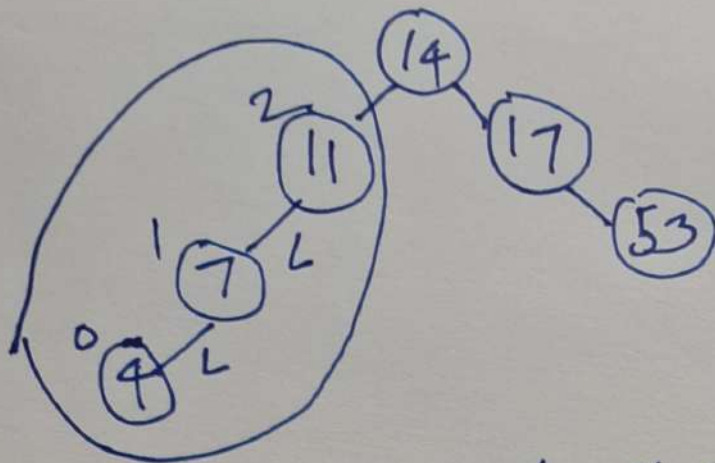


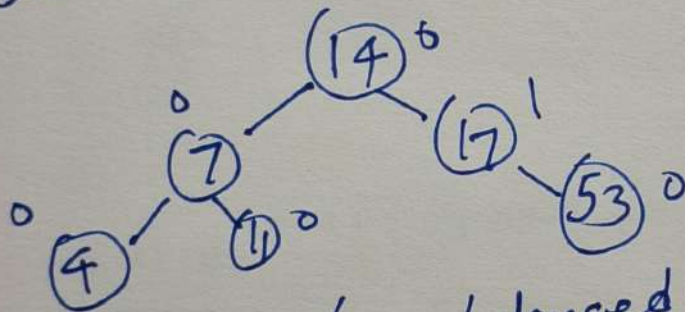
14, 17, 11, 7, 53, 4, 13, 12, 8, 60, 19, 16, 20



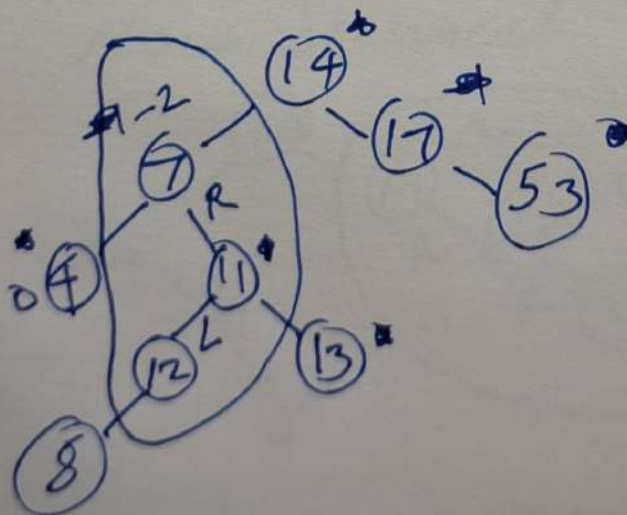
Unbalanced Since 11 has balance factor is 2 it should be within $\{-1, 0, 1\}$

⇓

L L transformation means only Right Shift or always ~~place~~ place middle element to root

