

DS

Nandita N

Q4

Q.5] 40, 20, 10, 30, 70, 60, 65.

1) (40)⁰

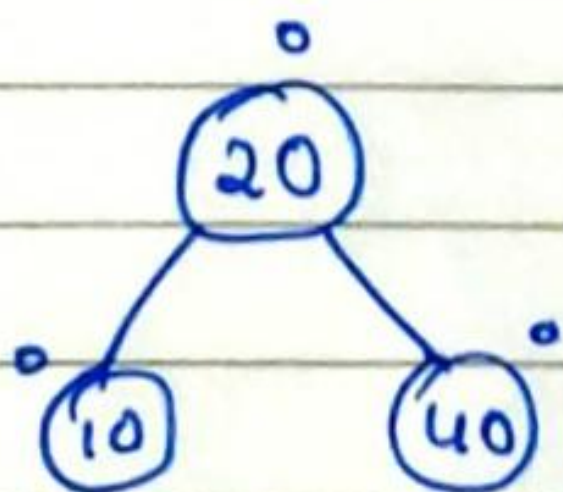
no rotation req. / balanced

2) (40)¹
20

no rotation req. / balanced

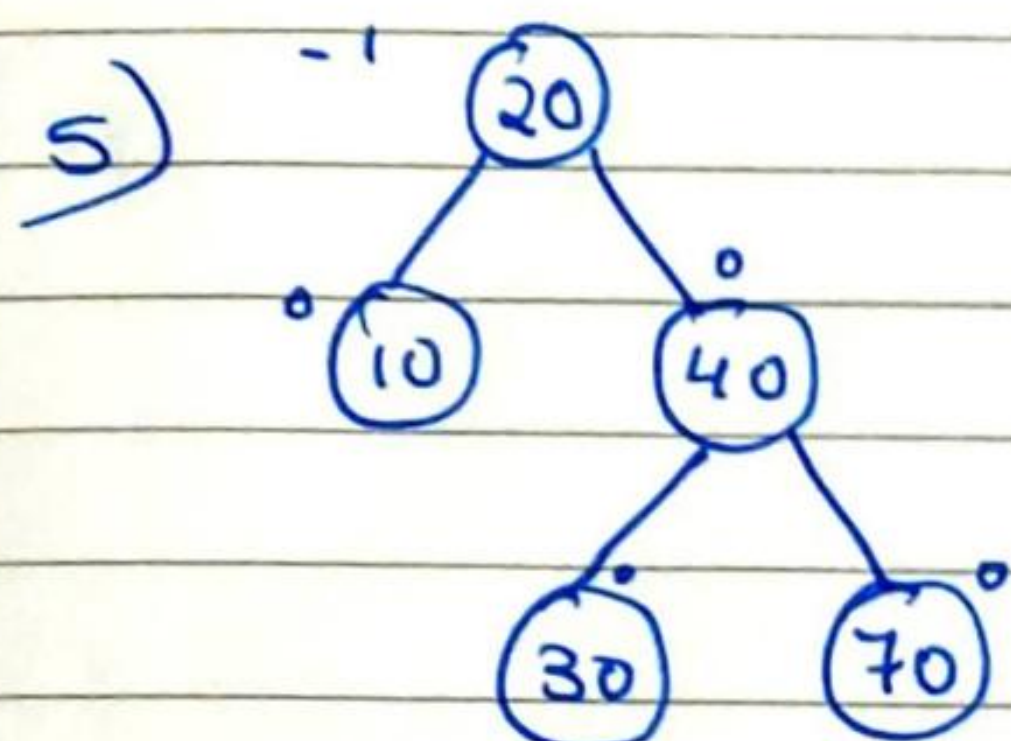
3) (40)²
20
10

