SUBMITTED BY :

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1) Given array,

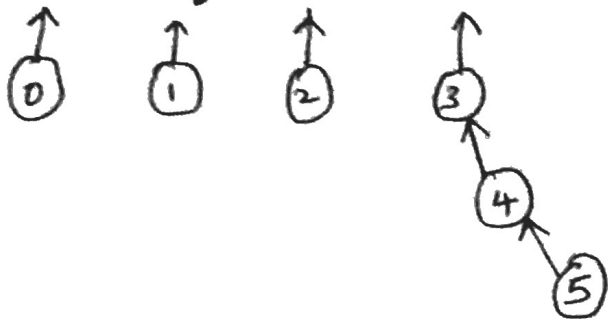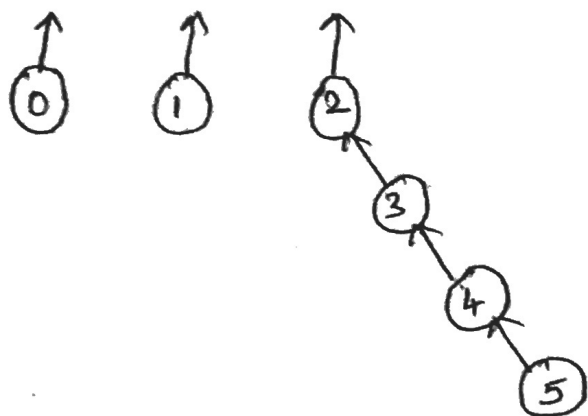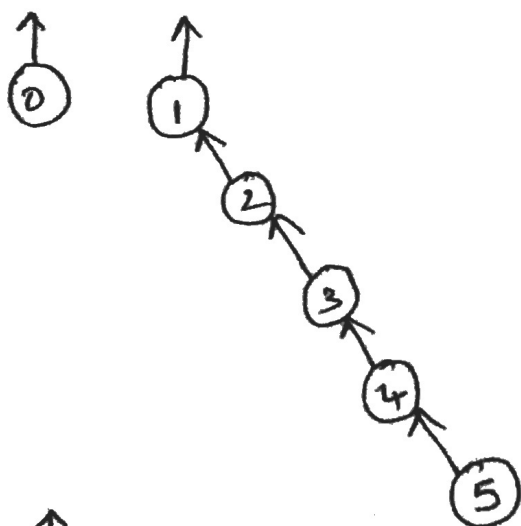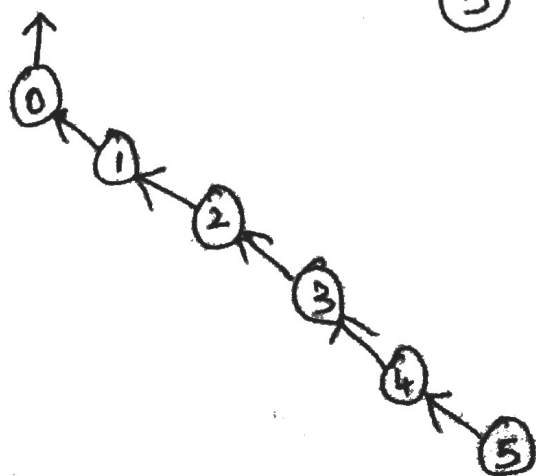| 2	2	-1	-1	3	-1	-1	6	7
0	1	2	3	4	5	6	7	8
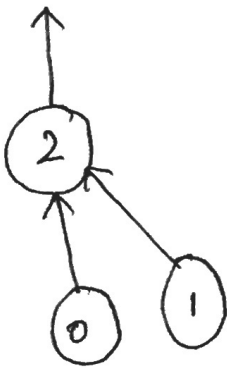
2) Given,

o to 5 as separate

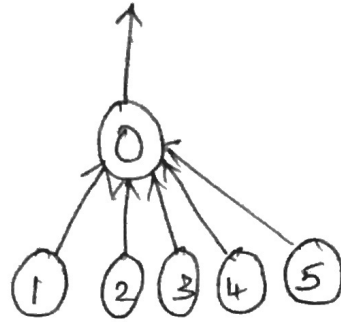Union(4, 5)

