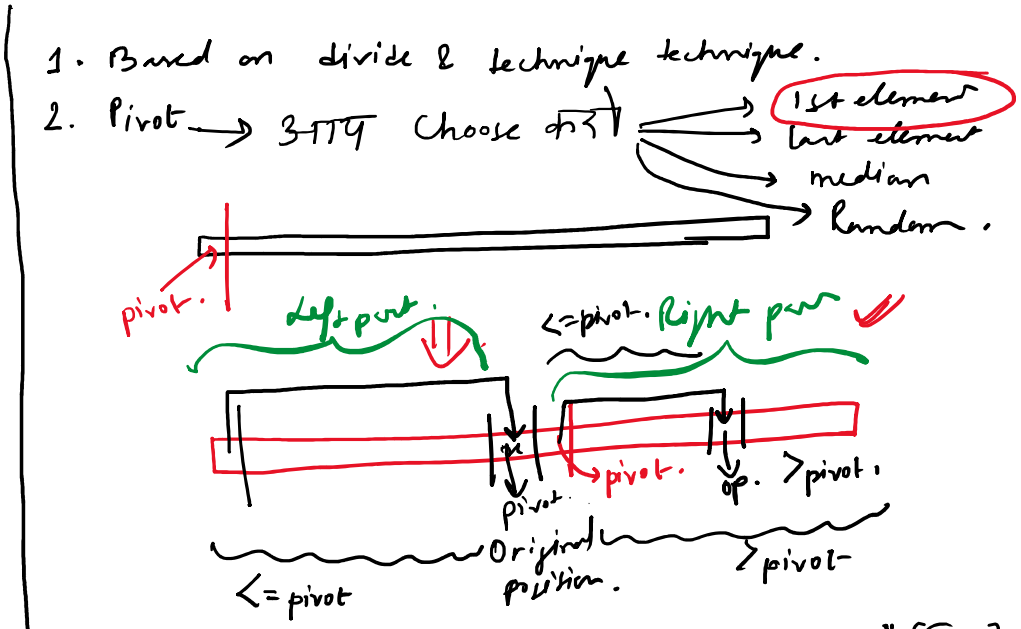
Quick sort

12 February 2025 08:12

1. Based on divide & technique technique.
2. Pivot → any Choose करते
   - 1st element
   - last element
   - median
   - Random.



15 20 25 35 45 50 80 90

Eg

35 50 15 25 80 20 90 45.

pivot = 35

p → arr[p] <= pivot.

q ← arr[q] > pivot.

p

q

p → arr[p] <= pivot

q ← arr[q] > pivot

35 50 15 25 80 20 90 45.

pivot.