unbalanced, taking RR rotation

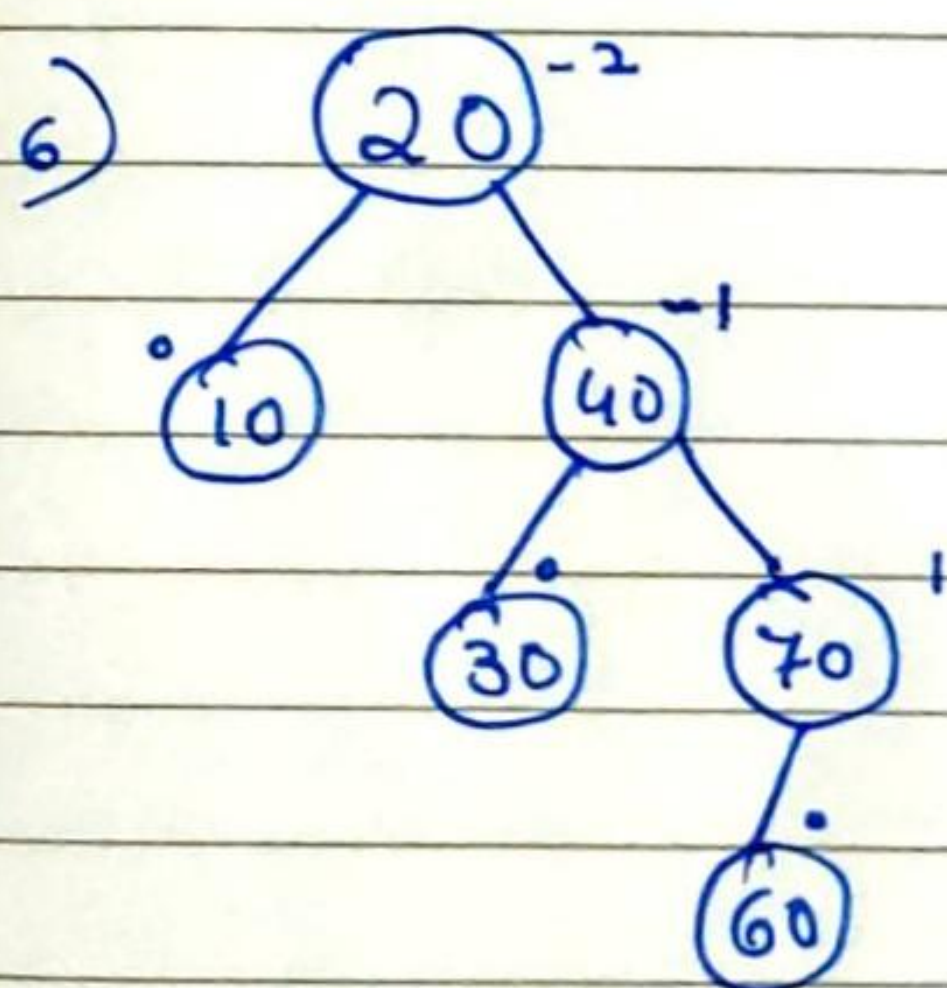
4) (20)⁻¹
10 40
30

no rotation required / balanced.

Teacher's Signature _____

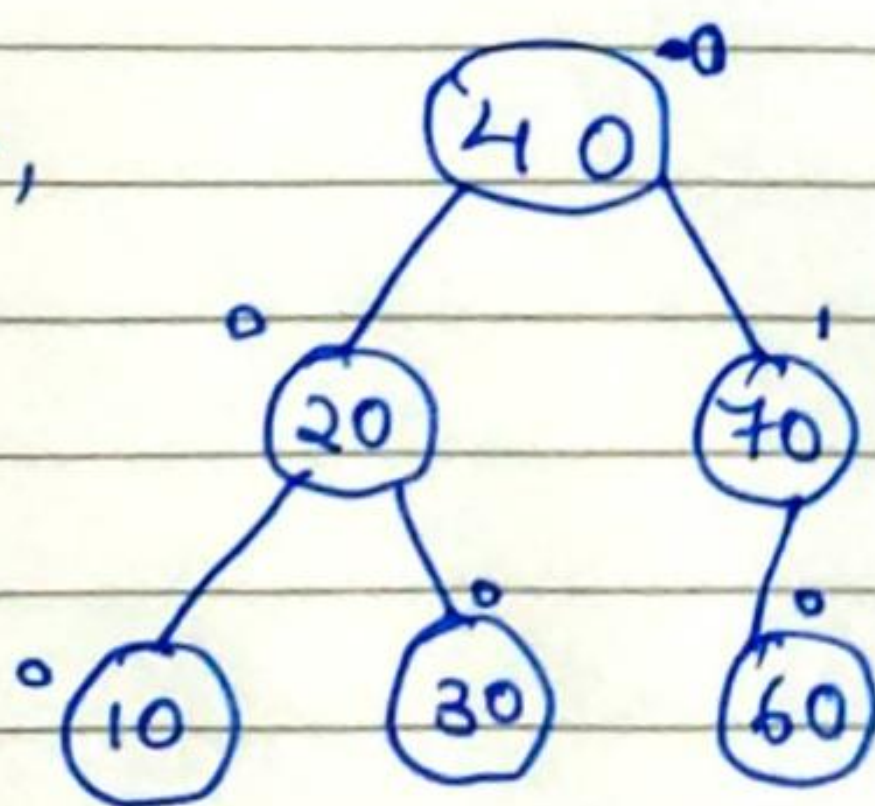


no rotation required / balanced.

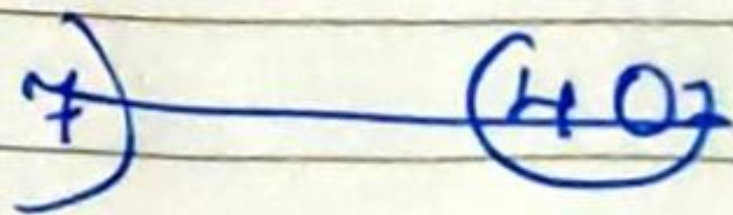


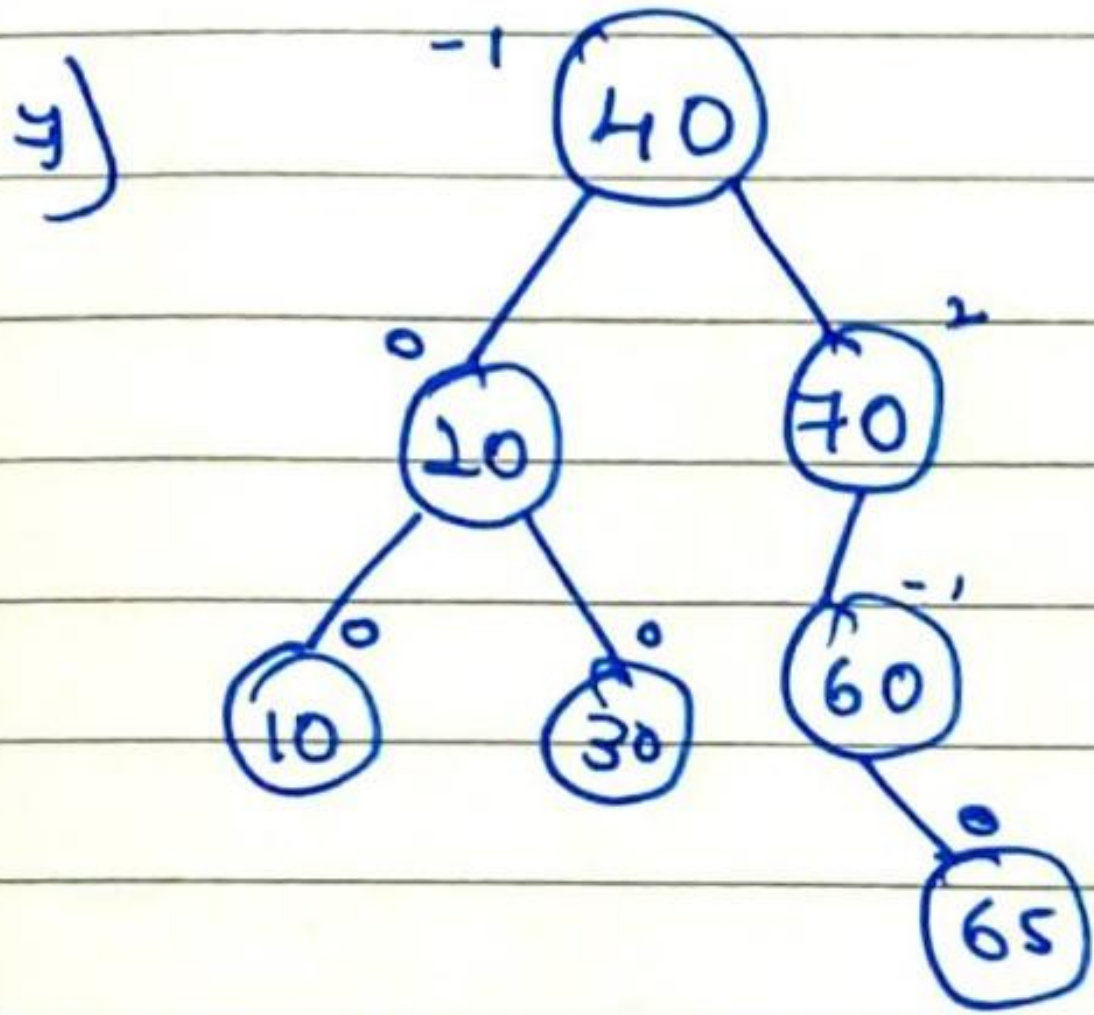
unbalanced,
using R L rotation
around nodes 20, 40, 30