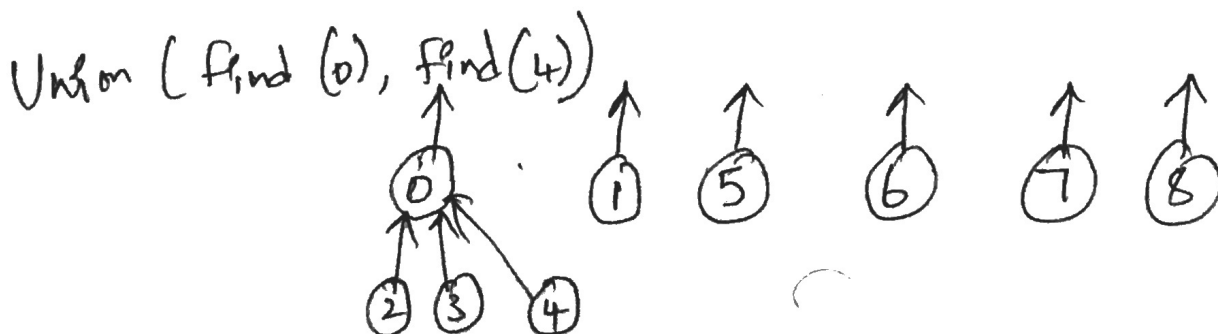Union(3, 4)

Union (2, 3)
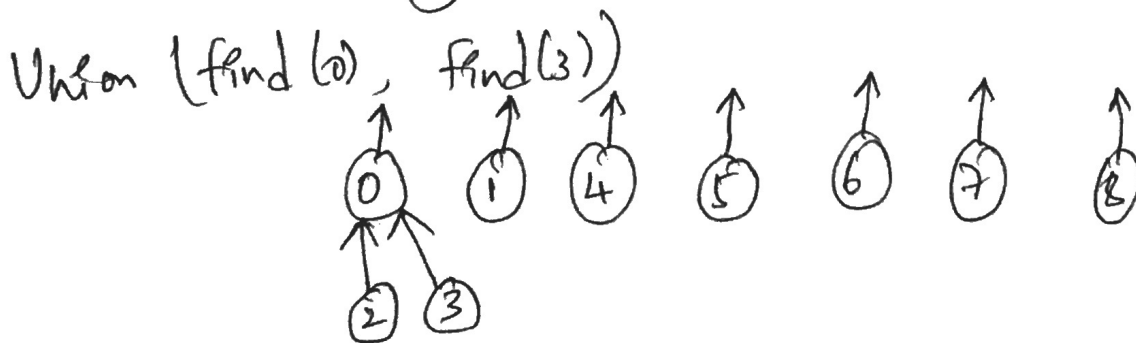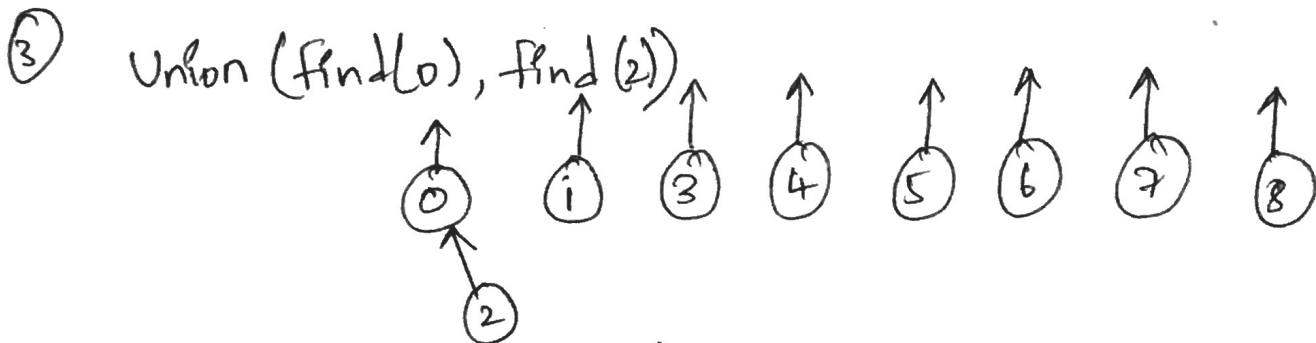

