SNS COLLEGE OF ENGINEE

Kurumbapalayam(Po), Coimbatore – 641 107
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Department of Artificial Intelligence and

Course Name: 23ITB201 Data structures a

II Year / III semester

Unit II –Stack and Queue ADT

Topic: Queue using array

aboratory has 30 computers networked with a single print

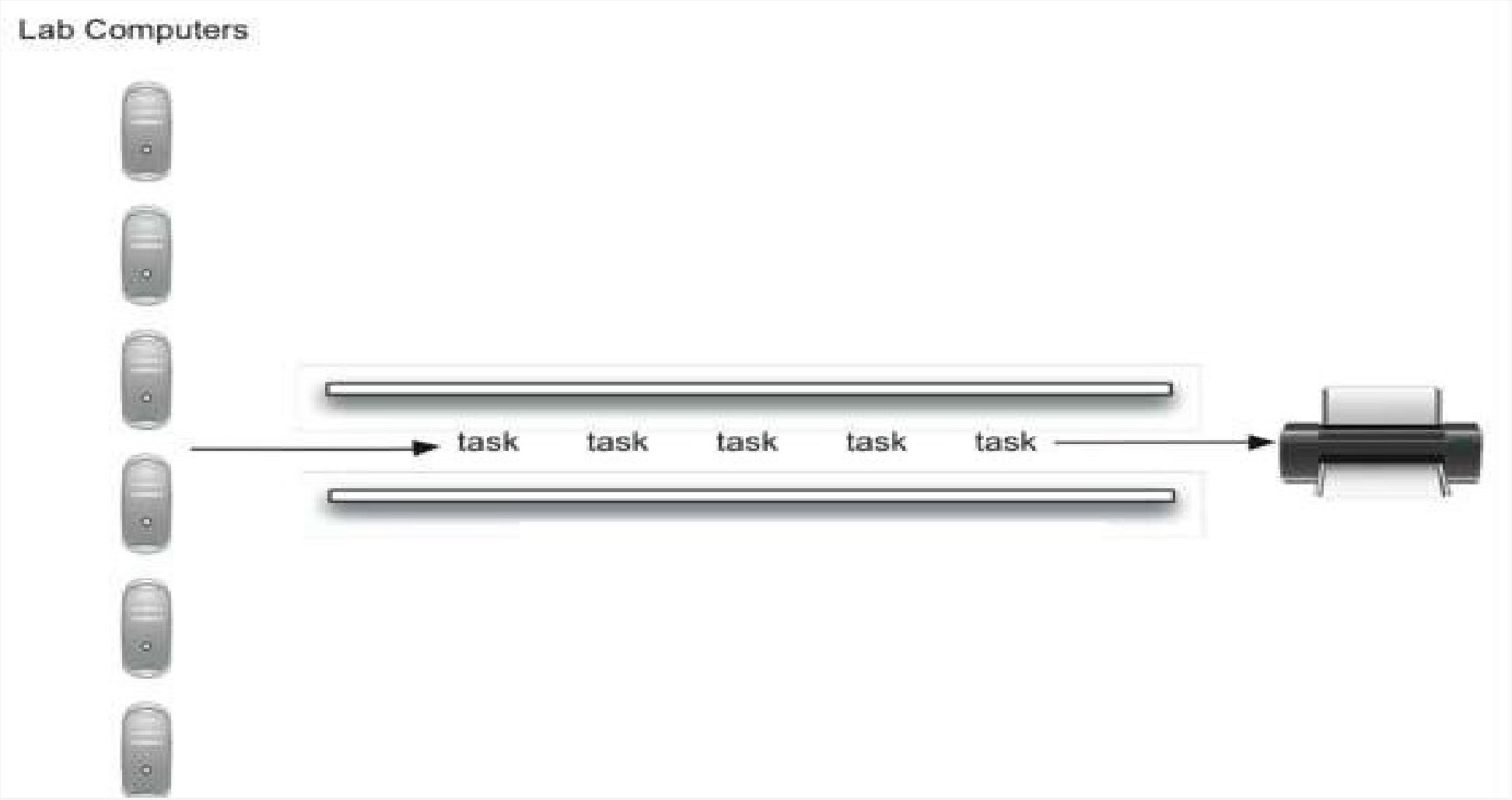
to take print, their print tasks get stored and printed based on

ne" with all the other printing tasks that are waiting.

n is the next to be completed. If you are last in line, you mus

sks to print ahead of you.

