

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

It is possible. Because each element is root.

2. 7 3 8 3 4 5 6 8 8 1

It is not possible. 3 is parent root. 1 is child root of 3. And 1 is parent root of 9. In weighted quick union 9 should be child root of 3 but here it is 1. So this is not a weighted quick union with path compression.

3. 6 3 8 0 4 5 6 9 8 1

This is not possible. 6 is parent root. 0 is child root of 6. 3 is child root of 0. In weighted quick union 3 should be child root of 6 but here it is 0. So this is not a weighted quick union with path compression.

4. 0 0 0 0 0 0 0 0 0 0

This is possible because all have a single parent 0.

5. 9 6 2 6 1 4 5 8 8 9

This is possible because all the roots have a single child root.

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

This is Not possible. Here all parent and child roots are cyclic.