Union (1, 2)

Union (0, 1)

The resulting tree is ~~best~~ skewed. i.e., each node has only one child resulting in a long tree.

After Find (5).

returns 0.

③ Union (find(0), find (2))
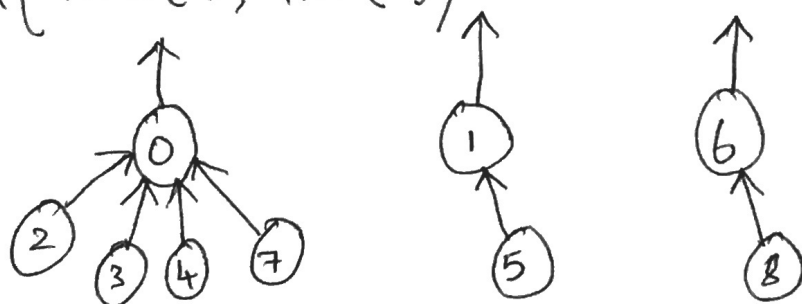

Union (find (0), find(3))

Union (find (0), find(4))

union (find(6), find(7))

union (find (1), find (5))
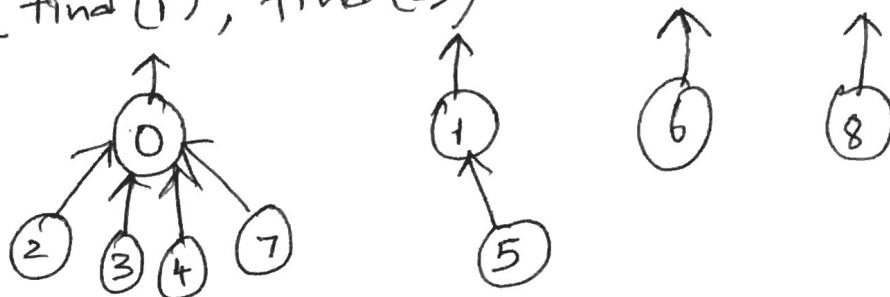
union (find (6), find(8))
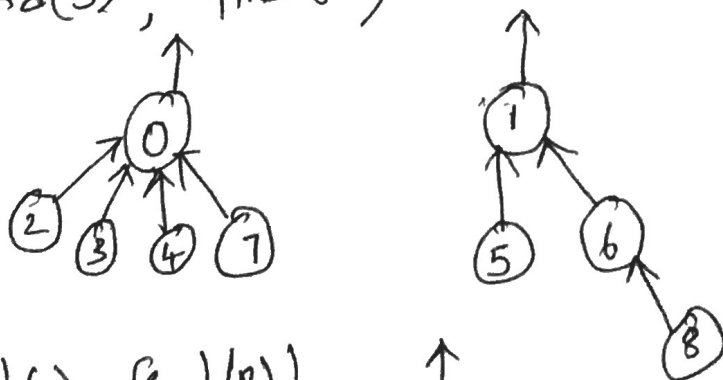
Union (find(5), find (8))
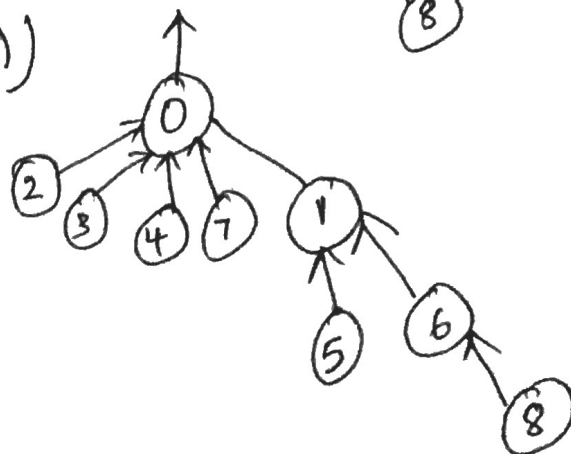
Union (find (7), find (8))

