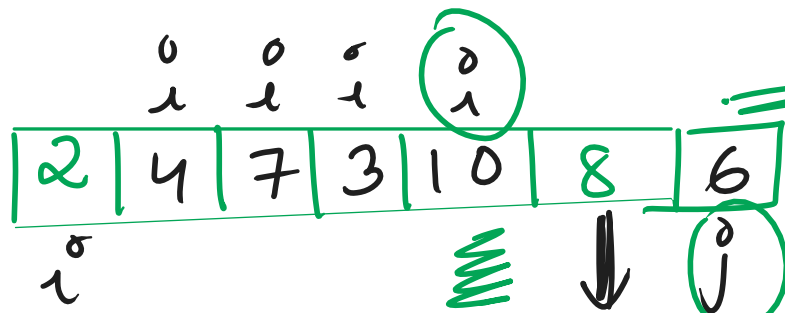


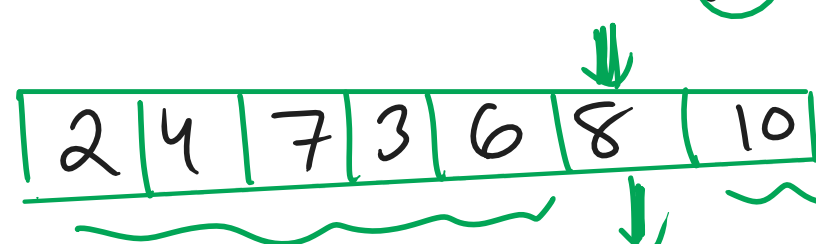
The Quick Sort Algorithm \rightarrow Recursion (Pivot Element)
(Partition Index)

arr \rightarrow [8, 4, 7, 3, 10, 2, 6]

pivot \rightarrow 8 \rightarrow arr[s] (4, 7, 3, 2, 6)



count = 5
s + count
0 + 5 = 5



recursion

Basic Idea:

2, 9, 7, 4, 8, 3, 0

suppose 6 is pivot

* All elements less than pivot go to the left.
* All elements greater than pivot go to the right.

2, 4, 3, 0 [6] 9, 7, 8

\rightarrow Then recursion.

File Handling In Java: CRUD Operations \rightarrow

File \rightarrow java.io

(i) Create Folder \checkmark

(ii) Delete Folder \checkmark

(iii) Create File \checkmark

(iv) Delete File \checkmark

(v) Read File \checkmark

(vi) Write File \checkmark

\hookrightarrow File Writer

Path in the OS

(i) Absolute path

\rightarrow root dir

(ii) Relative path

\rightarrow cur dir

\rightarrow excel / pdf \rightarrow binary files

(jar)
java applicⁿ
archive

Introduction to Data Structures \rightarrow

Linear Data Structures \rightarrow Arrays, Linked Lists, Stacks, Queues

Differences between Arrays & Linked Lists \rightarrow

(Insert Operation)	(Search Operation)
<p>TC $\rightarrow O(n)$</p>	<p>4th element arr[3] indexing $O(1)$</p>



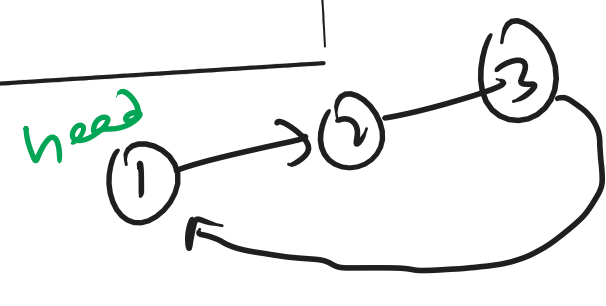
Forward
 $h \rightarrow t$

```

class Node {
    int data;
    Node next;
}
    
```

```

class Node {
    int data;
    Node next;
    Node prev;
}
    
```



Both ways
 $h \rightarrow t$
 $t \rightarrow h$