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LAB PROGRAM-4

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#include <stdio.h>
#include <stdlib.h>
#define MAX 3

int front = -1;
int rear = -1;

int queue[MAX];

void Enque(int);
void Deque();
void Display();
int main(int argc, char **argv)
{
    int option;
    int item;
    do {
        printf("\n Circular Queue\n");
        printf("\n 1. Insert to Queue (enQueue)");
        printf("\n 2. Delete from the Queue
                    (DeQueue)");
        printf("\n 3. Display the Content !");
        printf("\n 4. Exit\n");
        printf("1.d", &option);
        switch(option)
        {
            case 1: printf("Enter the element\n");
                    scanf("%d", &item);
                    Enque(item);
                    break;
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        case 2: Deque();
                break;
        case 3: Display();
                break;
        case 4: exit(0);
        }
    } while (option != 4);
    return 0;
}
void Enque (int ele)
{
    if ((( front == 0 && rear == MAX - 1)) ||
        ( front == rear + 1))
    {
        printf ("Queue is full \n");
        return;
    }
    else
    {
        rear = (rear + 1) % MAX;
        queue [rear] = ele;
        if ( front == -1)
            front = 0;
    }
}
void Deque ()
{
    int item;
    if (( front == -1) && ( rear == -1))
    {
        printf ("Queue is empty");
```

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else.
{
   item = queue [front];
   printf ("Removed element from the queue
            %.d", item);
    if (front == rear)
    {
     front = -1;
     rear = -1;
    }
    rear. else.
    {
      front = (front + 1) % MAX;
    }
}
void display ()
{
   int i;
   if ((front == -1) && (rear == -1) ||
      (front > rear))
    {
     printf ("Queue is empty \n"); return;
    }
     else.
    {
     printf ("\n Queue contents : \n");
      i = front;
      do
      {
       printf ("%.d", queue[i]);
```

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if (i==rear)
    break;
i = (i+1)%MAX;
} while (i!=front);
    }
}
```