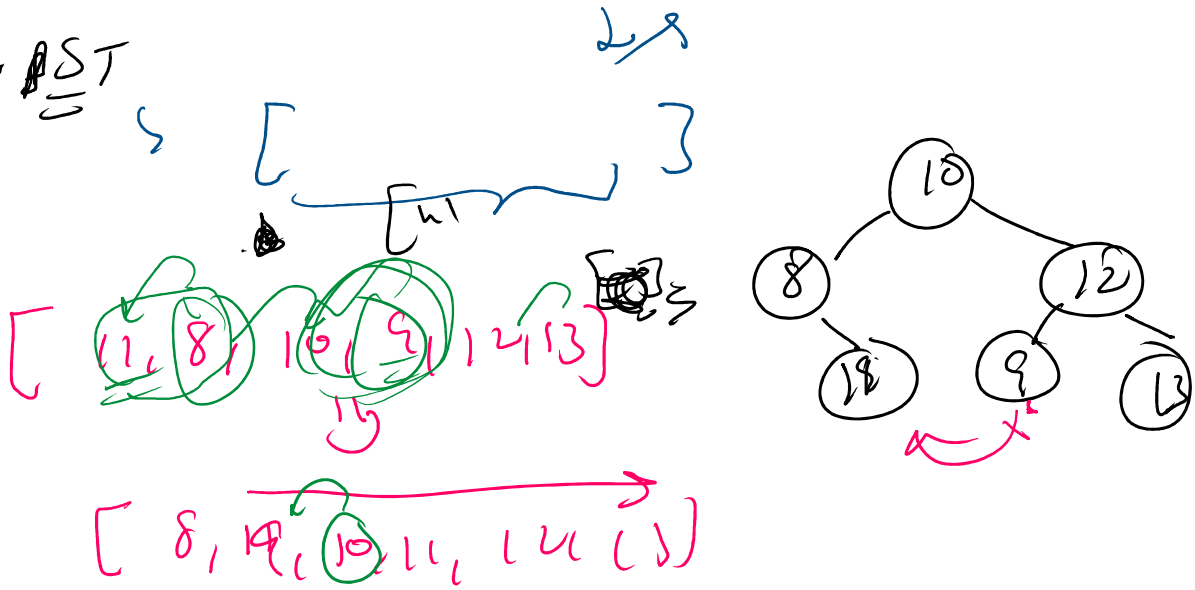
4.3 - BST 2

Saturday, August 30, 2025 10:38 AM

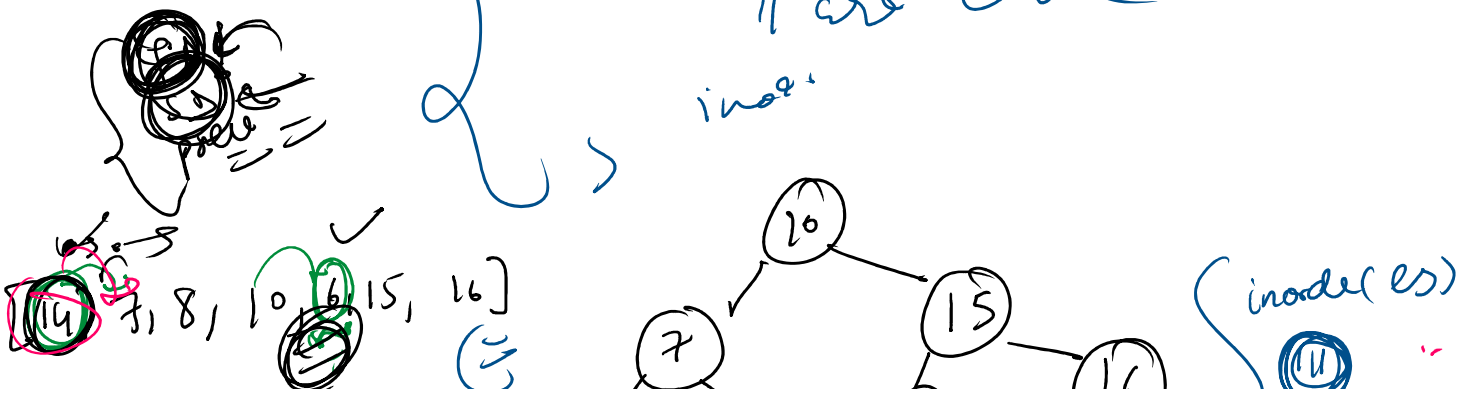
Serialize and Deserialize a BST

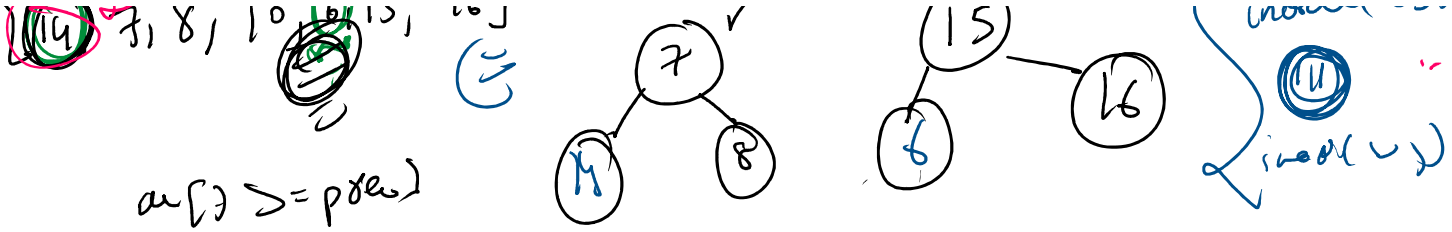
```
// process root
f(root.l);
f(root.r);
```

Recover BST

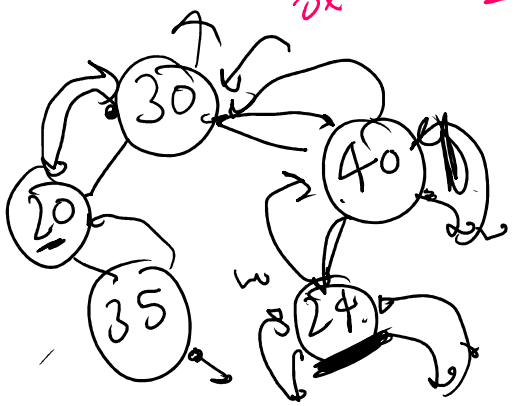



```
inorder(root, arr) {
  if(root == null) ret;
  inorder(root.l, arr)
  // arr.add(root.v)
  inor
```

