LAB 13

17/8/23

Exp a [i]

write a program for error detecting
code using CRC ce iTT (16-bits)

```c
#include <stdio.h>
#include <string.h>
#define N strlen(genplay)

char date [30];
char check_value [3.0];
char play [10];
int data_length i, j;

Void XOR
{
for (j=1; j<N; j++)
check value [i] = ((check value[j]=
= play [j]? '0' : '1'),
}
void receiver ()
{
printf ("Enter the received data:")
scanf ("%s", data);
printf ("Data received: %s",
            data);
crc ();
for (i=0; (i<N-1)&& (check
value [i] == '0'; i++)
```

```
if (N-1)
    printf ("\ Entes detected \n");
else
    printf ("\n No error detected \n");
}
void crc ()
{
    for (i=0; i<N; i++)
        check_value [i] = data [i];
    do {
        if (checkvalue [0] == '1')
            XOR ()
        for (j=0; j< N-1; j++)
            check_value [j] = check_value [j+1];
        check_value [j] = data [j++];
    }
    while (i < data_length + N+1);
}
int main ()
{
    printf ("\n Enter data to be transmi-
tted '");
    scanf ("%s", data);
    printf ("\n Enter the divisor polyno-
mial ");
    scanf ("%s", poly);
    data_length = strlen (data);
    for (i = data_length; i< data
length + N-1; i++)
```

```
data [i]=0;
printf (" \n Data padded with
n -1 zeros : %os", data);
csc ();
printf (" \n CRC value is %os",
                    check _value);
bos (i= data_ length; i< data_length
    + N -1; i++)

data [i] - Check_value [i-data
                            _length];
printf ("\nfinal dataword to be
    sent : %os", data);
receives (i;
    return 0;
y
```

Output

Enter data to be transmitted:101010
Enter the divisor polynomial:1011

Data padded with n-1 zeros:101010
                                    000
CRC value is: 001
Final codeword to be 'sent:
                        101010001
Enter the received data:1000 1000
Error detected
Enter   data to be transmit:
Enter the divisor polynomial:100,1100

Data padded with n-1 zero's.
10 1100 000 0
CRC value is : 001
Final code word to be sent.
10 110 0001
Enter the received data : 10 1100
NO error detected.

19/8/2025