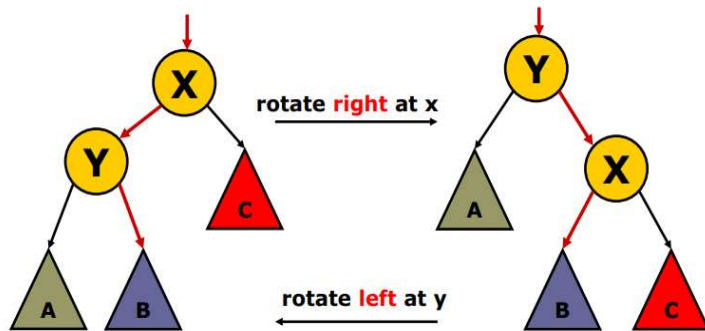


AVL Tree

Tuesday, March 6, 2018 12:31 PM

Rotation

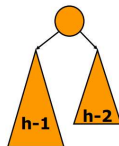


Properties

- Difference in height between left and right is at most one

Minimal trees

- Fewest possible nodes for height h
- $n(h) = 1 + n(h-1) + n(h-2)$
- Hence, $h = O(\log n)$



Insertion

- Insert, check violation
 - o Insert outside = single rotation
 - o Insert inside = double rotation
- Deleting??

Find Kth

- BST = $O(h)$
- Unsorted array = $O(N^2)$ worst, $O(N)$ best