```
using System;
using System.Text;

namespace lab4
{
   public class Queue
   {
      public int max;
      public char[] Q;

      public int f=0;
      public int r =0;

      public Queue(int max, char[] Q)
      {
         this.max = max;
         this.Q = Q;
      }
      public int Enum()
      {
         if((r+1)%max == 0) return max;
         else return ((max-f)+r)%max;
      }

      public bool isFull()
      {
         return Enum() == max;
      }

      public bool isEmpty()
      {
         return f == r;
      }

      public void enQueue(char x)
      {

         Q[r] = x;
         if (Enum() != max)
         {
            r=(r+1)%max;
         }
      }

      public char deQueue()
      {
         char dQ = Q[f];
         f = (f+1)%max;
         return dQ;
      }

      public void Transfer()
```

```
    {
        Console.Write("Input s1: ");
        string s1 = Console.ReadLine();
        char[] s2 = new char[250];
        int i=0;
        int j=0;
        while(i<s1.Length)
        {
            while(Enum() < max -1)
            {
                char c = s1[i];
                enQueue(c);
                i =i +1;
            }
            while (Enum() >0)
            {
                s2[j] = deQueue();
                j++;
            }
        }
        Console.WriteLine($"Destination string S2: {s2}");
    }
}
class Program
{
    static void Main(string[] args)
    {
        Console.Write("Input total numbers of Queue: ");
        int num = Convert.ToInt32(Console.ReadLine());
        char[] queueArray = new char[num];
        Queue myQueue = new Queue(num, queueArray);
        int n=1;
        Console.WriteLine("\n Input 'q' to exit!");
        while (n-1 != num)
        {
            Console.Write("\nInput number {0} of Queue: ",n);
            char data = Convert.ToChar(Console.ReadLine());
            if ( data == 'q') break;
            myQueue.enQueue(data);
            n++;
        }

        Console.Write("Your Queue:");
        foreach(char item in myQueue.Q)
        {
        Console.Write(' ' + item.ToString());
        }

        Console.WriteLine();
        Console.WriteLine($"Max: {myQueue.max}");
        Console.Write($"Enum: {myQueue.Enum()}");
        Console.WriteLine();
```

```
            Console.WriteLine($"f: {myQueue.f}, r: {myQueue.r}");
            Console.WriteLine();
            Console.WriteLine("IsFUll: "+myQueue.isFull());
            Console.WriteLine("IsEmpty: "+myQueue.isEmpty());
            myQueue.Transfer();
        }
    }
}
```