Can we use stack data structure?



Can we use stack data structure?

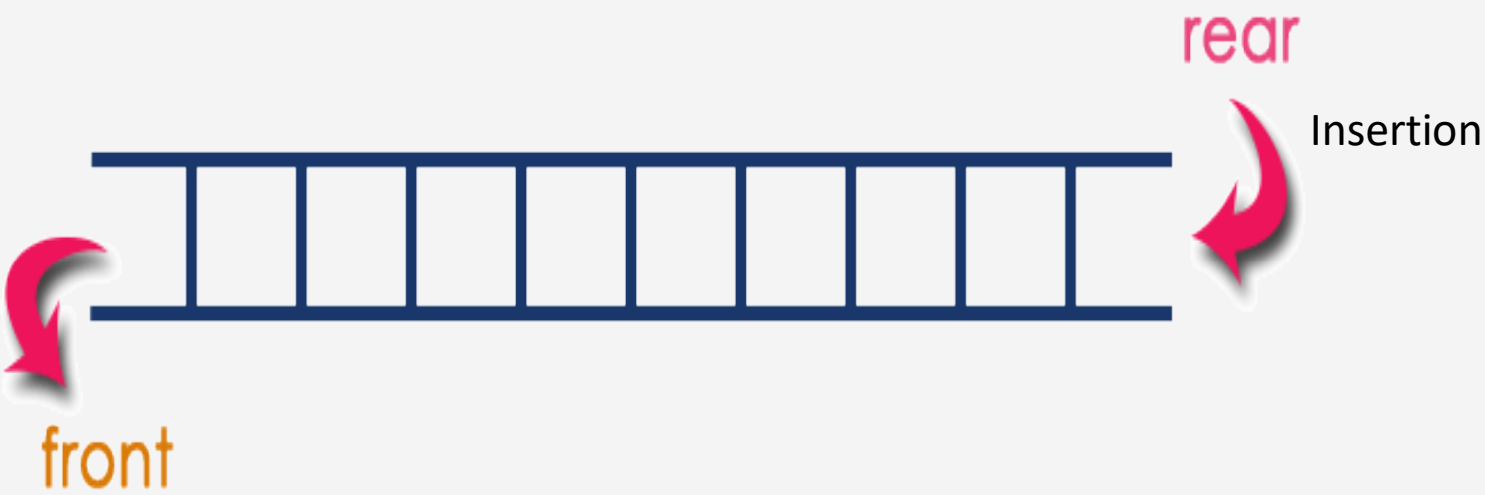
es

Stack Example

data structure in which the insertion and deletion operations
.
structure, adding and removing elements are performed

erformed at one end and deletion is performed at another end.
tructure, the insertion operation is performed at a position w
tion operation is performed at a position which is known as **'fr**
ucture, the insertion and deletion operations are performed
ut) or LILO (Last In Last out) principle.

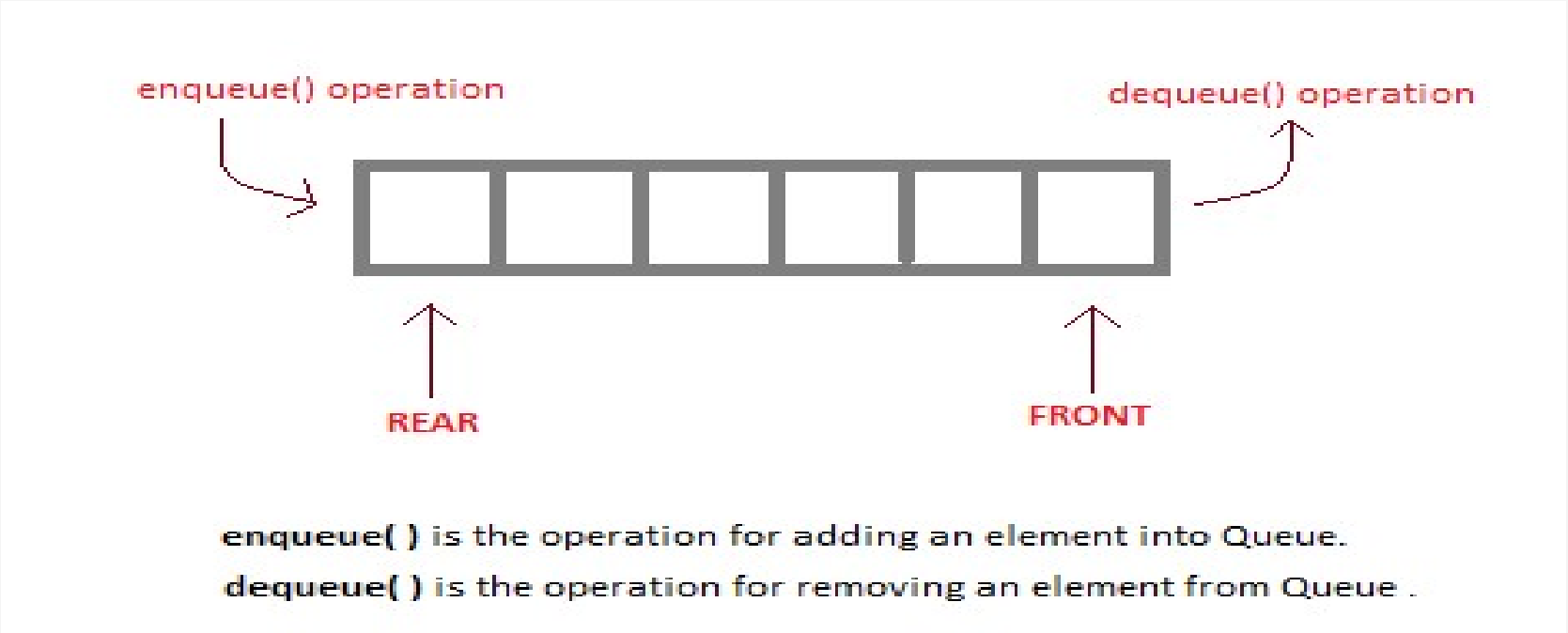
on



After Inserting five elements...

nqueue() − Insert / add an item to the queue.

equeue() − Delete / remove an item from the queue.

