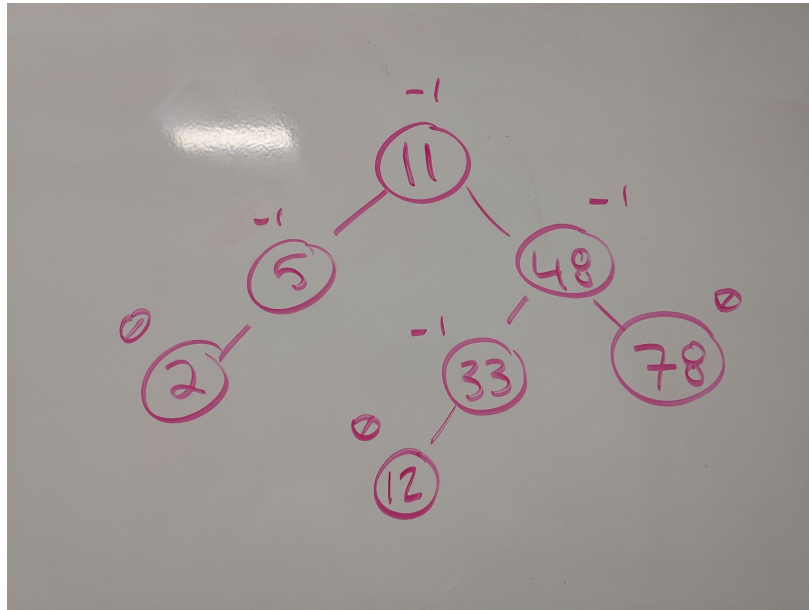


Figure 9: Insert 12

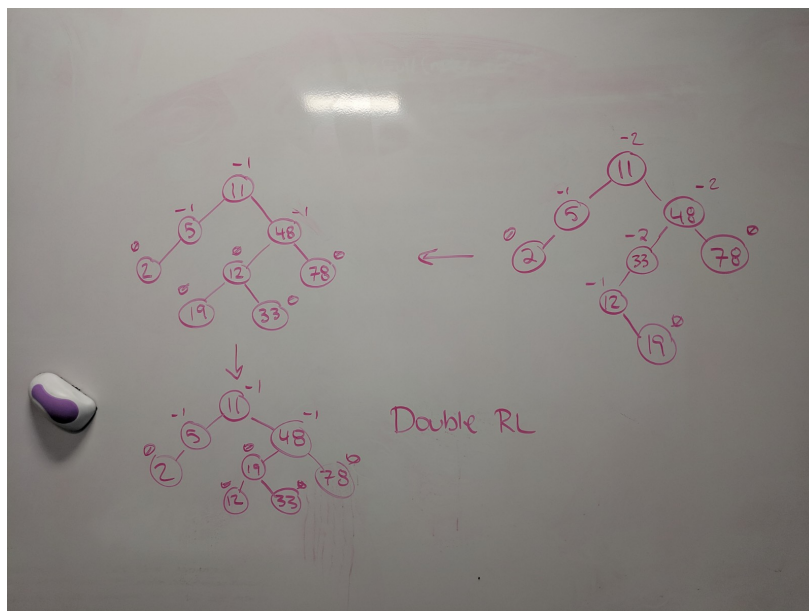


Figure 10: Insert 19; right rotation on lower subtree of nodes 19, 12, and 33; then left rotation on nodes 19 and 12

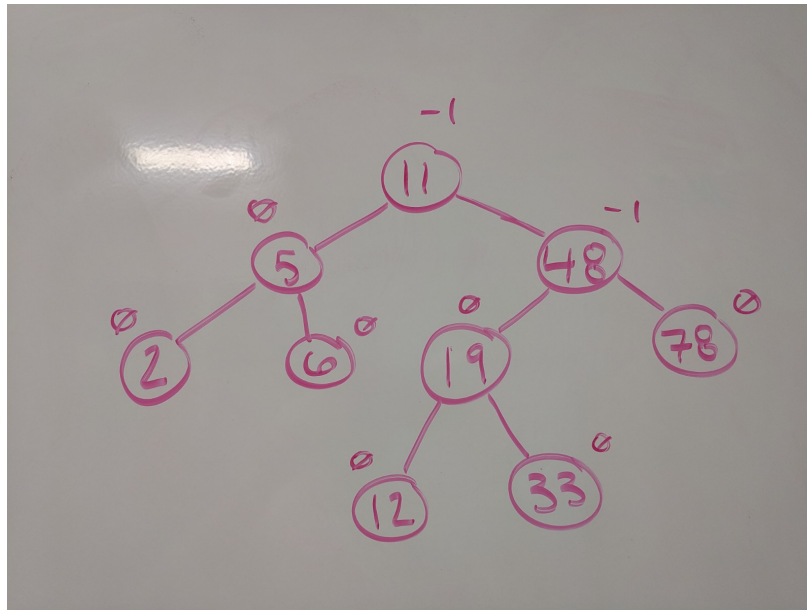


Figure 11: Insert 6

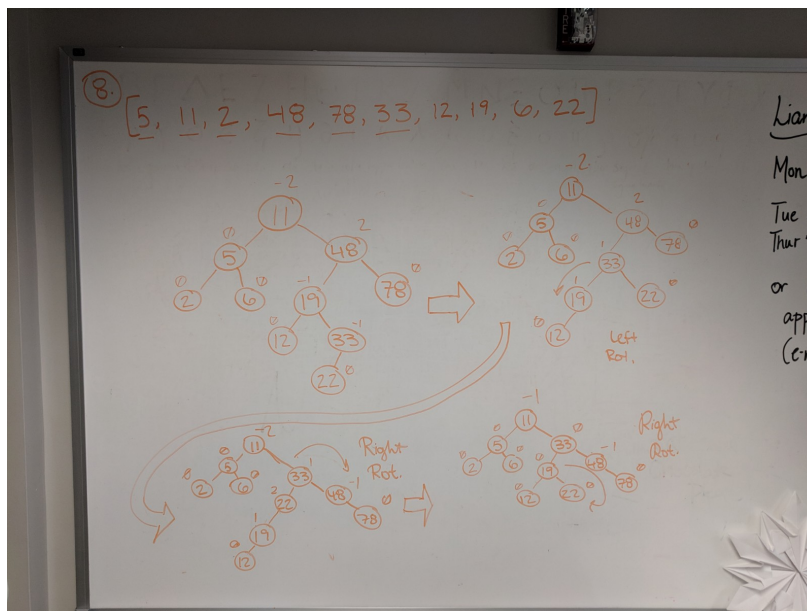


Figure 12: Insert 22; left rotation on lowest right subtree; right rotation on nodes 22, 33, 48, 78; right rotation on lowest subtree of nodes 12, 19, 22