

## Lab 7 (crc)

Date     /    /      
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Aim: Write a program for error detection for CRC-16

```
#include <stdio.h>
#include <string.h>
#define N strlen(gem-poles)
char data [28];
char check_val [28];
char gem-poles [10];
int data_length, i, j;
void XOR()
{
    for (j=1; j<N; j++)
        check_val[j] = (check_val[j] == gem-poles[j]) ?
            '0' : '1';
}
```

void receiver()

```
prints ("Enter the received data ");
scanf ("%s", &data);
printf ("\n - - - - \n");
printf ("Data received: '%s'", data);
crc();
for (i=0; i<N-1; i++) {
    if (check_val[i] != '1') {
        printf ("\n Error detected \n");
        return;
    }
}
printf ("\n No Error Detected \n");
```

void crc()

```
for ( i=0; i < N; i++)
    check_valu[i] = data[i];
```

```
do {
    if ( check_valu[0] == '1')
        error(1);
```

```
for ( j=0; j < N; j++)
    check_valu[j] = check_valu[j+1];
    check_valu[j] = data[j+1];
```

```
} while ( i <= data_length + N - 1);
}
```

```
int main() {
```

```
    printf("In Enter data to be transformed:");
```

```
    scanf("%s", data);
```

```
    printf("In Enter the Gen polynomial:");
```

```
    scanf("%s", generator);
```

```
    data_length = strlen(data);
```

```
    for ( i=data_length; i < data_length + N; i++)
        data[i] = '0';
```

```
    printf("In Data polynomial with n-1 zeros: %s", data);
```

```
    clr();
```

```
    printf("In CR or check value:");
```

```
    data[i] = check_valu[i - data_length];
```

O/P

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}

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```

print ( "In A/d data to be sent: ", dch )
return 0
}

```

O/p

Enter the data: 10001000000010001  
 $100010000000100001$   $x^{16} + x^{12} + x^5 + 1$

Enter poly: 1011101 GP

Data padded to n-1: 100010000000100001000000

CR (or) chck value: (101011)

Final data sent: 100010000000100001010011

Enter the received data: 100010000000100001010011

Data received: 100010000000100001010011

No error detected

✓