Lab cycle-02

Program-01

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

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

using namespace std;

int crc(char *ip, char *op, char *poly, int mode)
{
    strcpy(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 iip[50], op[50], recv[50];
char poly[] = "10001000000100001";

cout << "Enter the i/p message in binary" << endl;
cin >> iip;
crc(iip, op, poly, 1);
cout << "The transmitted message is: " << iip <<
                                    op + strlen(iip) << end
cout << "Enter the received message in binary
                format" << 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;
}
```

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