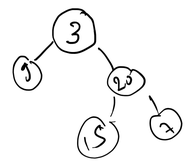
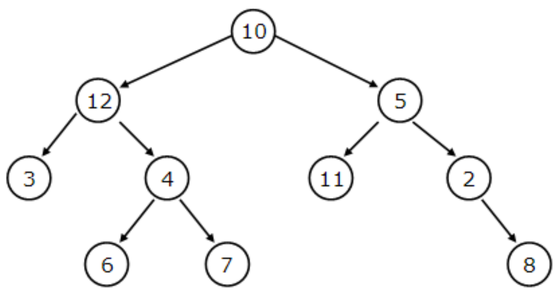
Lec-34

24/08/25 2:21 PM

Input: preorder = [3,9,20,15,7], inorder = [9,3,15,20,7]



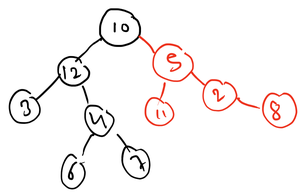


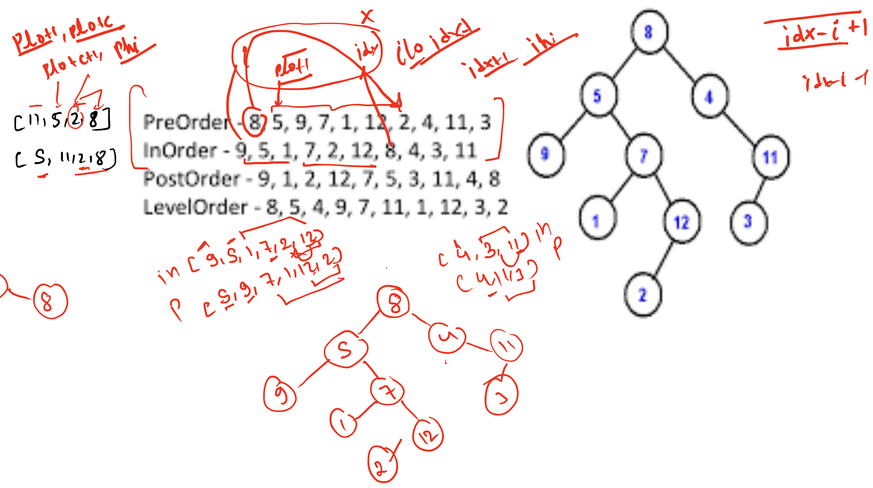
Levelorder tree traversal
10, 12, 5, 3, 4, 11, 2, 6, 7, 8

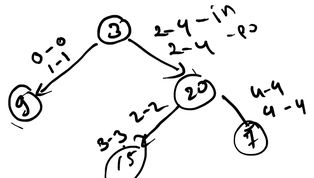
Inorder tree traversal
3, 12, 6, 4, 7, 10, 11, 5, 2, 8

Preorder tree traversal
10, 12, 3, 4, 6, 7, 5, 11, 2, 8

Postorder tree traversal
3, 6, 7, 4, 12, 11, 8, 2, 5, 10







```
preorder = [3,9,20,15,7],
inorder =  [9,3,15,20,7]
```

```java
public TreeNode build(int[] pre, int[] in, int ilo, int ihi, int plo, int phi) {
    if (ilo > ihi || plo > phi) {
        return null;
    }
    TreeNode node = new TreeNode(pre[plo]);
    int idx = search(in, ilo, ihi, pre[plo]);
    int c = idx - ilo;
    node.left = build(pre, in, ilo, idx - 1, plo + 1, plo + c);
    node.right = build(pre, in, idx + 1, ihi, plo + c + 1, phi);
    return node;
}
```