P

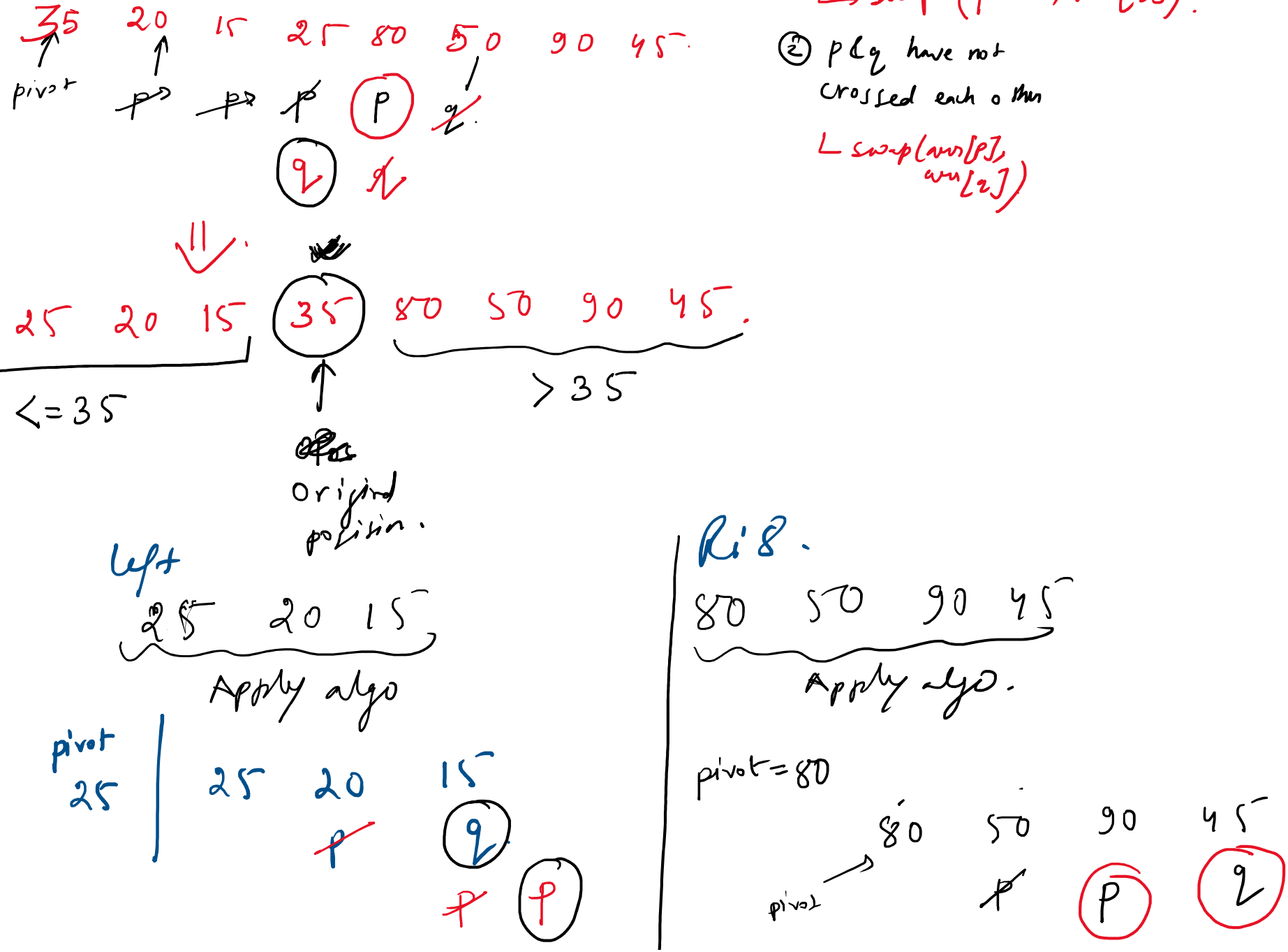
q

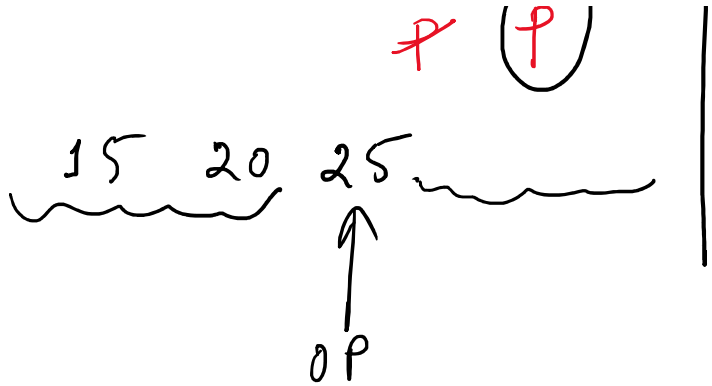
p, q → stop

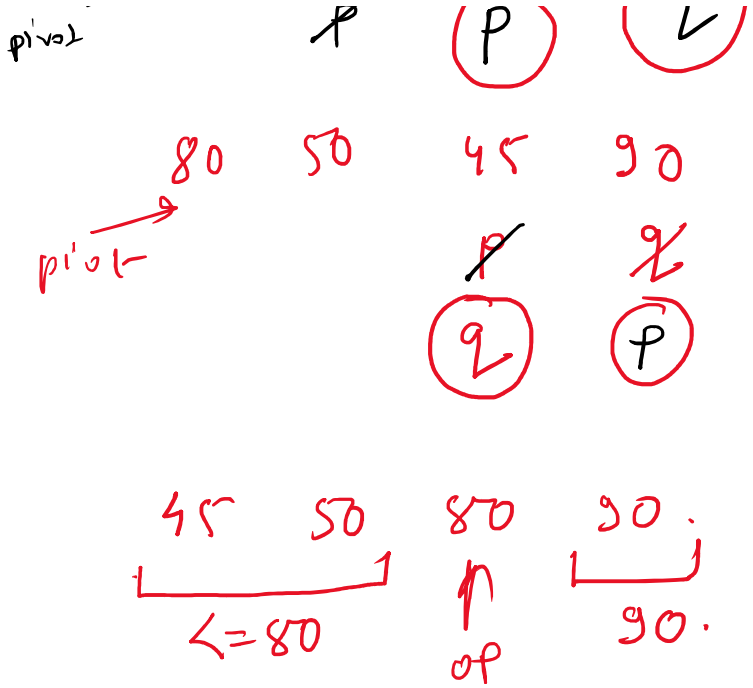
① p & q have crossed each other.

↳ swap (pivot, arr[q]).

35 20 15 25 80


35 20 15 25 80 50 90 45
pivot
p
q
swap (pivot, arr[q])
② p & q have not crossed each other
swap(arr[p], arr[q])
25 20 15 35 80 50 90 45
<=35
>35
original position.
Left
25 20 15
Apply algo
pivot
25
25 20 15
Right
80 50 90 45
Apply algo.
pivot=80
80 50 90 45
pivot
p
q


15 20 25
op


pivot
80 50 45 90
pivot
op

45 50 80 90.
<=80
op
90.