Binary Search Tree – Deletion
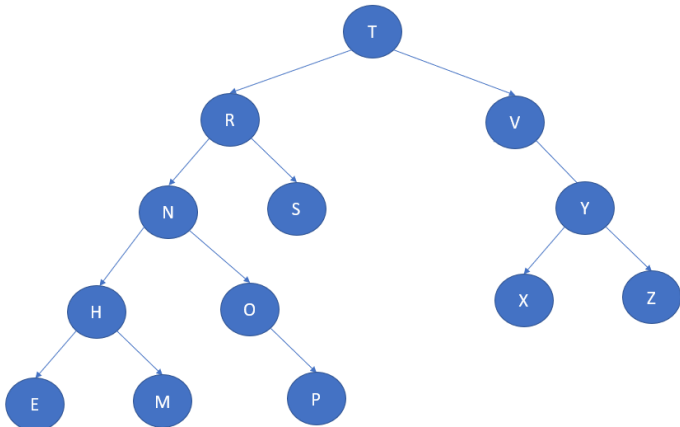
Student Name: _____

For the given trees, delete the specified nodes:
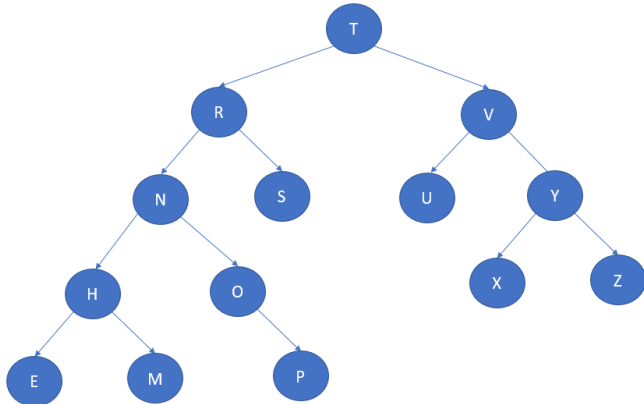
Delete Node U:

U is a leaf node so simply remove it from the tree, without changing anything else

Delete Node V:

V has one child now, so remove it, and replace it with its subtree
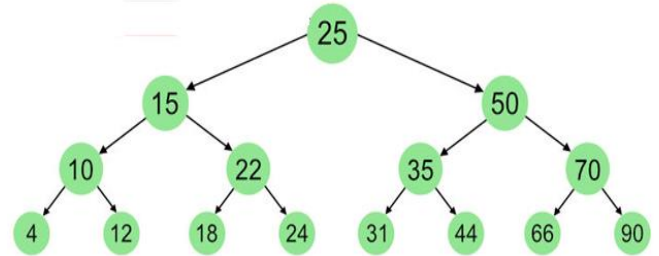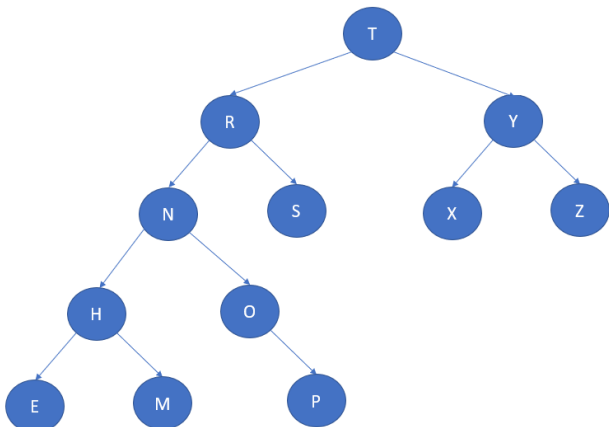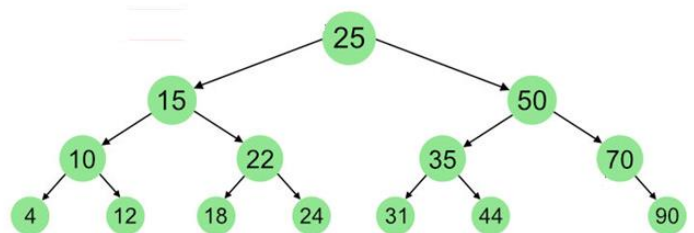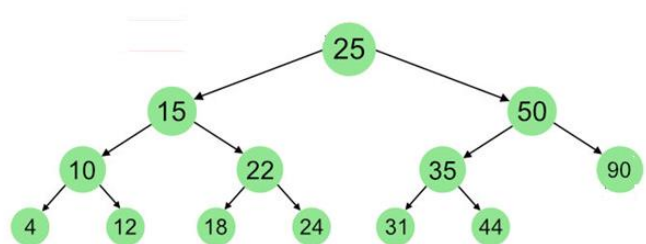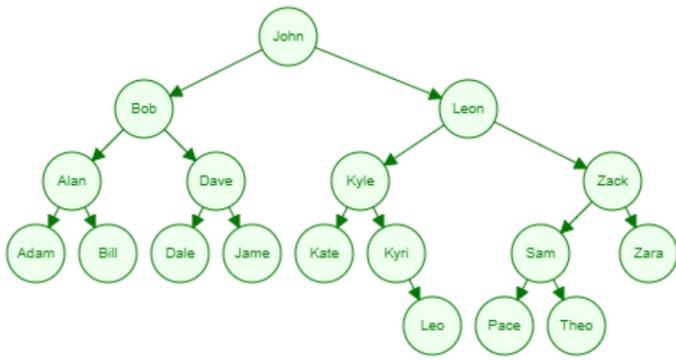

