Qabl4: Name : AMIT. R USN : 1BM19CS016

```
#include <stdio.h>
#include <stdlib.h>
# define M 3
int front = -1;
int rear = -1;
int queue[M];
void Enque(int);
int Deque();
void display();
void main()
{
    int op, item;
    do
    {
        printf("Circular Queue\n");
        printf("\n1.Insert 2.Delete, 3. Display, 4.exit\n");
        printf("Enter the option :");
        scanf("%d", &op);
        switch(op)
        {
```

```
case 1: printf ("Enter the element : ");
        scanf ("%d", &item);
        Enque (item); break;
case 2: item = Deque ();
        if (item == -999)
            printf ("Queue empty");
        else
            printf ("Removed ele : %d", item);
        break;
case 3 : display (); break;
case 4 : exit (0); break;
default : printf ("invalid choice\n"); break;
}
} while (ch!=4)    return 0;
}

void Enque (int ele)
{
    if (((front == 0 && rear == M-1) || (front == rear+1))
    { printf ("Queue is full\n");
      return; }
    else
    {   rear = (rear+1) % M;
        queue [rear] = ele;
        if (front == -1)
            front = 0;
    }
}
int Deque ()
{
    int item;
    if ((front == -1) && (rear == -1))
        return -999;
    else
    {   item = queue [front];
```

```
        if (front == rear)
        {       front = rear = -1;
        }
        else
            front = (front + 1) % M;
    }
}
void display()
{
    int i;
    if((front == -1) && (rear == -1)) || (front == rear))
    {   printf("queue is empty \n");
        return;
    }
    else
    {   printf("\n queue Contents : \n");
        for(i = front; i <= rear; i++)
            printf("%d", queue[i]);
    }
}
```