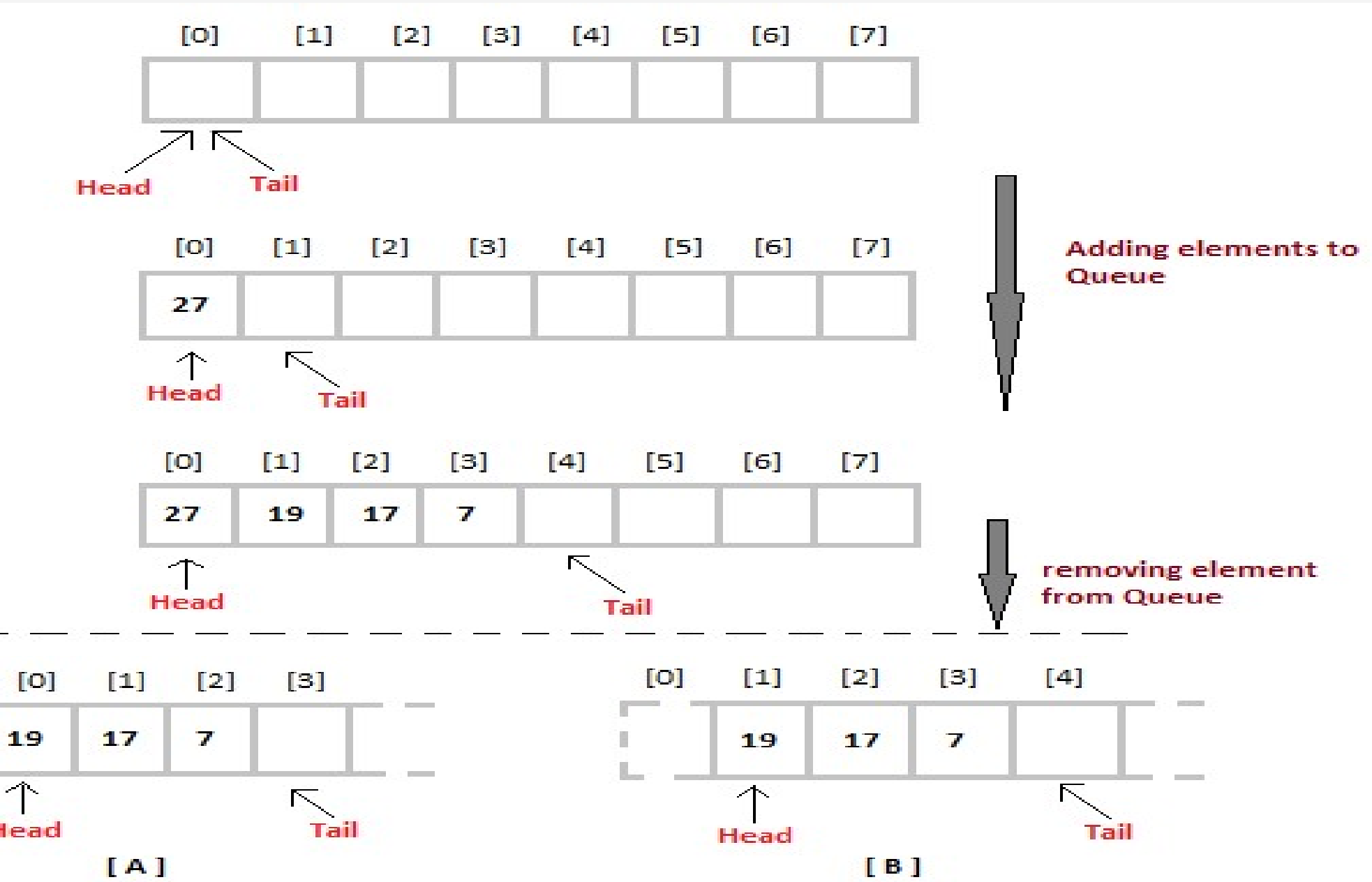


ructure can be implemented in two ways. They are as

y

ed List

and deQueue operation



deleting

Queue is Full → **rear == SIZE-1**

Queue Empty → **Front & rear == -1**

eck whether **queue** is **FULL**. (**rear == SIZE-1**)

f it is **FULL**, then display **"Queue is FULL!!! Inserti**

le!!!" and terminate the function.

t is **NOT FULL**, then increment **rear** value by one

ue[rear] = value.

