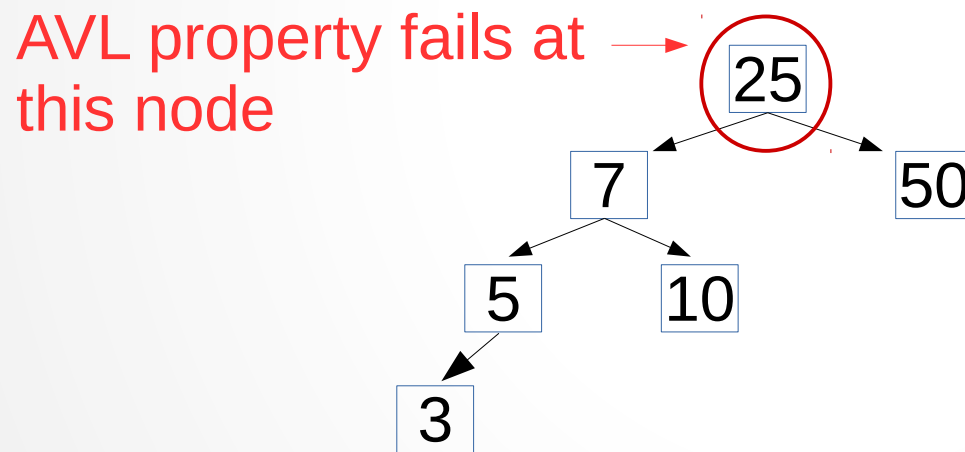


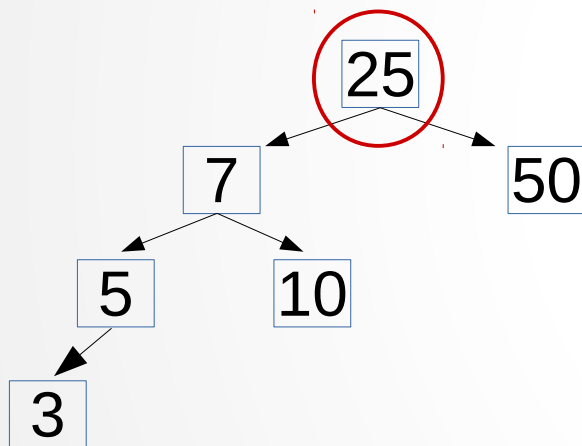
CSI33: AVL trees in-class practice

1) Consider the tree below. The AVL property is violated at the root. This happened after value 3 was inserted into the tree. Re-balance the tree.

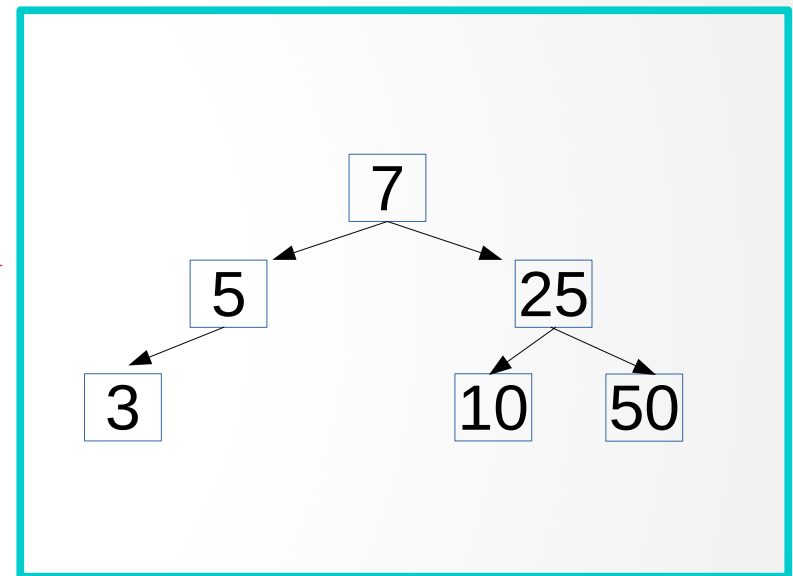


just inserted (and it violates AVL property)

