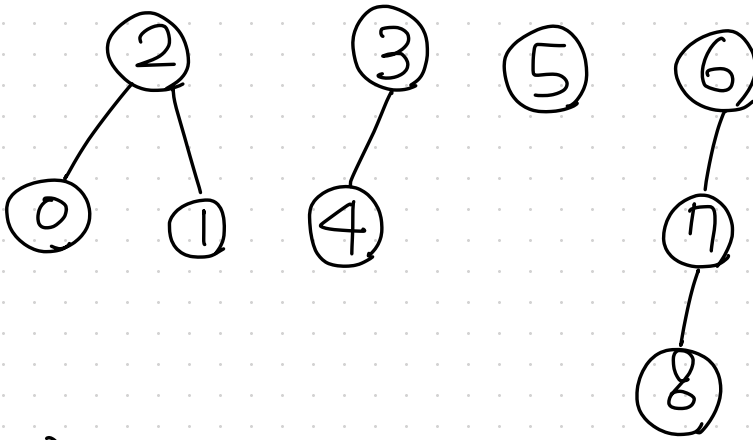



1)

2	2	-1	-1	3	-1	-1	6	7
0	1	2	3	4	5	6	7	8



2)

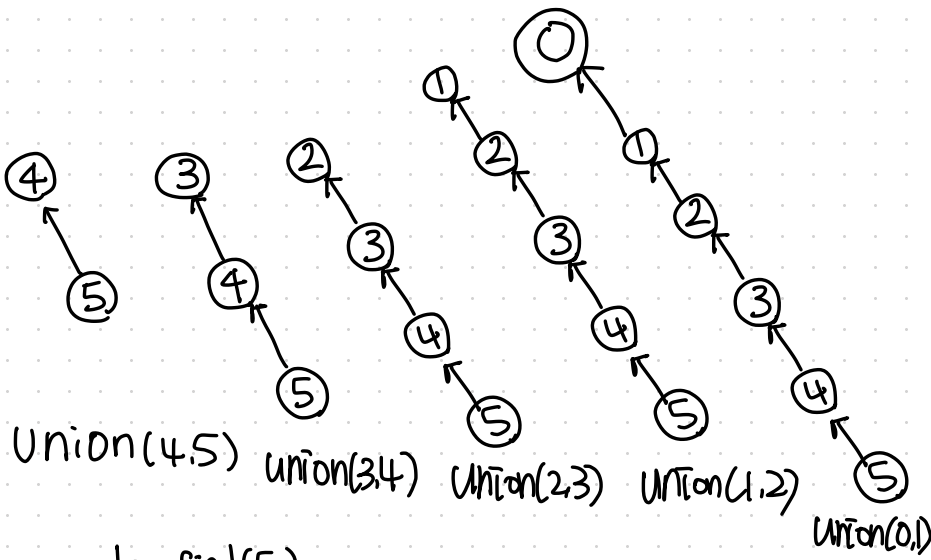
union (4,5)

union (3,4)

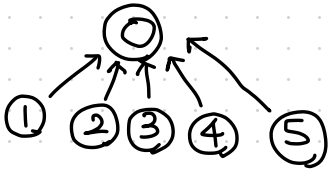
union (2,3)

union (1,2)

union (0,1)

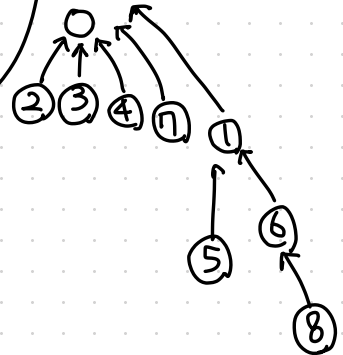
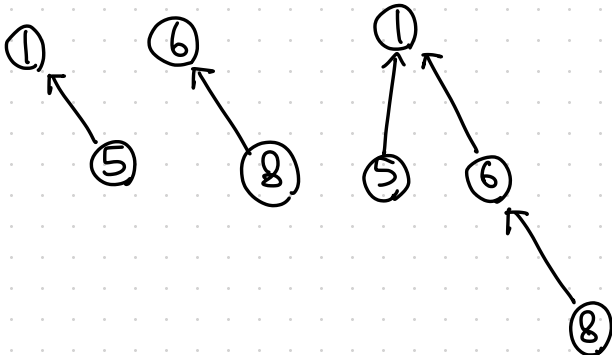
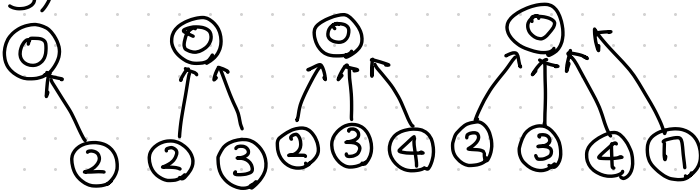


to find(5)