Delete Node 66:

66 is a leaf node, so simply remove it from the tree without changing anything else


Delete Node 70:

70 has one child now, so remove it, and replace it with its subtree. As there is only one child, i.e. Node 90, simply replace Node 70 with Node 90
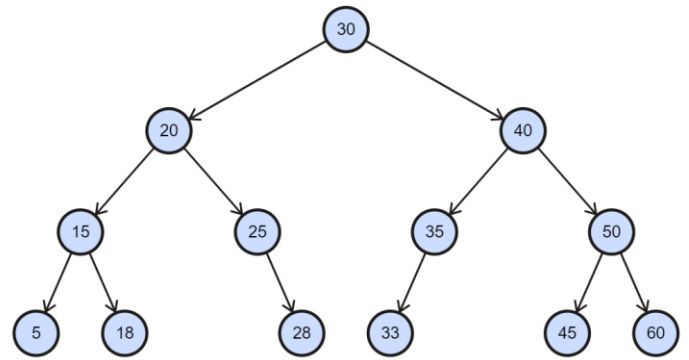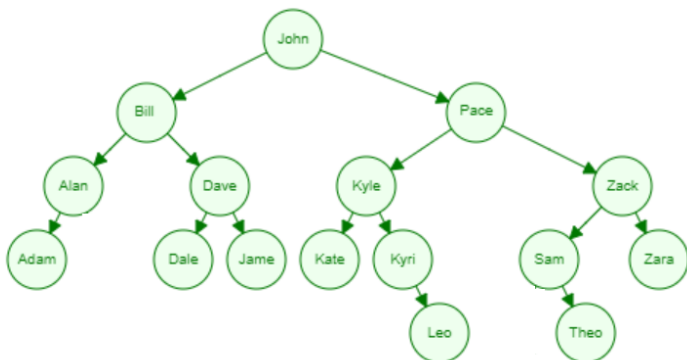
Delete Leon (Using inorder successor):
Leon has two children, so when removing it, we will replace it with either inorder successor or inorder predecessor. Here we are asked to use inorder successor. Inorder Successor of Leon is Pace, so remove Pace from its original position and replace Leon with Pace
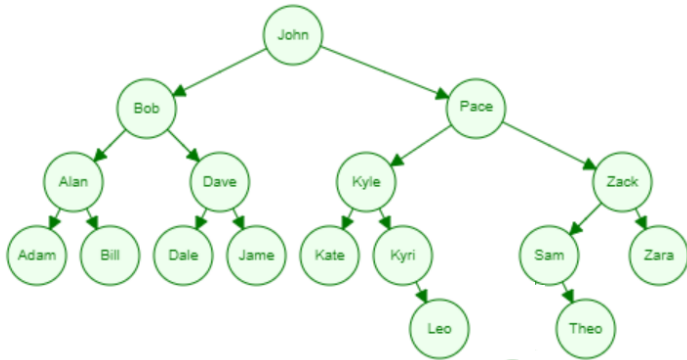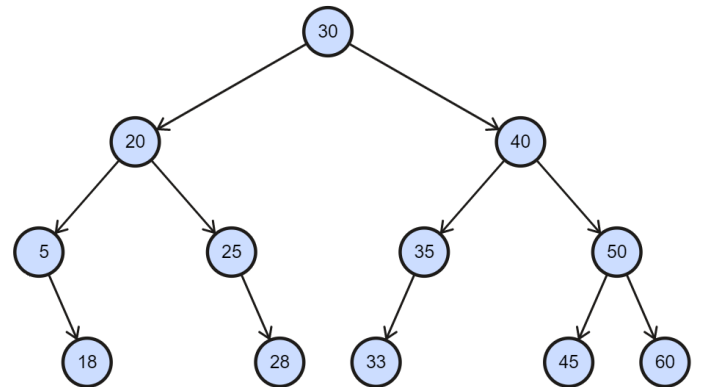

Delete Bob (Using inorder predecessor):
Bob has two children, so when removing it, we will replace it with either inorder successor or inorder predecessor. Here we are asked to use inorder predecessor.
Inorder Predecessor of Bob is Bill, so remove Bill from its original position and replace Bob with Bill

Delete 15 (Using inorder predecessor):
15 has two children, so when removing it, we will replace it with either inorder successor or inorder predecessor. Here we are asked to use inorder predecessor.
Inorder Predecessor of 15 is 5, so remove 5 from its original position and replace 15 with 5

Delete 50 (Using inorder successor):
50 has two children, so when removing it, we will replace it with either inorder successor or inorder predecessor. Here we are asked to use inorder successor.
Inorder Successor of 50 is 60, so remove 60 from its original position and replace 50 with 60