**Lab Program 6**

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

#include <iostream>

#include <stdio.h>

#include <string.h>

using namespace std;

int crc(char \*dw, char \*cw, char \*poly, int mode)

{

strcpy(cw, dw);

int i = 0;

if (mode)

for (i = 1; i < strlen(poly); i++)

strcat(cw, "0");

for (i = 0; i < strlen(dw); i++)

{

if (cw[i] == '1')

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

{

if (cw[i + j] == poly[j])

cw[i + j] = '0';

else

cw[i + j] = '1';

}

}

for (i = 0; i < strlen(cw); i++)

if (cw[i] == '1')

return 0;

return 1;

}

int main()

{

char dw[50], cw[100];

char poly[] = "10001000000100001";

cout << "Enter data to be transmitted (dataword)" << endl;

cin >> dw;

crc(dw, cw, poly, 1);

cout << dw << cw + strlen(dw) << endl;

cout << "Enter the recieved data" << endl;

cin >> cw;

if (crc(dw, cw, poly, 0))

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

else

cout << "Error found";

return 0;

}