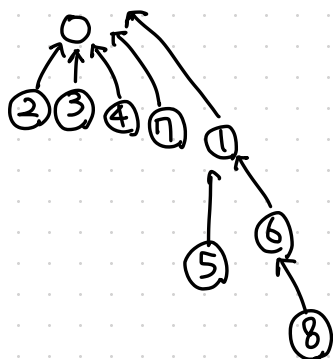


this tree is $N-1$ elements deep
so the running time to find is $O(N)$

3)

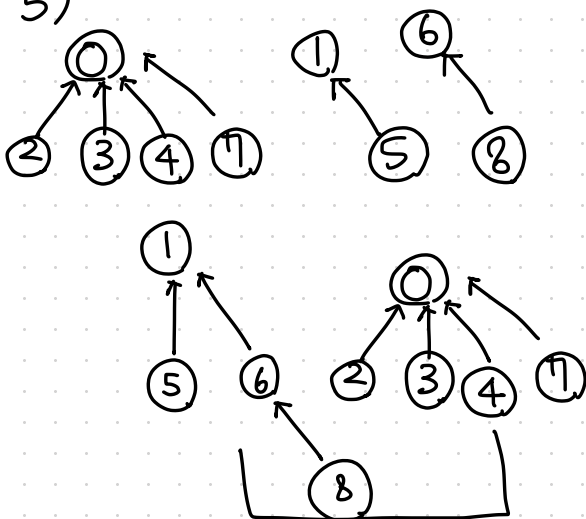


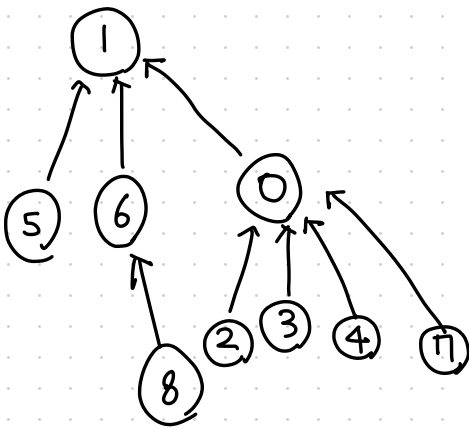
4)



-9	0	0	0	0	1	1	0	6
0	1	2	3	4	5	6	7	8

5)

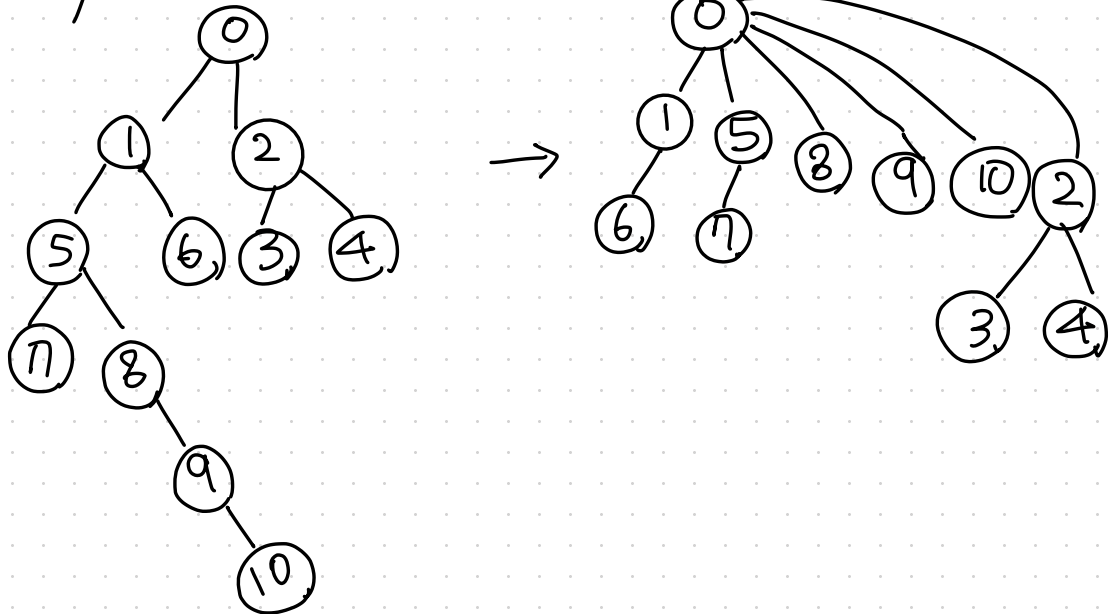




6)

1	-3	0	0	0	1	1	0	6
0	1	2	3	4	5	6	7	8

n)



-1	0	0	2	2	0	1	5	0	0	0
0	1	2	3	4	5	6	7	8	9	10

8)

