

Linear queue - First In First Out

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Rear					
[-1]	[0]	[1]	[2]	[3]	[4]
	10	20	30		
Front					

front = 4
front++
= 4+1

Enqueue ()

- ① Increment the rear $\rightarrow \text{rear}++$
- ② Insert Element at rear pos
 $\text{arr}[\text{rear}] = \text{data}$

Front end : pop (dequeue)

Rear end : push (enqueue)

Push (enqueue) :

- 1) Increment the rear by 1
- 2) Insert the element at the rear position
- 3) If (front == -1) front = 0;

Pop (dequeue) :

- 1) $\text{arr}[\text{front}] = 0$
- 2) Increment the front by 1

Queue full condition : $\text{rear} == \text{size}-1$

Queue empty condition : $\text{rear} == -1 \mid \mid \text{front} > \text{rear}$

Always check if the queue is full before inserting the element

Always check if the queue is empty before deleting the element

dequeue .

- ① optional
 $\text{arr}[\text{front}] = 0;$
- ② $\text{front}++;$

Array display

For (l = 0; i < SIZE; i++)

Queue Display

Queue is from front to rear

For (l = front; i <= rear; i++)