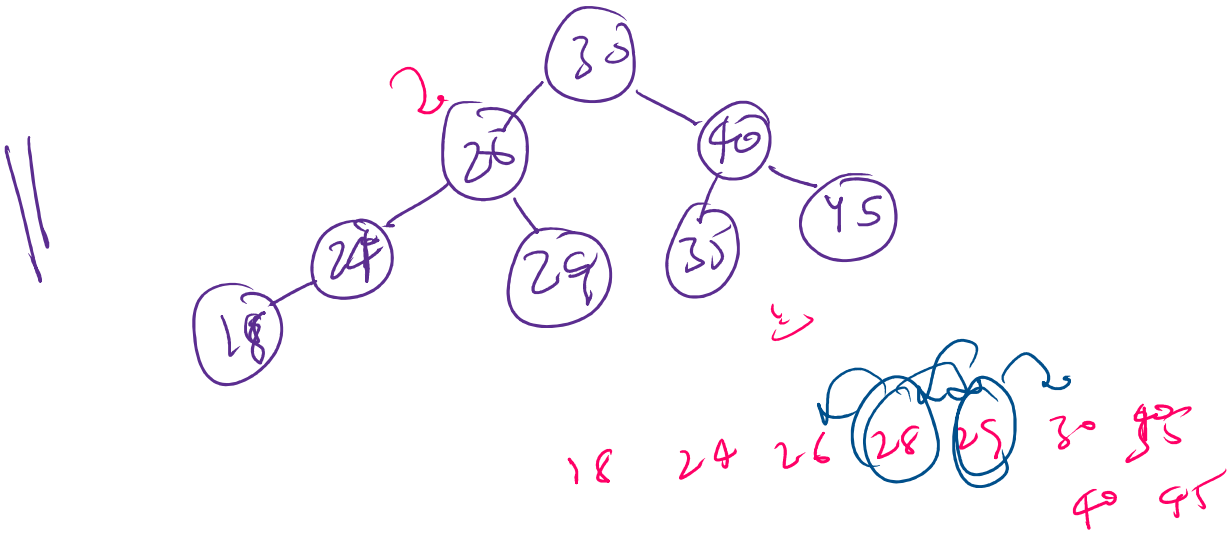


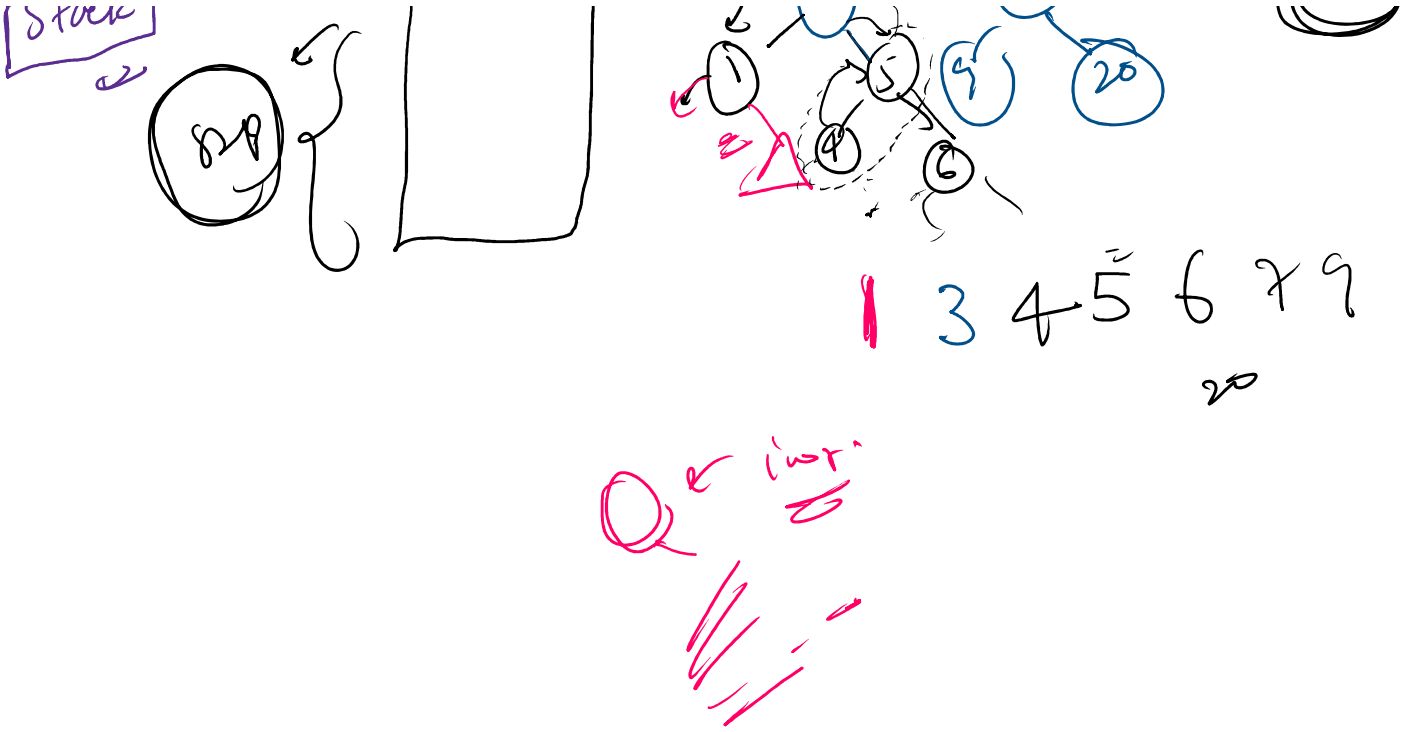


```
if(root==null) return;
inorder(root.left);
if(firstDefect==null && prevNode.val > root.val) {
    firstDefect = prevNode;
}
if(firstDefect!=null && prevNode.val > root.val) {
    secondDefect = root;
}
prevNode = root;
inorder(root.right);
```



① It's not recommended to swap addresses generally.





⑧ Avg height of a BST (Tree is Balanced)

$[O(h) = \log_2 n]$