Lab-5

DS

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Circular Queue

```
#include <stdio.h>
#define MAX 5
int cqu
```

Insert Function

```
void insert (int item)
{
if ((front == 0 && rear == MAX-1) || (front == rear+1))
{
printf ("Queue Overflow \n");
return;
}
if (front == -1)
{
front = 0 ;
rear = 0 ;
}
else
{
if (rear == MAX -1)
rear = 0;
else
rear = rear +1;
}
cqueue_arr [rear] = item;
}
```

Delete Function

```
void deletion()
{
 if (front == -1)
 {
 Printf("Queue Underflow");
 return;
 }
 printf("Element deleted from queue is : %d \n", cQueue_arr[front]);
 if (front == rear)
 {
 front = -1 ;
 rear = -1;
 }
 else
 {
 if (front == MAX -1)
 front = 0;
 else
 front = front + 1 ;
}
}
```

Display function

```
void display ()
{
int front_pos = front , rear_pos = rear;
if (front == -1)
{
printf ("Queue is empty \n");
return;
}
printf ("Queue elements:\n");
if (front_pos <= rear_pos)
while (front_pos <= rear_pos)
{
printf ("%d ", queue_arr[front_pos]);
front_pos ++;
}
else
{
while (front_pos <= MAX -1)
{
printf ("%d ", queue_arr [front_pos]);
front_pos ++;
}
front_pos = 0;
while (front_pos <= rear_pos)
{
printf ("%d ", queue_arr[front_pos]);
front_pos ++;
}
}
printf ("\n");
}
```