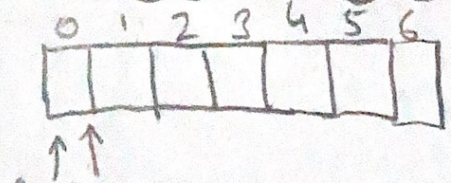
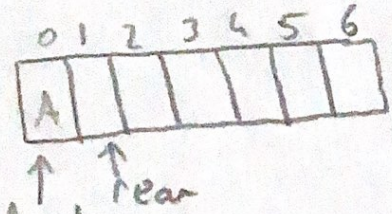
# QUEUE

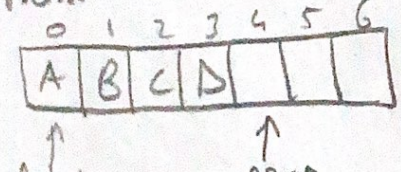
- first in first out (FIFO)
- Circular Queue, Priority Queue...

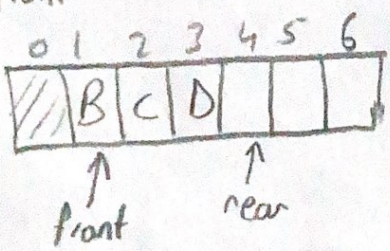
## REMOVING AND ADDING




Adding → enqueue
Removing → dequeue

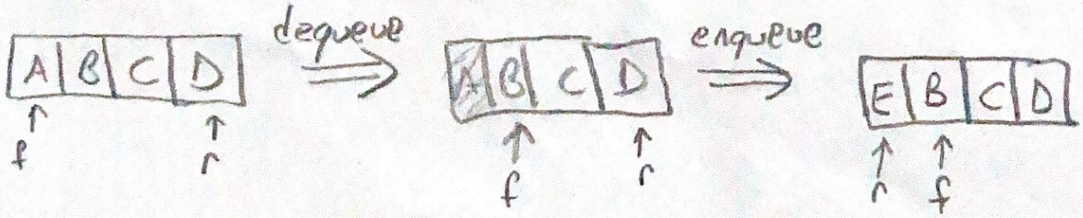


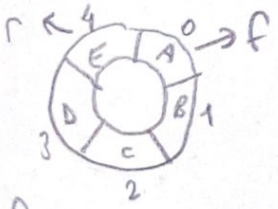




for normal (non-circular) queue we do not use the dequeued place later.
we can slide all of them through left side. However it is also costly.

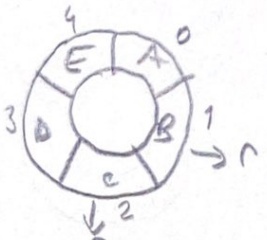
## CIRCULAR QUEUE



## Cases for Enqueue (max=5)



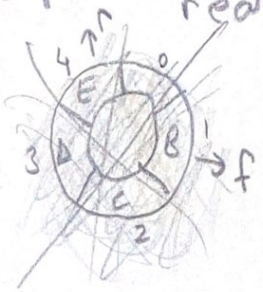

front == 0
rear == max-1

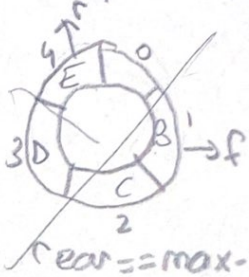



rear + 1 == front

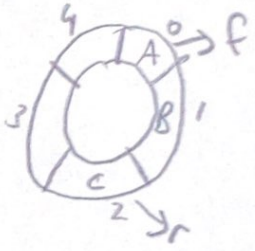
queue is full


rear = front = -1

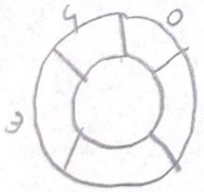



rear == max-1

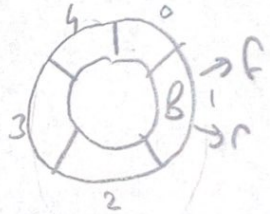



## Cases for Dequeue

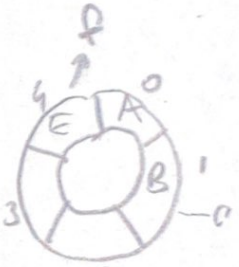



rear = front = -1

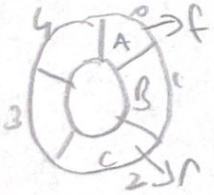
Empty queue




front == rear




front == max




## QUEUE IMPLEMENTATION WITH LINKED LIST


front

rear (can also be D)

- In addition to normal linked list, we store rear referance.