we get,



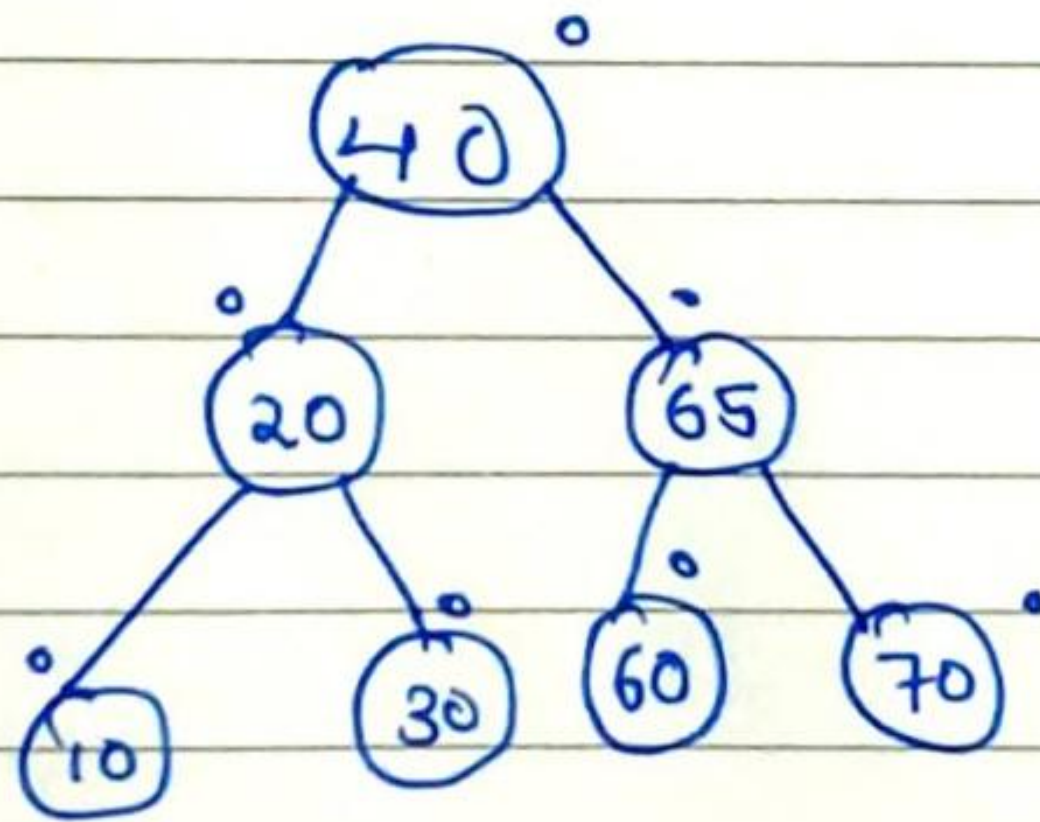
Now, no rotation
required.