CSI33: AVL trees in-class practice

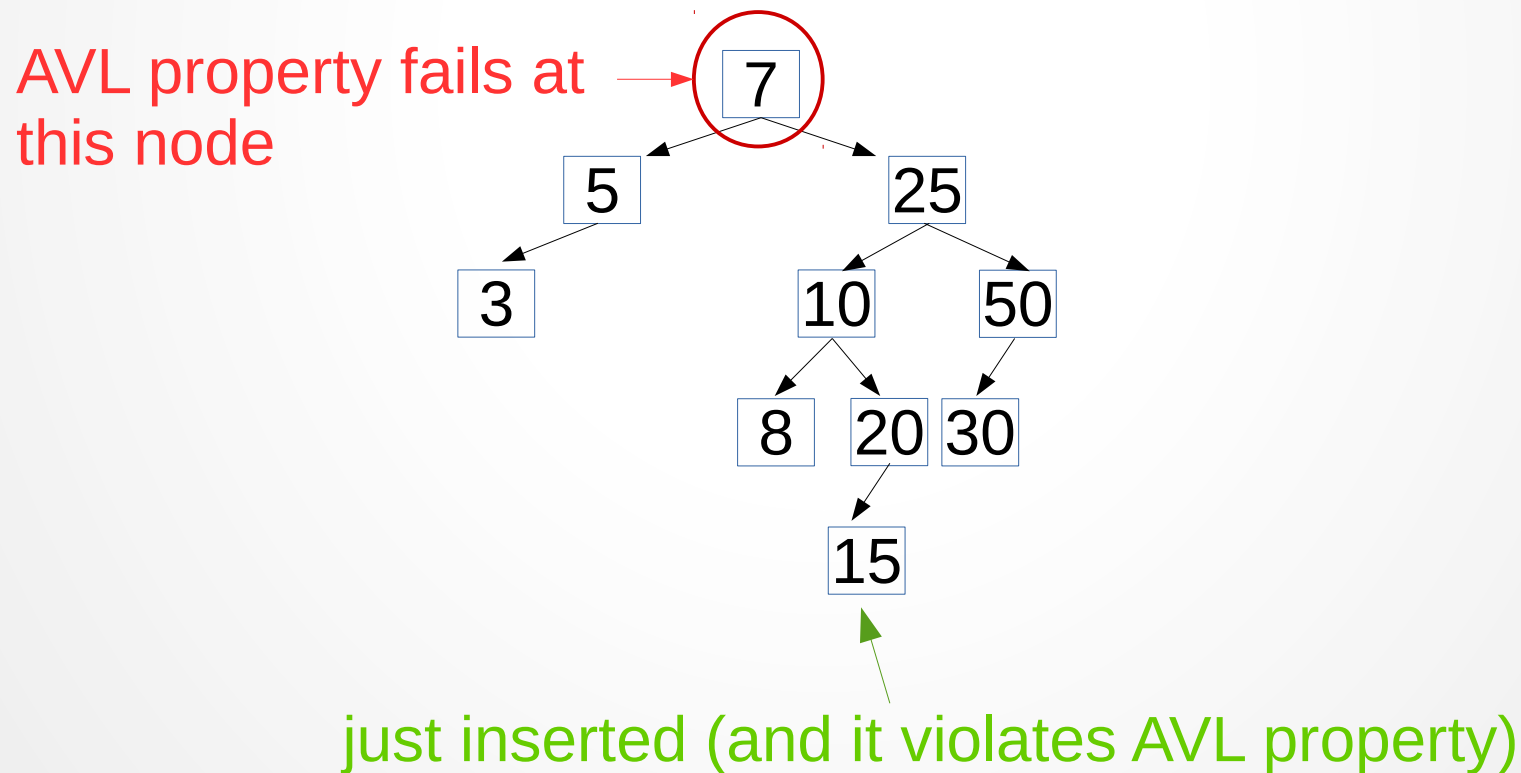


single
right
rotation →



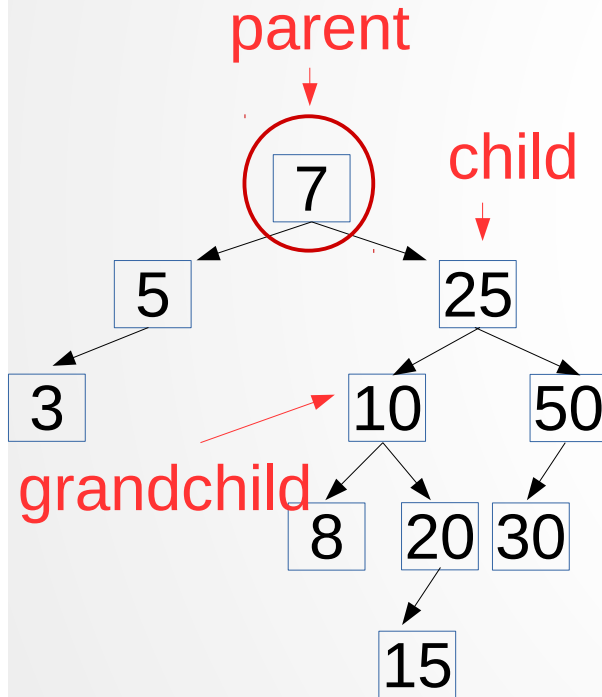
CSI33: AVL trees in-class practice

2) Consider the tree below. The AVL property is violated at the root. This happened after value 