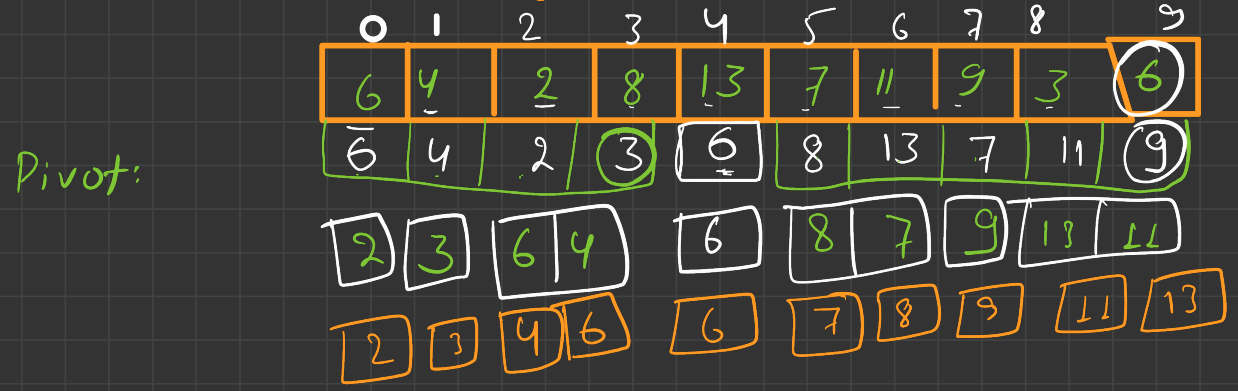
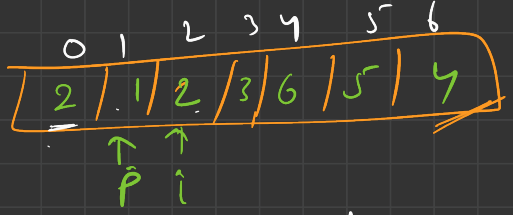
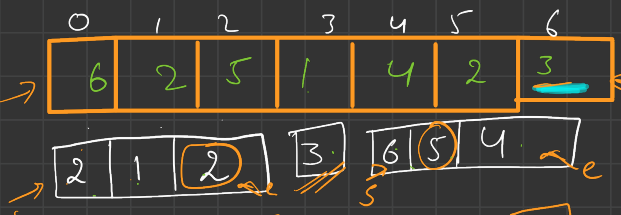
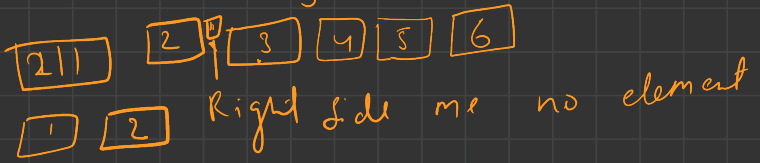
Quick Sort








```
int pos = start;
for (i = start; i <= end; i++){
    if (arr[i] <= arr[end]) {
        swap (arr[i], arr[pos])
            pos ++;
    }
    return pos - 1;
```



① Pivot element ko correct position me dalo,
Left side me chhote or equal,
Right side me bade;

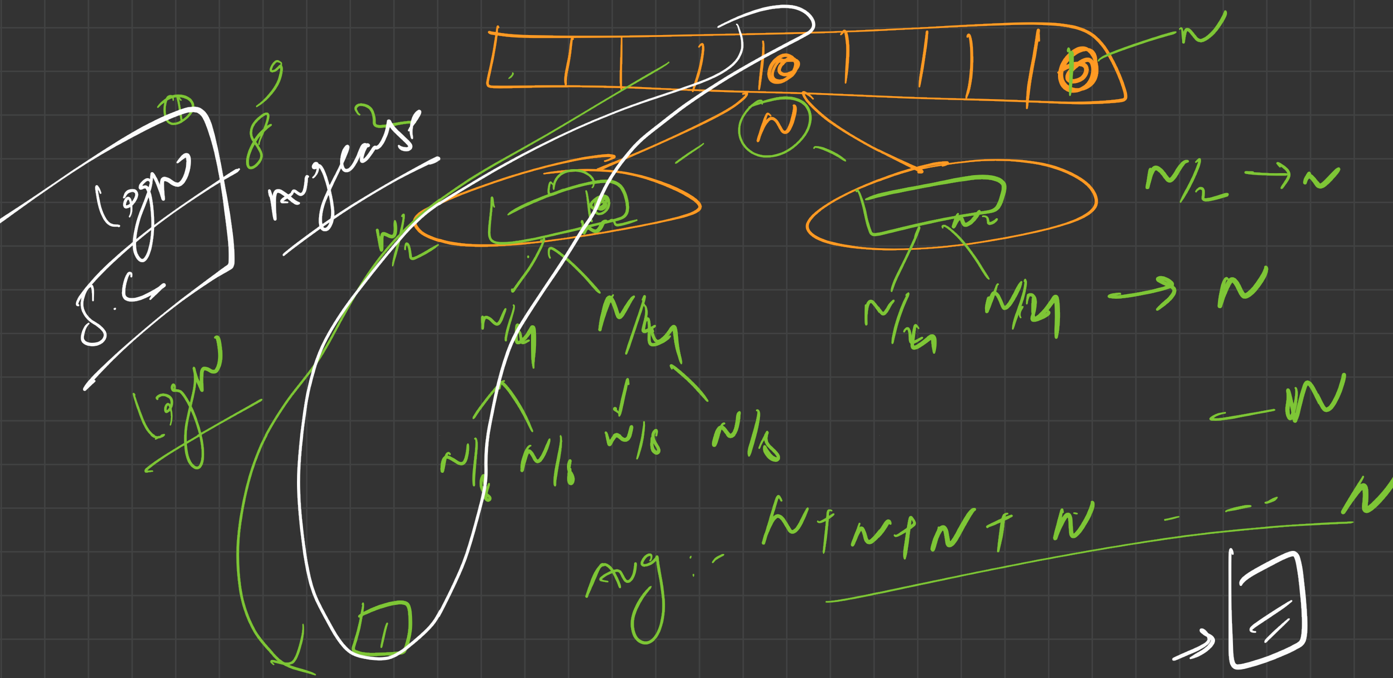
② Left Side

③ Right Side

```
quicksort(int arr[], int start, int end){
    if (start >= end){
        return;
    }
    int pivot = Partition (arr, start, index)
//Left  quicksort (arr, start, pivot-1);
//Right quicksort (arr, pivot+1, end);
```

```
int Partition( int arr[], int start, int end) {

    int pos = start;
    for(i= start; i<=end; i++) {
        if (arr[i] <= arr [end] ) {
            swap (arr[i] , arr[pos])
            pos++
        }
    return pos-1;
    }
```



Worst N^2

T.C $N \log N$

Avg case

T.C → N^2

S.C → N