Array for the final forest,

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

⑤ Union-by- height :

Union(find(0), find(2))
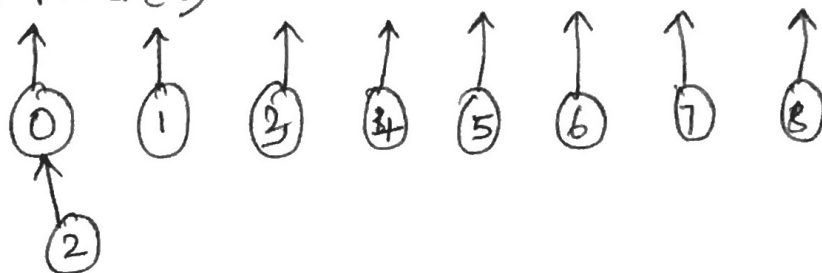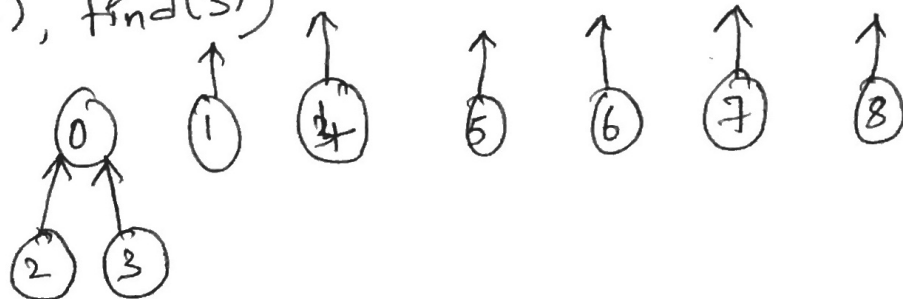
Union (find(0), find(3))

Union(find(0), find(4))

Union(find(0), find(7))

Union(find(1), find(5))

