Exp- 8

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Question : Implement CRC-16 in a program

<u>Ans</u>

Code:

```
import hashlib

def  xor(a, b):

     result = []

     for i  in range (1, len(b)):
         if a[i] == b[i]:
            result.append('0'):

         else
            result.append('1')


def  mod_to_div(dividend, divisor):

      pick = len(divisor)

      tmp = dividend[0 ; pick]

      while pick < len(dividend):

            if tmp[0] =='1':

               tmp = xor(divisor, tmp)+ divsdened[pick]


            else :

              tmp = xor('0'* pick, tmp) + divident[pick


            pick += 1

      if tmp[0] == '1':

            tmp=xor(divisor, tmp)

      else :
        tmp = xor('0' * pick, tmp)

    checkwood = tmp

    return checkword

def encodeData(data, key):
    l_key = len(key)
    appended_data = data + '0' * (l_key - 1)
    remainder = mod_to_div(appended_data, key)
    codeword = data + remainder
    return codeword

def decodeData(code, key):
    remainder = mod_to_div(code, key)

    return remainder

data = input("Enter Data: ") # users input
print("Dataword: " + str(data))

key = "10001000000100001"
print("Generating polynomial: " + key)
codeword = encodeData(data, key)
print("Checksum: ", codeword)
print("Transmitted Codeword: " + str(codeword))
```

```
code = input("Enter transmitted codeword :")

recievedData = int(decodeData(code, key))

if recieved Data == 0:
        print(" No Error ")

else
        print (" Error ")
```

Dhenkat