

## Circular Queue code

Q3  
Circular Queue  
4/11/25

```

#define N 5
int queue[N];
int front = -1;
int rear = -1;

void enqueue (int x)
{
    if (rear == 0 & front == 0)
        rear = front = 0;
    else if (rear == N - 1 & front == 0)
        printf ("Queue is full");
    else
        rear++;
        queue[rear] = x;
}

void dequeue ()
{
    if (rear == front == -1)
    {
    }
}

```

Date:

```

printf ("Queue is empty.");
else if (queue[(front + 1) % N] & (front == rear))
    front++;
    else
        printf ("Deleted element : %d", queue[front]);
        front++;
        rear = (front + 1) % N;

void peek()
{
    if (front == rear == -1)
        printf ("Queue is empty.");
    else
        printf ("%d", queue[front]);
}

void display()
{
    if (front == rear == -1)
        printf ("Queue is empty.");
    else
    {
        printf ("%d", queue[(i + 1) % N]);
        for (int i = 0; i < queue[N]; i++)
            printf ("%d", queue[i]);
        if (i == rear)
            break;
    }
}

```

Date:

```

else
    printf ("%d", queue[(i + 1) % N]);
    for (int i = 0; i < queue[N]; i++)
        printf ("%d", queue[i]);
    if (i == rear)
        break;
}
}

```

## Output

```
choices are : a-enqueue, b-dequeue, c-peek, d-display, e-exit.  
enter a choice : a  
enter number to be added : 12  
number added. index: 0  
enter a choice : a  
enter number to be added : 56  
number added. index: 1  
enter a choice : a  
enter number to be added : 78  
number added. index: 2  
enter a choice : a  
enter number to be added : 11  
number added. index: 3  
enter a choice : a  
enter number to be added : 9  
number added. index: 4  
enter a choice : a  
enter number to be added : 2  
Queue is full.
```

```
enter a choice : b  
deleted element: 12  
enter a choice : c  
Front element: 56  
enter a choice : d  
56 78 11 9  
enter a choice : b  
deleted element: 56  
enter a choice : b  
deleted element: 78  
enter a choice : b  
deleted element: 11  
enter a choice : b  
deleted element: 9  
enter a choice : b  
Queue is empty.  
enter a choice : e  
exiting...
```