15 was inserted into the tree. Re-balance the tree.

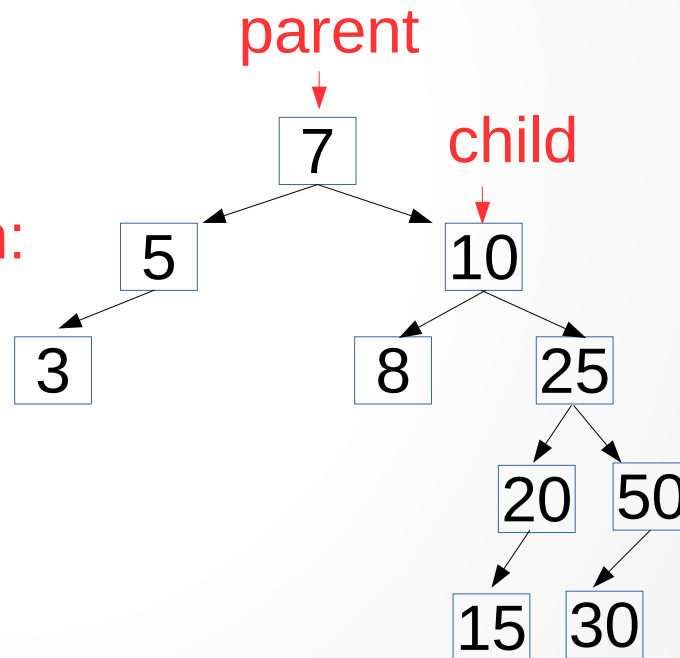


CSI33: AVL trees in-class practice

2) Consider the tree below. The AVL property is violated at the root. This happened after value 15 was inserted into the tree. Re-balance the tree.

