

20/11/2020

CN LAB - 8

REVANTH.R

IBM18CS082

Error Detection Program

@Rufautty

using CRC-CCITT (16 bits)

```
import java.util.* ;

public class Error
{
    public static int n;

    public static void main (String [] args)
    {
        Scanner in = new Scanner (System.in) ;

        Error ob = new Error () ;

        String code , copy , rec , zero = "00000000
        0000000000" ;

        System.out.println ( " Enter message " );

        code = in.nextLine () ;

        n = code.length () ;

        copy = code ;

        code += zero ;

        code = ob.divide (code) ;
    }
}
```

```
System.out.println("Message = " + copy);
```

```
copy = copy.substring(0, n) +  
code.substring(n);
```

```
System.out.println("CRC = ");
```

```
System.out.println(code.substring(n));
```

```
System.out.println("transmitted frame  
is " + copy);
```

```
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 c;
```



```
String div = "10001000000100001";
```

```
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;
```

```
} }
```

@vint