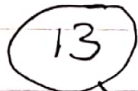


Problem 9.1

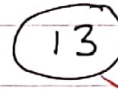
a)



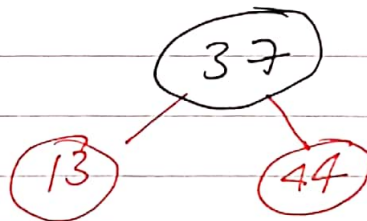
No property violated



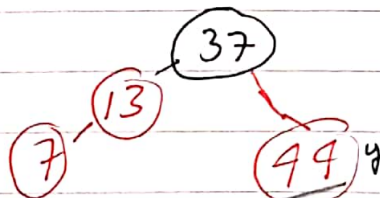
Rotate right(44)



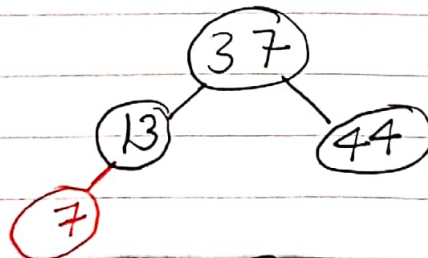
Case 2



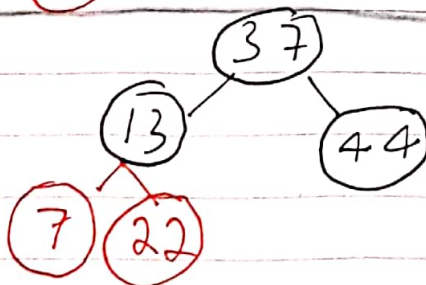
Rotate left(13) and change color of root to Black.



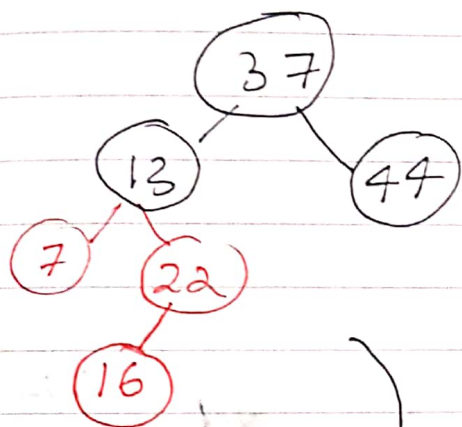
Case 1
unbalanced is Red



2 successive red nodes
so only recoloring
37, 13, 44

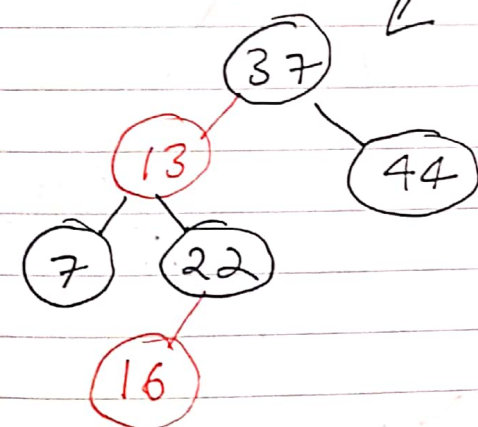


No change



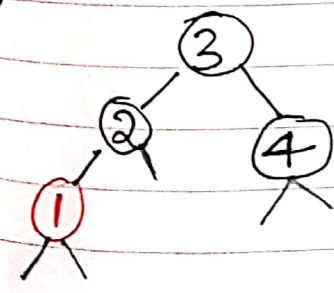
Case 1

2 successive rod
nodes 22 and 16
only recalculation required
13, 7, 22

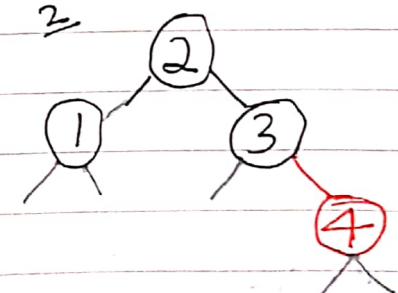


← Final result

b) 1

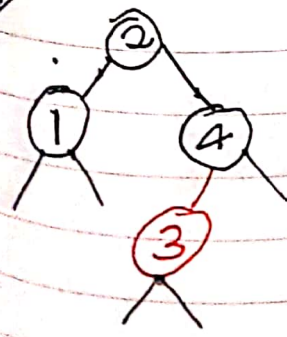


2



4 distinct combinations

3



4