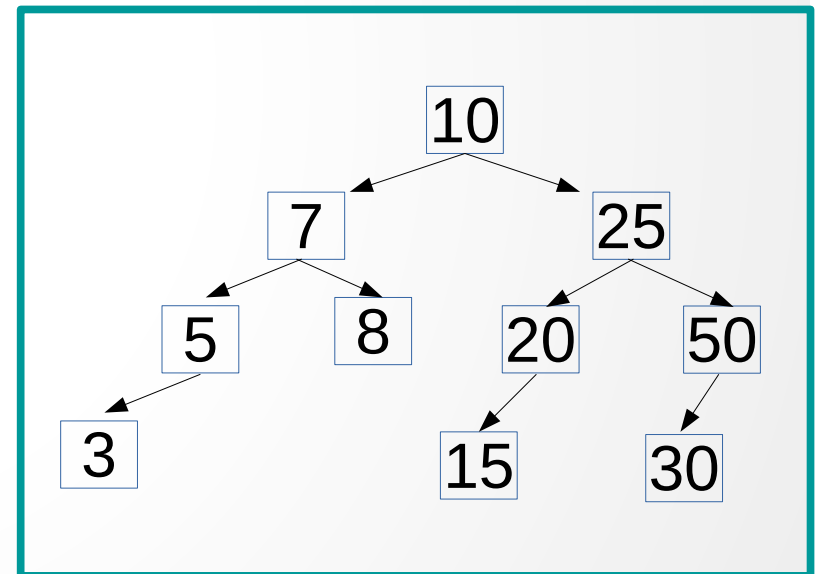
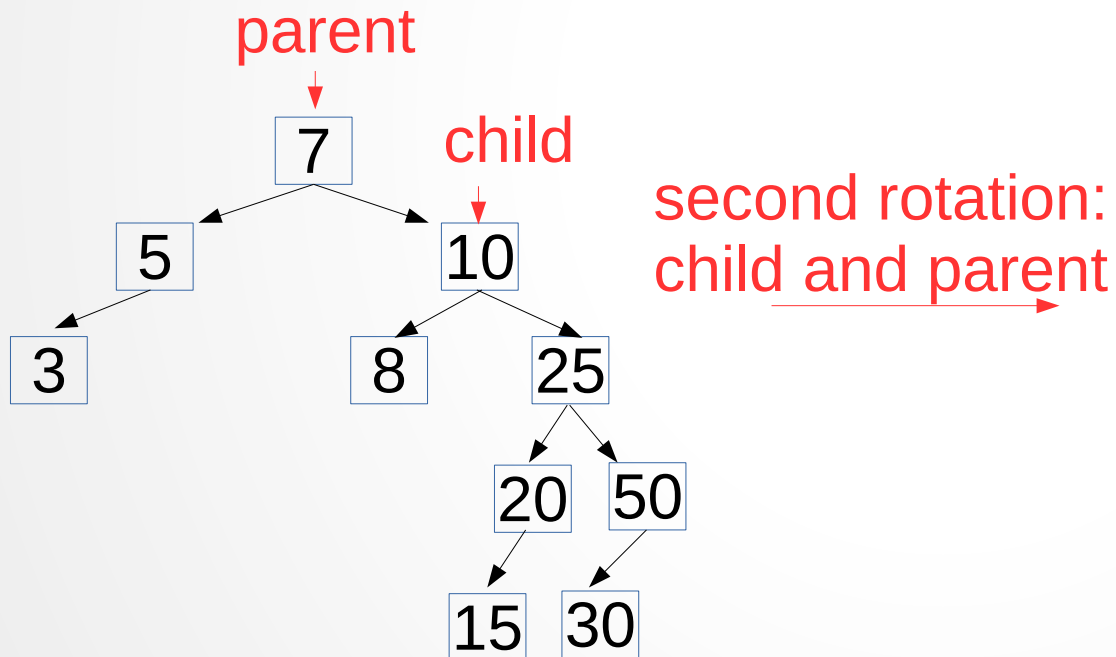


