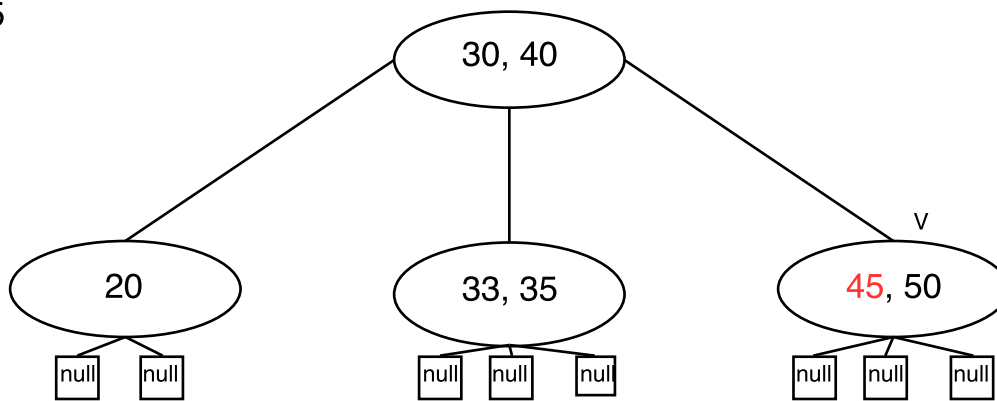


#7

Delete 45

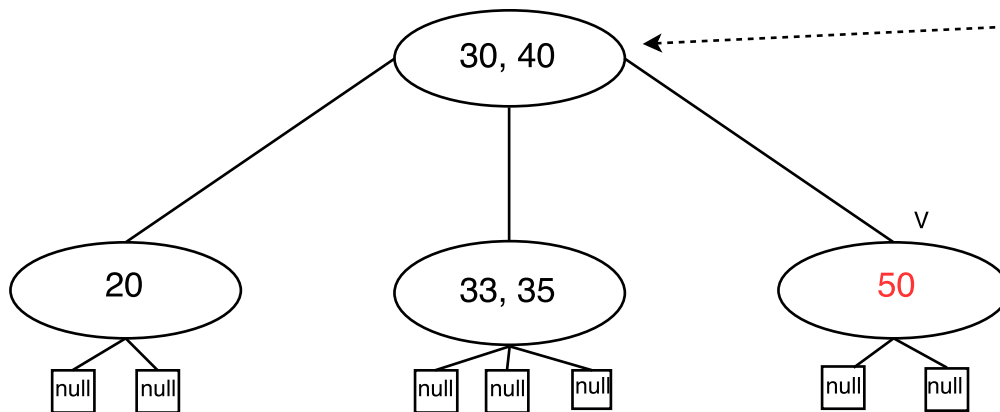


Since 45 is found at node V and V has only external children, you can just delete it.

After deletion no size property violation occurred so we are done.

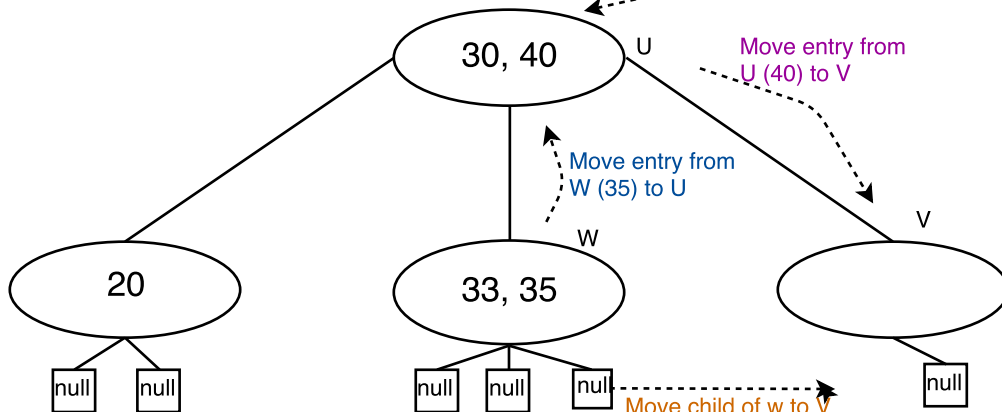
Tree after removal

Delete 50



Since 50 is found at node V and V has only external children, you can just delete it.

Tree after removal



After the deletion, a size property is violated (V becomes 1 node)

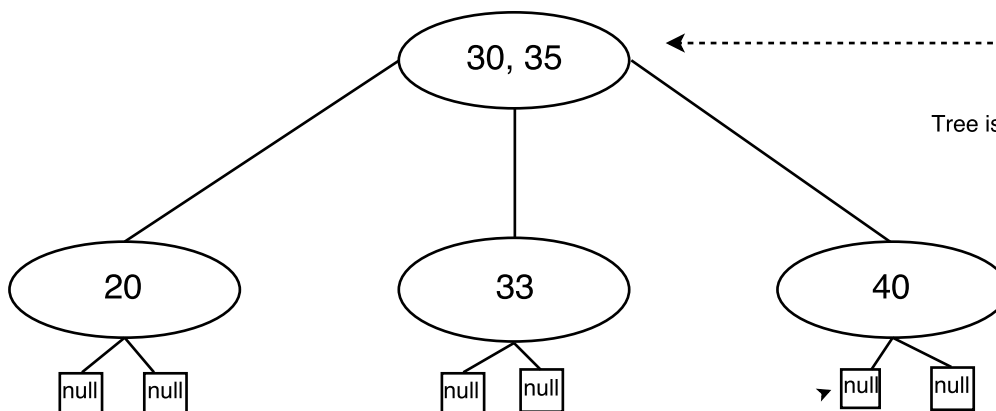
So Let:

- V = node with underflow
- U = parent of V
- W = sibling of V

W is a 3 node so we can fix underflow with a transfer

- Move child of W to V
- Move an entry of W to U
- Move an entry from U to V

Tree after transfer



Tree is now balanced