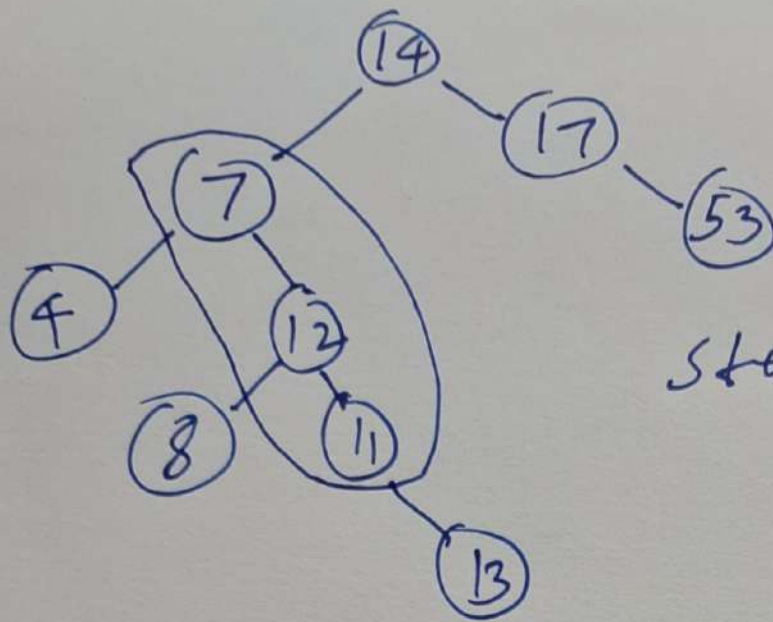


Now balanced add more element

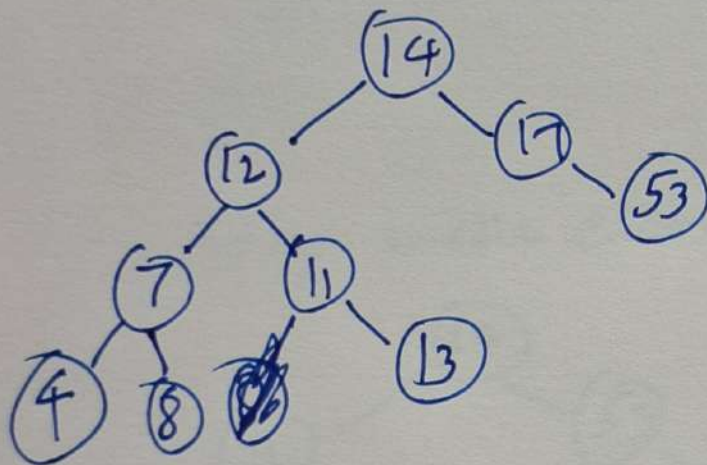


Unbalanced
RL ~~shift~~ i.e. first Right then Left shift

or keep middle element in root



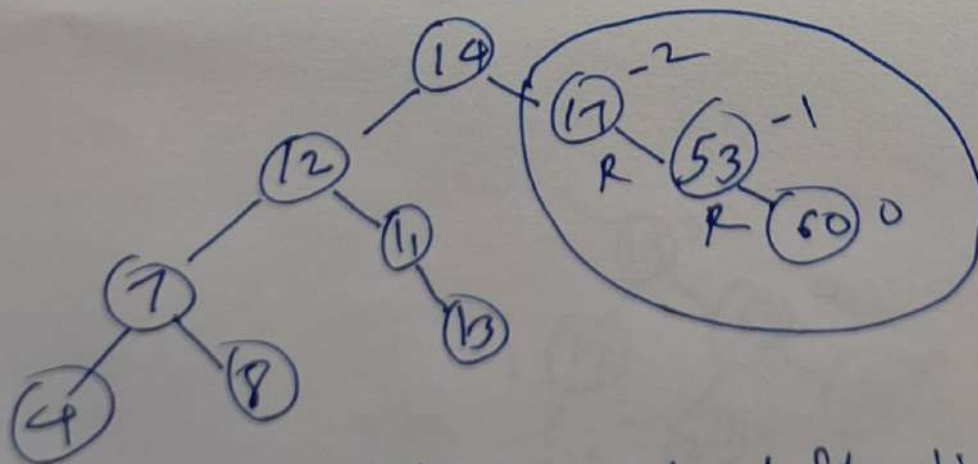
Step 1 :- Right shift



Step 2 :- Left shift

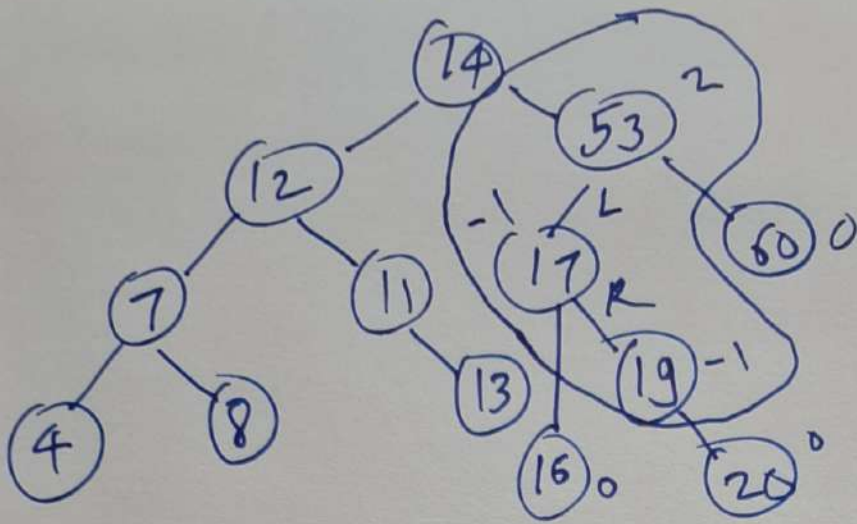
↑
it is part of 12 node so will go under 12 subtree.

