

10/12/22

## Lab-7 CRC-CCITT

Aim: To write a pgm for error detecting code using CRC-CCITT (16 bits)

Code:

```
#include <iostream.h>
```

```
#include <string.h>
```

```
using namespace std;
```

```
int crc (char *op, char *OP, char *poly, int mode)
```

```
{ string (op, ip);
```

```
if (mode) {
```

```
for (int i = 1; i < strlen (poly); i++) {  
    strcat (op, "0");  
}
```

```
for (int i = 0; i < strlen (ip); i++) {
```

```
if (op[i] == '1') {
```

```
for (int j = 0; j < strlen (poly); j++) {
```

```
if (op[i+j] == poly[j])
```

```
op[i+j] = '0';
```

```
else
```

```
op[i+j] = '1';
```

```
}
```

```
}
```

```
for (int i = 0; i < strlen (op); i++)
```

```
if (op[i] == '1')
```

```
return 0;
```

return 1;

}

int main()

{ char ip[50], op[50], recv[50];

char poly[] = "10001000000100001";

cout << "Enter input message in binary" << endl;

cin >> ip;

crc(ip, op, poly, 1);

cout << "The transmitted message is: " << ip << op << endl;

cout << "Enter the received message in binary" << endl;

cin >> recv;

if (crc(recv, op, poly, 0))

cout << "No error in data" << endl;

else

cout << "Error in data transmission has occurred" << endl;

return 0

}

O/P Enter - the input message in binary

1111

The transmitted message is 111111100011101110

Enter the received message in binary

1111

No error in data

Q17: Enter data to be transmitted: 1001

Enter generating polynomial: 1011

Data padded with ones: 1001000

CRC: 110

Final data to be sent: 1001110

Enter the received data: 1001110

Data received: 1001110

No error detected