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using System;

namespace DSALab3Stack
{
    public class Stack
    {
        public static int[] stackArray = new int[20];
        public static int top=-1;
        public static void push(int x)
        {
            if (top == 19)
            {
                Console.WriteLine("Array full");
            }
            else
            {
                top++;
                stackArray[top] = x;
            }
        }

        public static int pop()
        {
            int x;
            if (top < 0)
            {
                x=-1;
            }
            else
            {
                x = stackArray[top];
                top--;
            }
            return x;
        }

        public static bool IsFull()
        {
            if (top == Stack.stackArray.Length - 1)
            {
                return true;
            }
            else
            {
                return false;
            }
        }

        public static bool IsEmpty()
        {
            if (top == -1)
            {
                return true;
            }
            else
            {
                return false;
            }
        }
    }
}

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    }

    public static void input()
    {
        int x=-1;
        while (x!=0)
        {
            Console.Write("Input a number: ");
            x = Convert.ToInt32(Console.ReadLine());
            if (x == 0) break;
            Stack.push(x);
        }
    }

    public static void output()
    {
        while (top >=0)
        {
            Console.Write($" {Stack.pop()}");
        }
    }

    public static void change(int n)
    {
        int r;
        while (n!=0)
        {
            r = n%2;
            Stack.push(r);
            n=n/2;
        }
    }
}

class Program
{
    public static void Main(string[] args)
    {
        // Stack.input();
        // Stack.output();
        Console.Write("Input number that you want to convert: ");
        int n = Convert.ToInt32(Console.ReadLine());
        Console.Write("The number change to: ");
        Stack.change(n);
        Stack.output();

        Console.WriteLine();
        Console.Write("Press any key to exit! ");
        Console.ReadKey();
    }
}

```