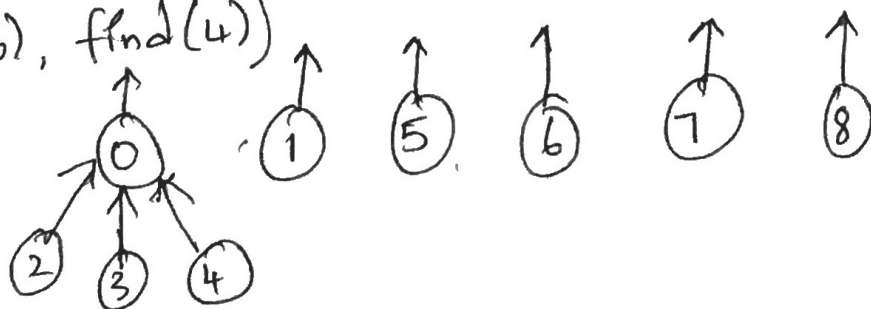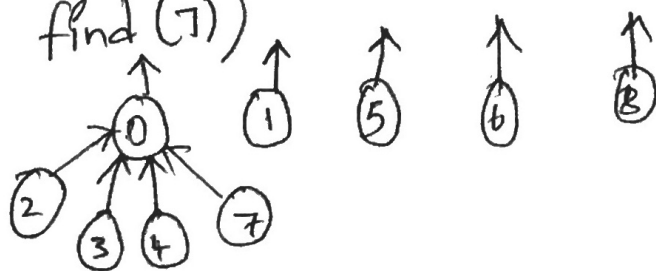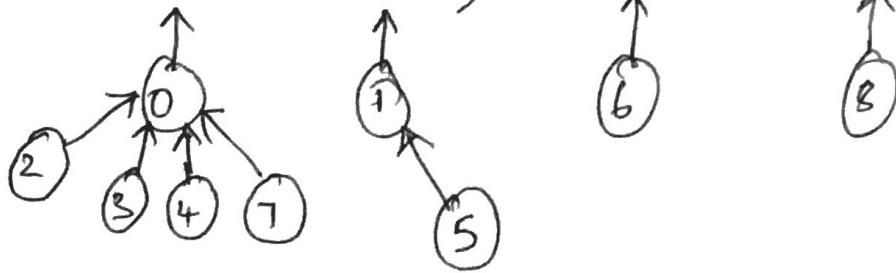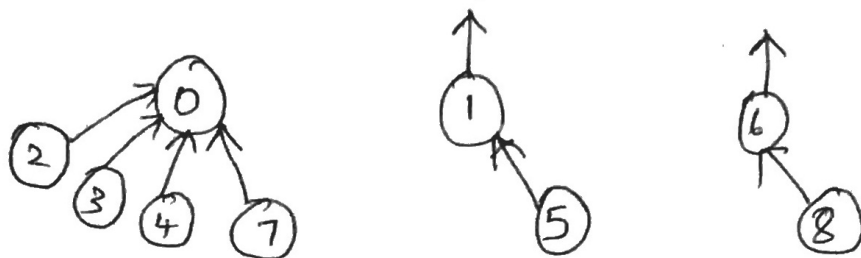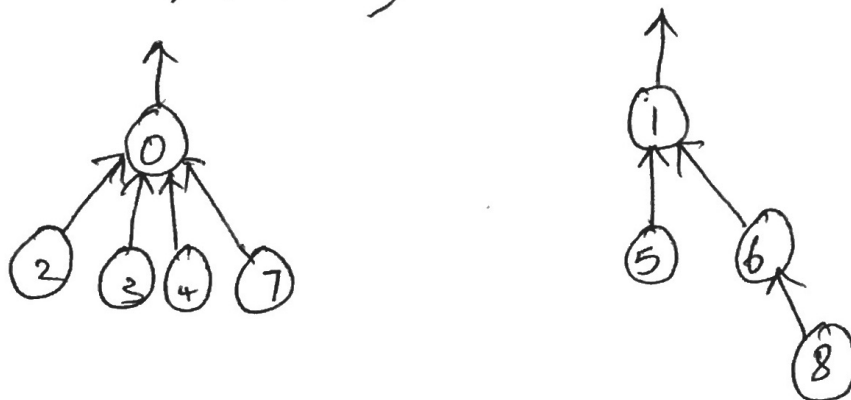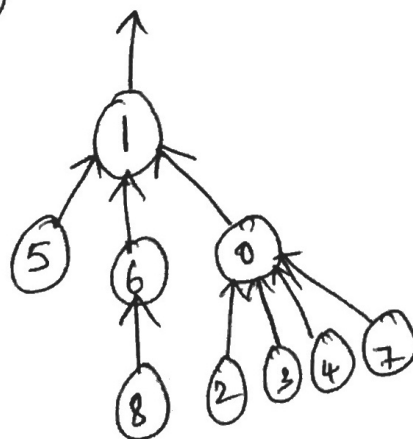# Union(find(6), find(8))

Union(find(5), find(8))

Union(find(7), find(8))

(6)

for the final forest,

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

(7) Given disjoint set array,

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

The array after a find(10) if path compression is used,

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

(8) The trees for the final forest,