JOEL NINAN JOHNSON
USN 1BM19CS199

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LAB-5 : CIRCULAR-QUEUE IMPLEMENTATION

Q. WAP to simulate the working of a circular queue of integers using an array. Provide the following operations.
a) Insert
b) Delete
c) Display
The program should print appropriate messages for queue empty and queue overflow conditions.

A. Create a Q of size MAX
front and rear → -1

```
Enqueue(x)
{
    if (front == (rear+1) % N)
    "Q is Full"
else
{
    if(front== -1 && rear == -1)
        front →0 ← rear
    else
        rear = (rear+1) % N
    A[rear] = x
}
}
```

```
Dequeue()
{
    if (front == -1 && rear == -1)
        "Q is Empty"
    else
    {
        if (front == rear)
        {
            x = A[front]
            front -> rear -> -1
        }
        else
        {
            x -> A[front]
            front <- (front+1) % N
        }
        return x
}

Display()
{
    if(front == -1)
        "Empty queue"
    else
    {
        for (i=front ; i != rear ; i=(i+1) % MAX)
        {
            print "Q[i]"
        }
    }
}
```