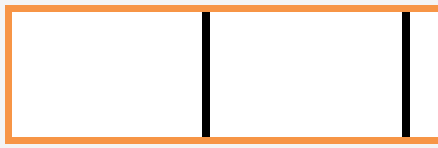
```
 X)

e - 1)
ue !!!!. Insertion not

 -1 && Rear = = - 1)

;
```

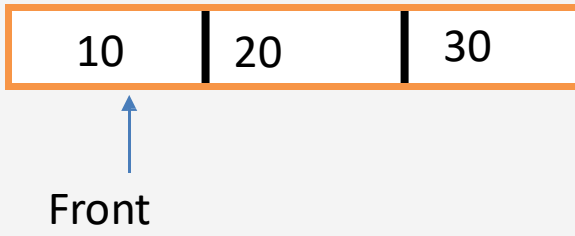
Queue Creation

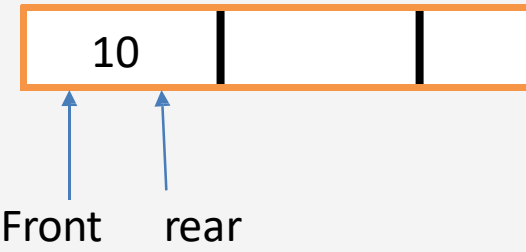
```
int Queue[size];
Front = -1
Rear =-1
```

Empty Queue

Front , Rear = -1







ether **queue** is **EMPTY**. (**front & rear == -1**)

PTY, then display **"Queue is EMPTY!!! Deletion is not**

rminate the function.

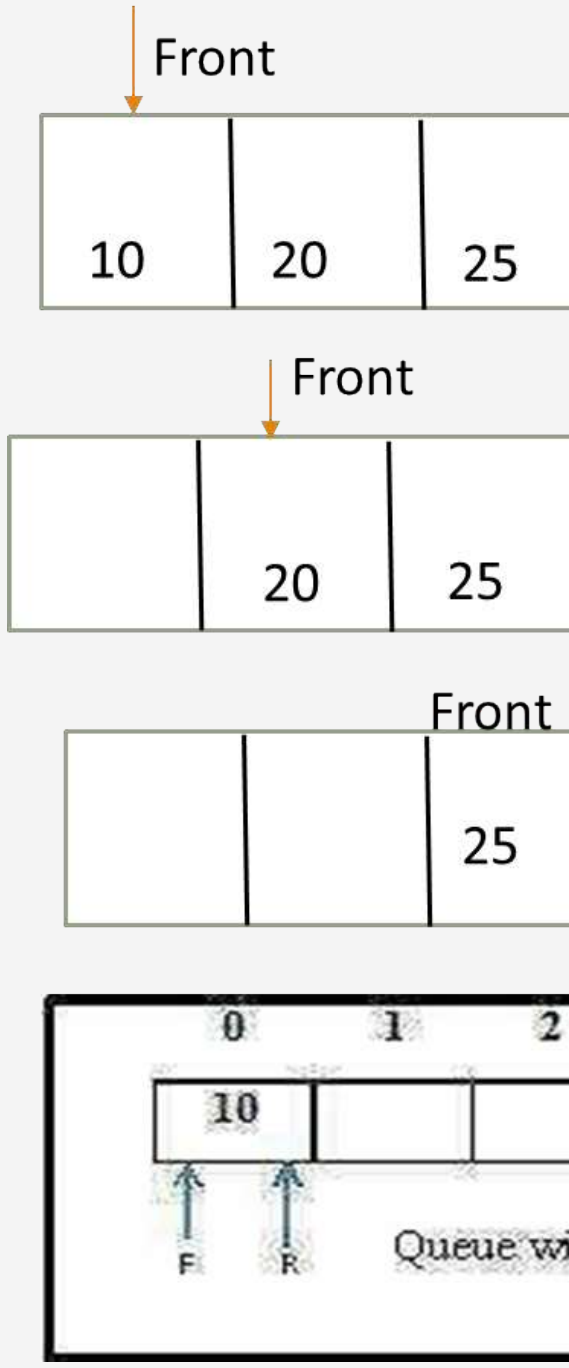
T EMPTY, Then check whether both **front** and **rear** are equ

ront = rear = -1

rement the **front** value by one (**front**++).

```
1 && Rear == -1)
ueue !. Deletion not possible " );
= Rear )
```

```
1 ;
```




thank
you