First rotation:
child and
grandchild



CSI33: AVL trees in-class practice

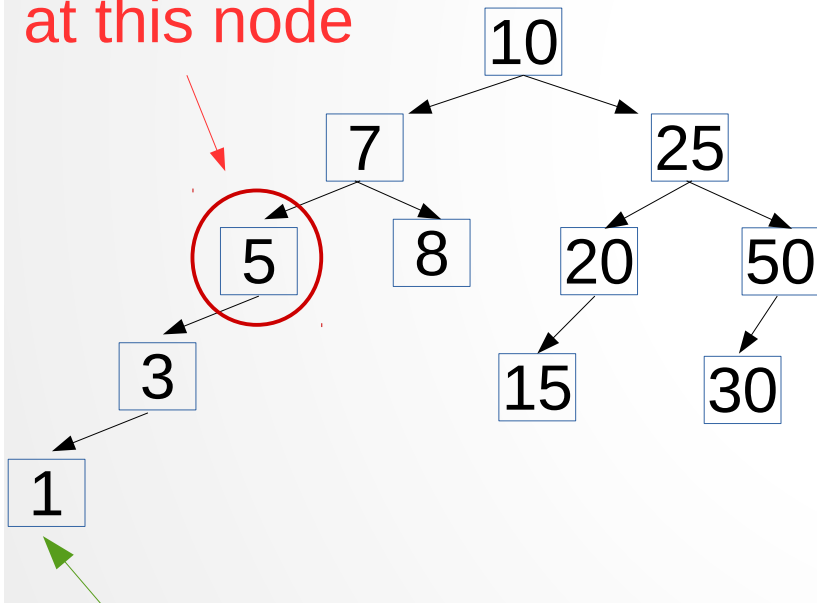
2) Consider the tree below. The AVL property is violated at the root. This happened after value 15 was inserted into the tree. Re-balance the tree.



CSI33: AVL trees in-class practice

3) Consider the tree below. The AVL property is violated at the node with value 5. This happened after value 1 was inserted into the tree. Re-balance the tree.

AVL property fails
at this node

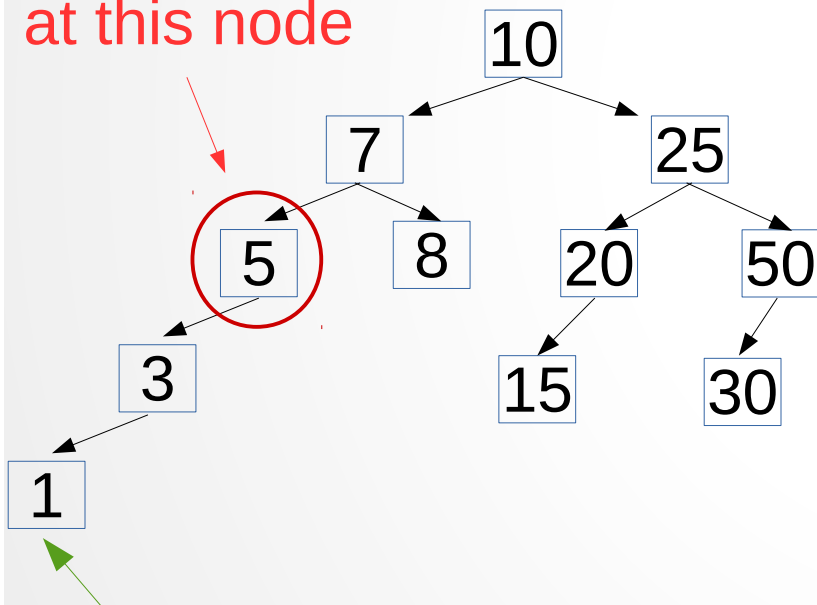


just inserted (and it violates AVL property)

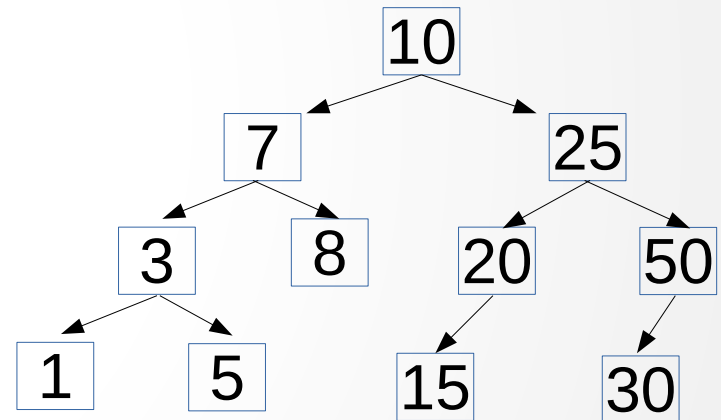
CSI33: AVL trees in-class practice

3) Consider the tree below. The AVL property is violated at the node with value 5. This happened after value 1 was inserted into the tree. Re-balance the tree.

AVL property fails
at this node



single
right
rotation



just inserted (and it violates AVL property)