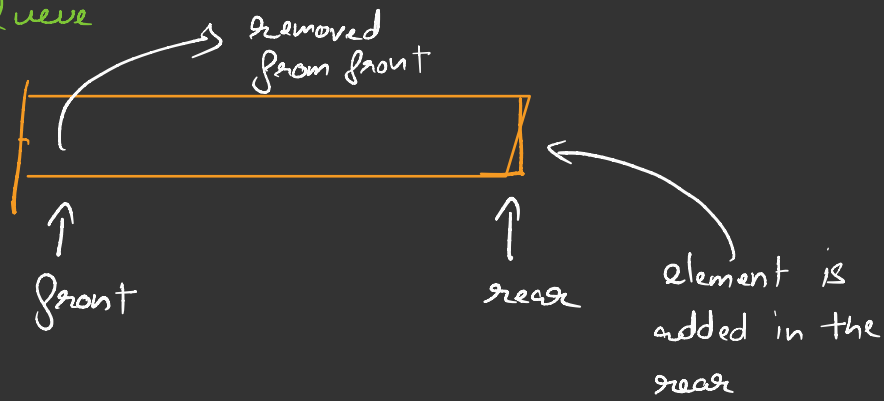


Queue



FIFO

First In First Out

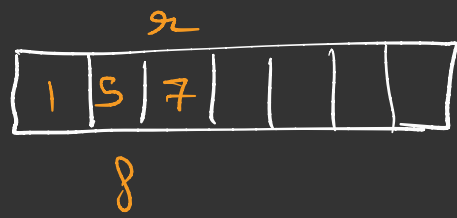
- 1) Add // enqueue
 - 2) Remove // dequeue
 - 3) Peek // first element
 - 4) Size
 - 5) isEmpty
-

Implementation

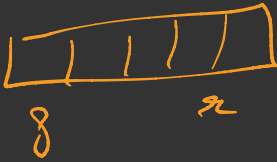
① Array

```
class Queue {  
    int data[10];  
    int front;  
    int rear;
```

add
 $rear++$
 $arr[rear] = val$

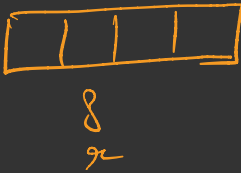


remove // de que



$f++$

2

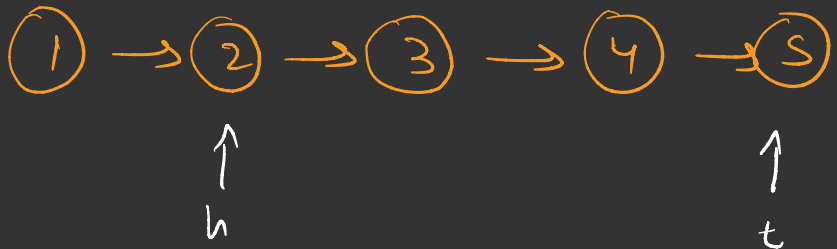


$f = -1 \quad r = -1$

peek return $arr[f]$

Size = $r - f + 1$

LL



$\text{Stack} \langle \text{Integer} \rangle \text{ st} = \text{new Stack} \langle \rangle ();$

$\text{Queue} \langle \text{Integer} \rangle \text{ q} = \text{new Queue} \langle \rangle ();$

↪ Interface

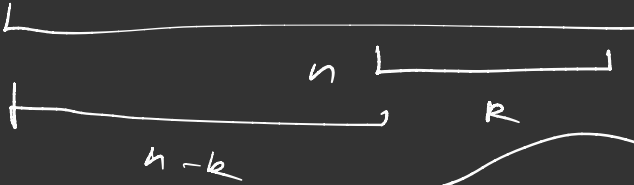
① LinkedList

② ArrayDeque

Que

1 | 9 | 5 | 2 | 7 | 6 | 4

$k = 3$



1, 9, 5, 2, 4, 6, 7

4
6
7

Rotation