unbalanced,
taking LR rotation around
nodes 40, 60, 65

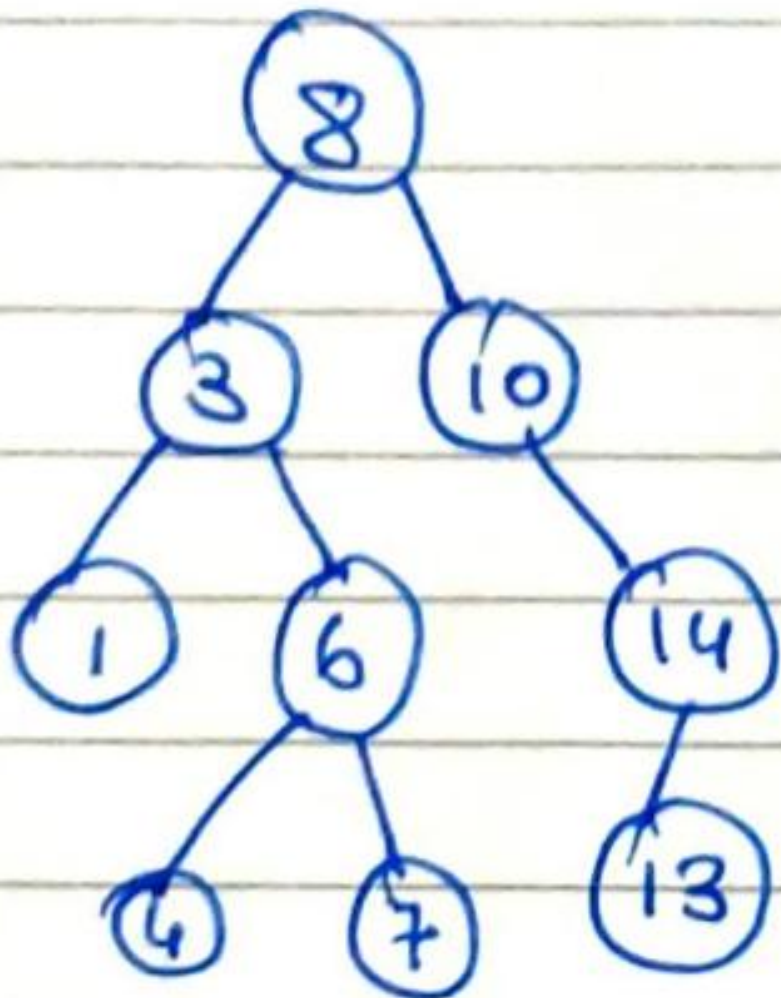
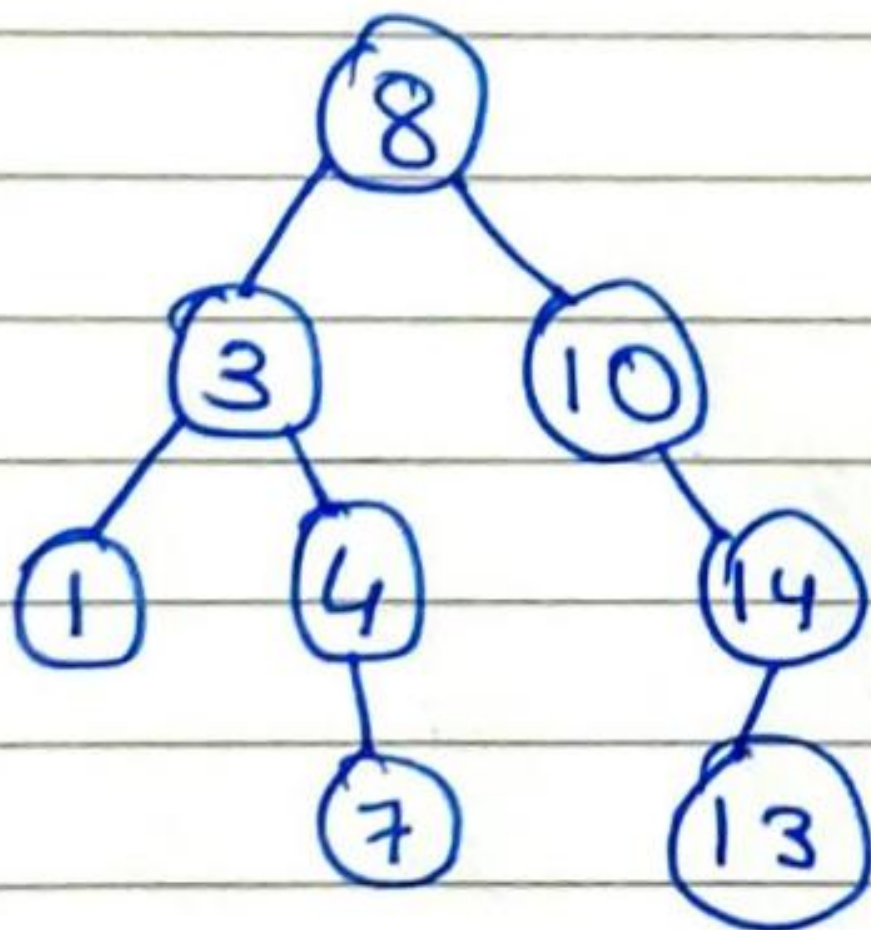
we get,



