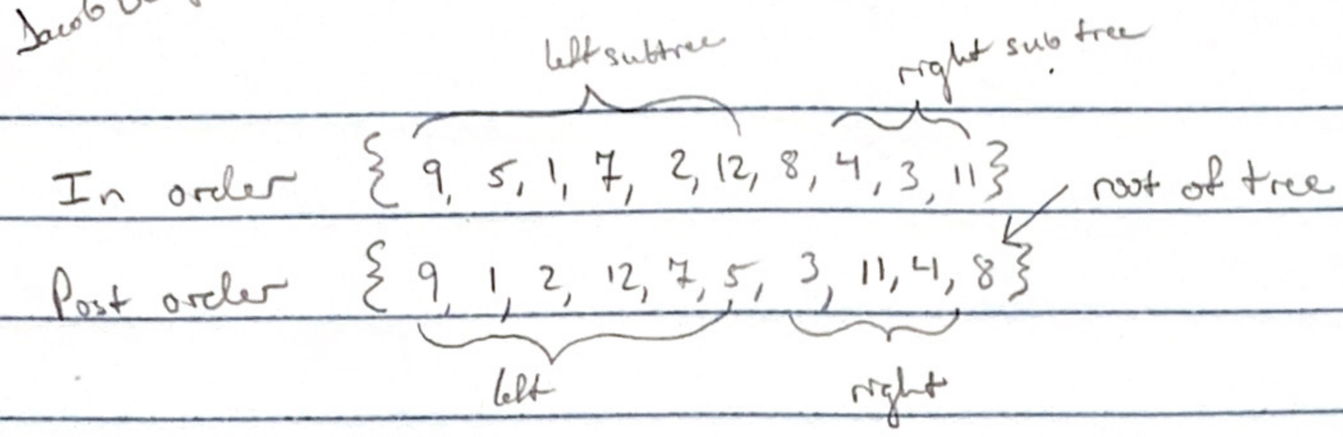
Jacob Berger



① Last element of Post order is the root of the entire tree, 8

Therefore, everything to the left of the root in In order is the left subtree, and to the right is the right subtree.

The left contains six values, so the first six values of Post order are in the left subtree, and the next three are in the right subtree.

② The last of the left subtree { 9, 1, 2, 12, 7, 5 } is the root : Post,

③ and the last of the right subtree { 3, 11, 4 } is the root in Post.

Repeat for each side...

Find the root of the left subtree in In Order, { 9, 5, 1, 7, 2, 12 }

The items to the left of the root are the left subtree, right

④ only one value (thus it is the root), and the items to the right are the right subtree { 1, 7, 2, 12 }

⑤ The last of these in Post Order will be the root, { 1, 2, 12, 7 }

The left subtree will be to the left of the root (7) in In Order, { 1, 7, 2, 12 }

⑥ The left subtree only contains 1, so it's the root.

The right subtree is { 2, 12 } in In Order, same as Post Order.

⑦ Since 12 is the last of the subtree in Post Order, 7 is the root.

⑧ 2 is the only child, to the left of the root making it the left child.

Moving back to the right subtree of the entire tree, { 3, 11, 4 } in Post, with 4 as the root.

In Order { 4, 3, 11 } 3 and 11 are in the right subtree since they come after the root.

⑨ { 3, 11 } in Post order shows the root is 11.

⑩ 3 comes before 11 in In Order, so it will be the left child.

The tree is now complete.