Now balanced add new element



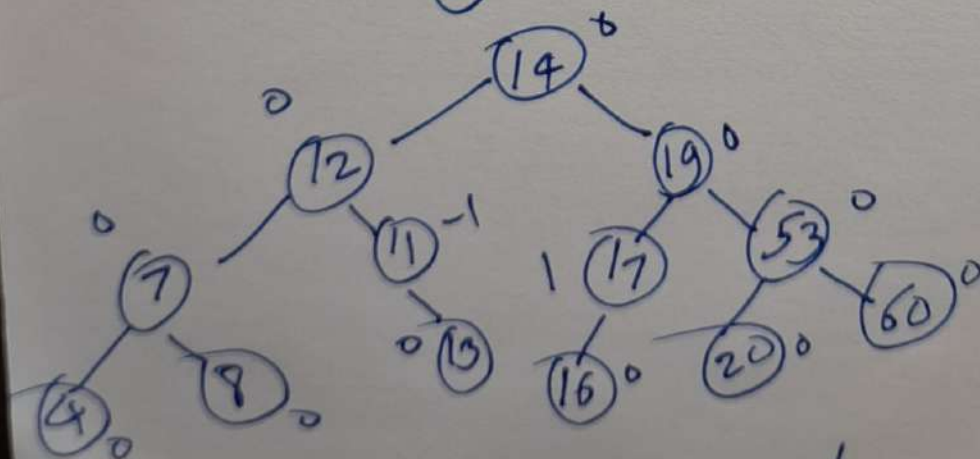
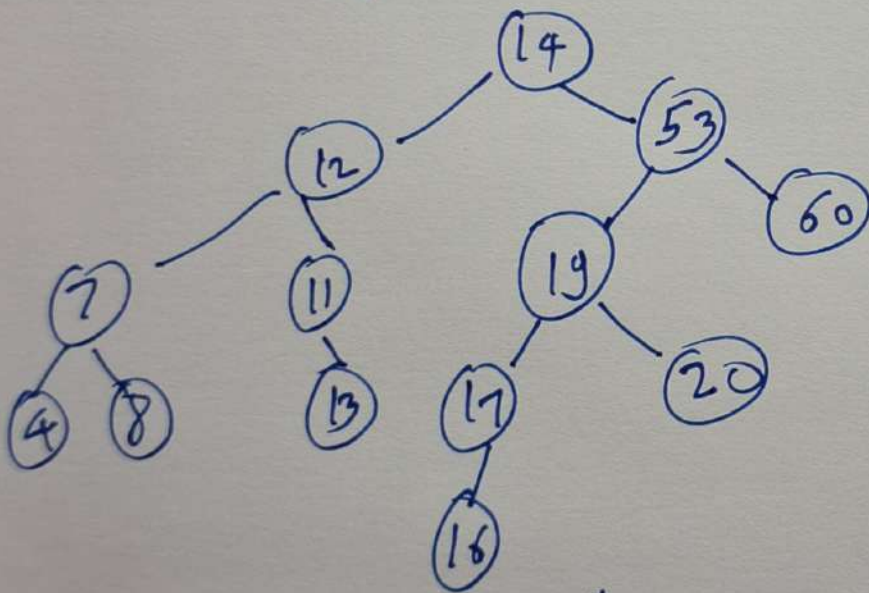
RR ~~RR~~ shift i.e. only left shift

or keep middle element as root



LR i.e. Left shift then Right
Shift

or
Keep middle element as root



Now balanced