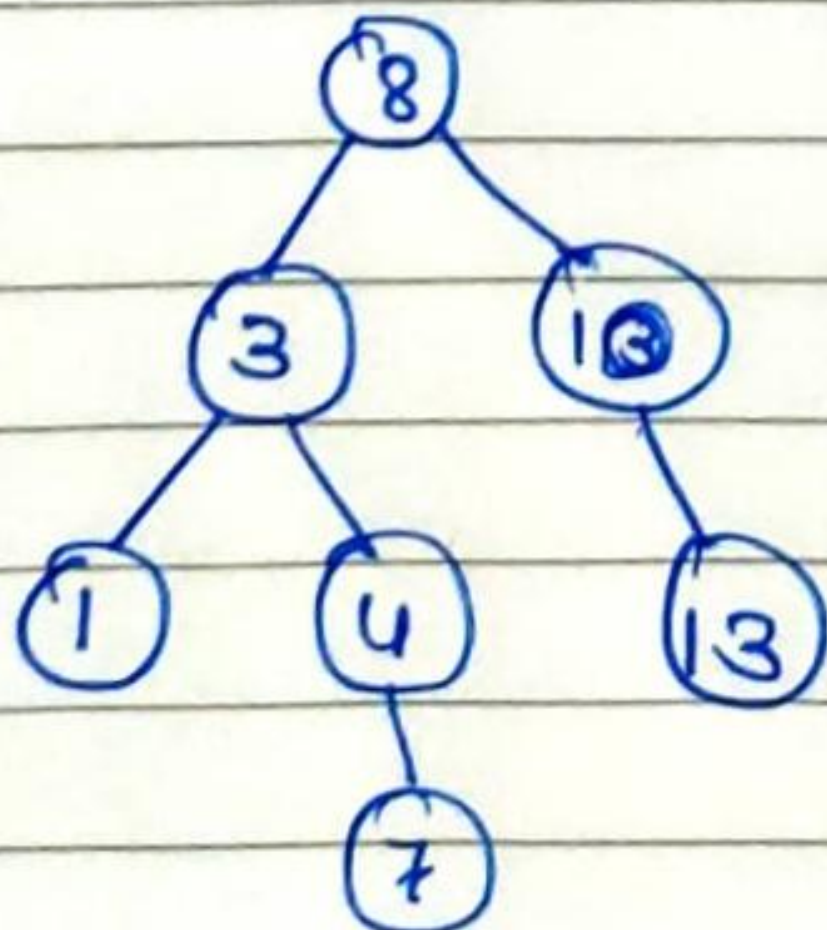
now, no rotation
required.

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⇒

delete 6

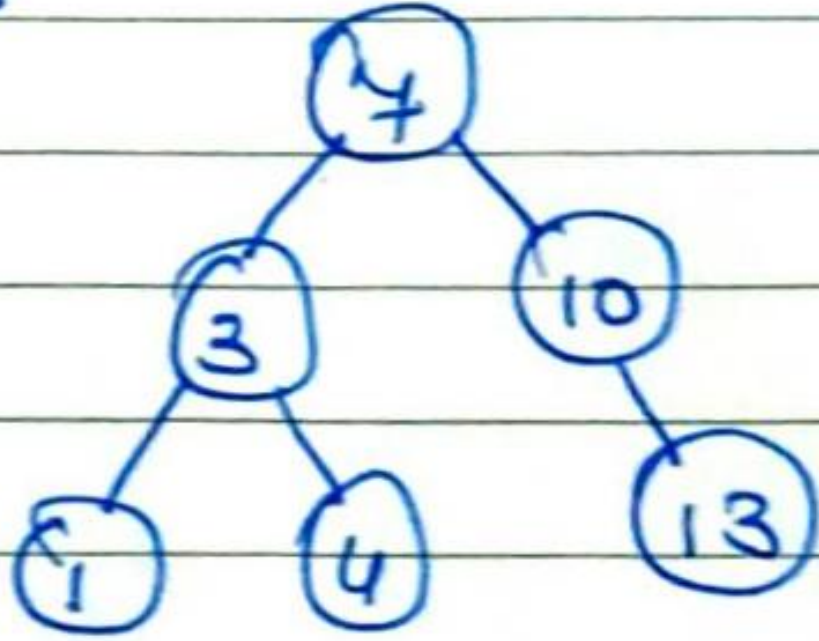
6 will be replaced by 4 which is the left most child or predecessor.

delete 14

14 will be replaced by 13 which is its left most child or predecessor.

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delete 8

8 will be replaced by 7
which is its predecessor.