

Date ____ / ____ / ____

a) Write a program for error detecting code using CRC - CCITT (16-bits).

```

import java.util.*;
public class CRC
{
    public static int n;
    public static void main(String[] args)
    {
        Scanner in = new Scanner(System.in);
        CRC ob = new CRC();
        String code, copy, rec;
        Zero = "0000000000000000";
        System.out.println("Data message");
        code = in.nextLine();
        n = code.length();
        copy = code;
        code += Zero;
        code = ob.divide(code);
        System.out.println(code.substring(n));
        System.out.println("enter received data");
        rec = in.nextLine();
        if (Zero.equals(ob.divide(rec.substring(n))))
            System.out.println("correct bits received");
        else
    
```

System.out.println("received frame contains one or more
errors");

in.close();

}

public String divide (String s)

{

int i, j;

char x;

String div

for (i = 0; i < n; i++) {

x = s.charAt(i);

for (j = 0; j < 17; j++)

{ if (x == '1')

{ if (s.charAt(i+j) != div.charAt(j))

s = s.substring(0, i+j) + "1" + s.substring(i+j+1);

else

s = s.substring(0, i+j) + "0" + s.substring(i+j+1);

}

}

}

return s;

}

}