Quick sort

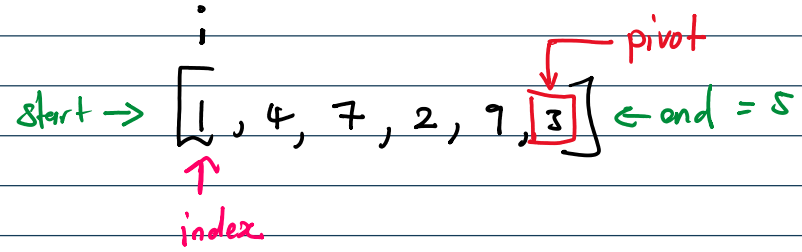
Tuesday, 30 May 2023 18:11

Understanding quick sort

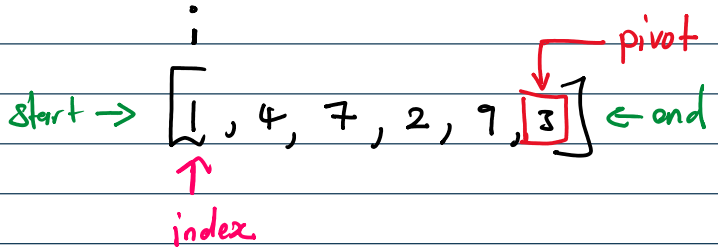
$$array = [1, 4, 7, 2, 9, 3]$$

Partitioning

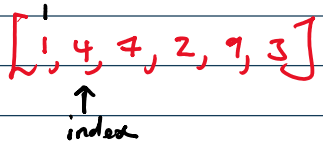
Quick sort the array



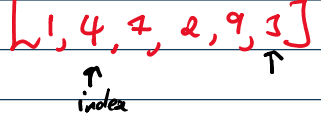

```
=> for (let i = start; i < end; i++)
    let num = array[i]
    let value = array[pivot]
    if (num <= value) {
        swap(num, array[index])
        index += 1
    }
}
```



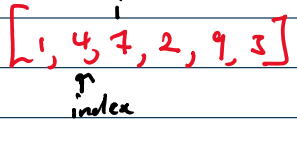
i = 0
↳ array[i] = 1
array[pivot] = 3



i = 1
↳ array[i] = 4
array[pivot] = 3



i = 2
↳ array[i] = 7
array[pivot] = 3



i = 3
↳ array[i] = 2
array[pivot] = 3

swap

i = 4
↳ array[i] = 9
array[pivot] = 3

Done with loop:

swap(array[pivot], array[index])

array[pivot] = 3

swap

[1, 2, 7, 4, 9, 3]

index

increment

[1, 2, 7, 4, 9, 3]

index

array[pivot] = 3

[1, 2, 7, 4, 9, 3]

index

swap(array[pivot], array[index])