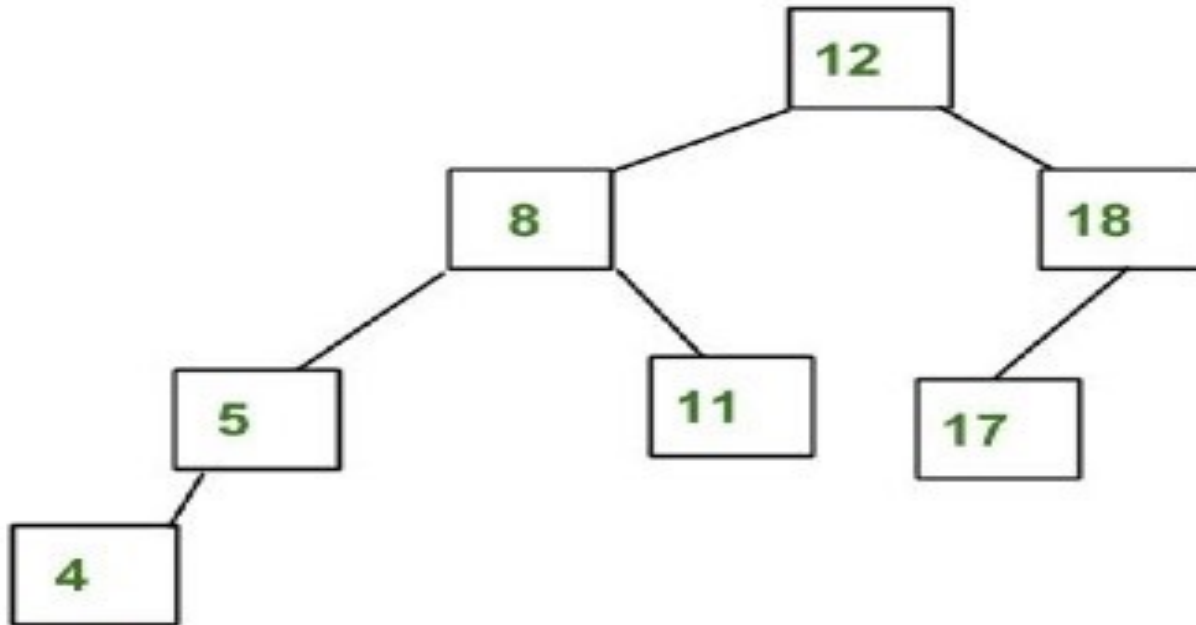


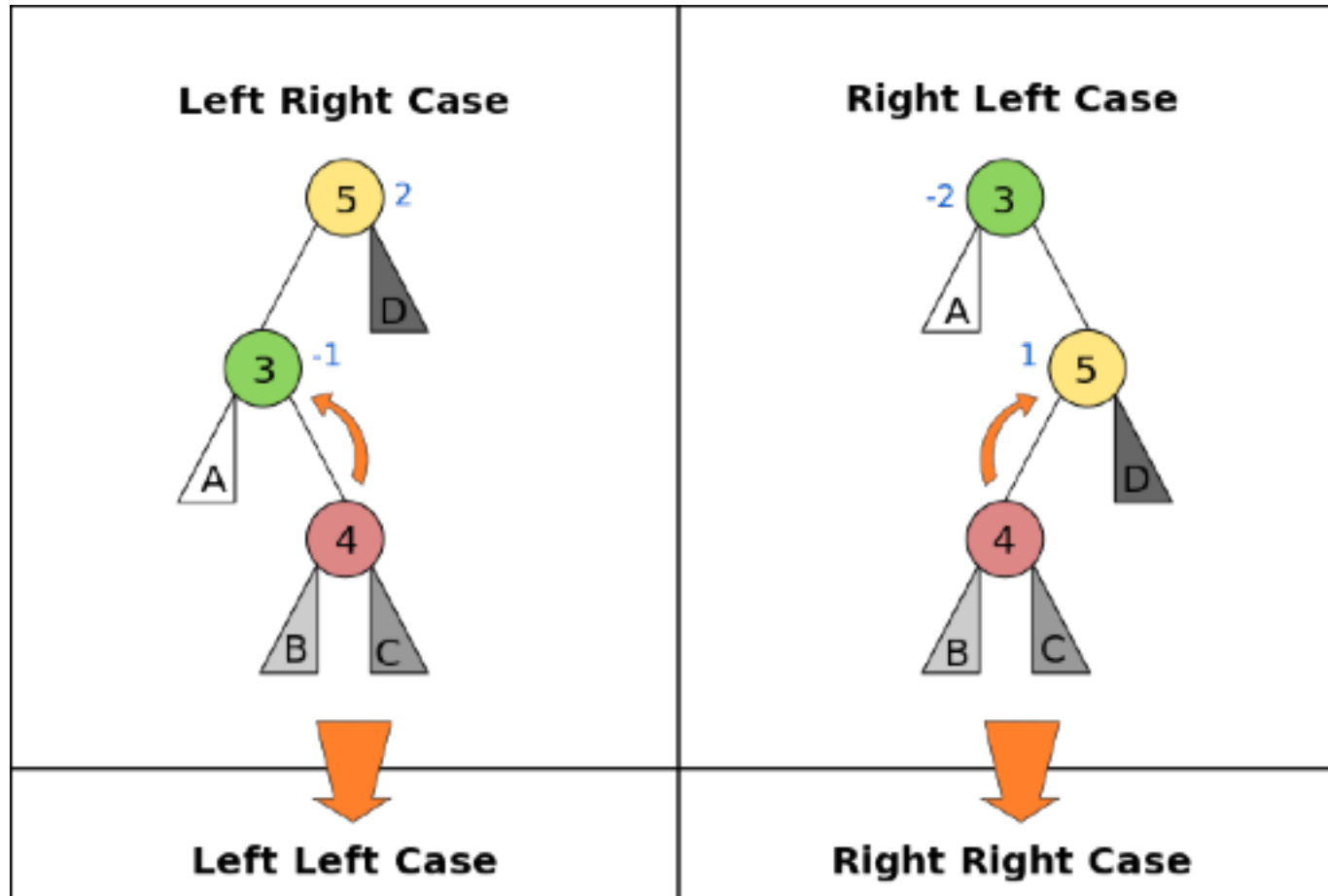
# AVL tree

- AVL tree is a self-balancing Binary Search Tree (BST) where the difference between heights of left and right subtrees cannot be more than one for all nodes.



# AVL tree balancing

$\text{balanceFactor} = \text{height}(\text{left subtree}) - \text{height}(\text{right subtree})$



- if at any time they differ by more than one, rebalancing is done to restore this property
- To balance itself, an AVL tree may perform the following four kinds of rotations –
  - Left rotation
  - Right rotation
  - Left-Right rotation
  - Right-Left rotation