LAB PROGRAM 3B

```
#include<stdio.h>
#define MAX 5
int queue[MAX];
int front=-1, rear=-1;
void insert(int value)
{
if((front==0&&rear==MAX-1)||(front==(rear+1)%MAX))
{
   printf("Queue Overflow!\n", value);
}
else
{
   if(front==-1)
   {
      front=0;
      rear=0;
   }
   else
   {
      rear=(rear+1)%MAX;
   }
   queue[rear]=value;
   printf("%d inserted into the queue\n", value);
```

```
}
}
void delete()
{

   if(front==-1)
   {
      printf("Queue Underflow");
   }
   else
   {
      printf("Deleted element: %d\n", queue[front]);
      if(front==rear)
      {
         front==-1;
         rear==-1;
      }
      else
      {
         front=(front+1)%MAX;
      }
   }
}
void display()
```

```
{
    if(front==-1)
    {
        printf("Queue is empty\n");
    }
    else
    {
        printf("Queue elements: ");
        int i=front;
        while(1)
        {
            printf("%d", queue[i]);
            if(i==rear)
                break;
            i=(i+1)%MAX;
        }
        printf("\n");
    }
}
int main()
{
    int choice, value;
    while(1)
    {
```

```
printf("\nCircular Queue Operations\n");
printf("1. Insert\n");
printf("2. Delete\n");
printf("3. Display\n");
printf("4. Exit\n");
printf("Enter your choice: ");
scanf("%d", &choice);

switch(choice)
{
case 1:
   printf("Enter value to insert: ");
   scanf("%d", &value);
   insert(value);
   break;
case 2:
   delete();
   break;
case 3:
   display();
   break;
case 4:
   printf("Exiting program\n");
   return 0;
```

```
        default:
            printf("Invalid choice\n");
        }
    }
    return 0;
}
```

OUTPUT: