

Institute of Engineering & Management
Department of Computer Science & Engineering
Network Lab for 3rd year 6th semester 2019
Code: CS 692

Date: 25-03-19

WEEK-4

Assignment-1

Problem Statement:

Source code:

```
print("\t----Sender Side----\n")
data = input("Enter the dataword: ")
count1 = 0
for i in data:
    if i == '1':
        count1 = count1+1

if count1%2 == 1:
    data = data + '1'
else:
    data = data + '0'

print("The codeword is: " + data + "\n\n")
print("\t----Receiver Side----\n")

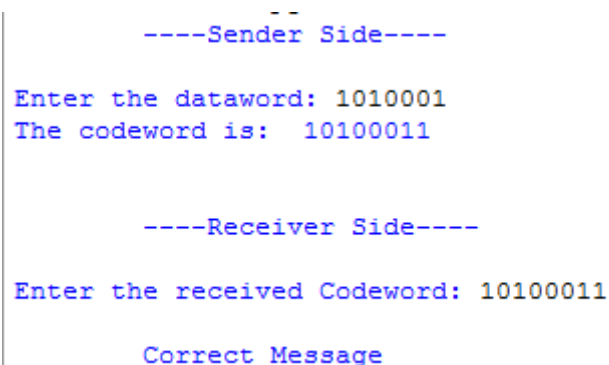
code = input("Enter the received Codeword: ")
count1 = 0

for i in code[:-1]:
    if i == '1':
        count1 = count1+1

check = 0
if count1%2 == 1:
    check = 1

if check == int(code[-1]):
    print("\n\tCorrect Message\n")
else:
    print("\n\tIncorrect Message\n")
```

Screenshot:



```

      --
      ----Sender Side----

Enter the dataword: 1010001
The codeword is: 10100011

      ----Receiver Side----

Enter the received Codeword: 10100011

      Correct Message
```

Assignment-2

Problem Statement:

Source code:

```
import math as m

print("\t----Sender Side----\n")
data = input("Enter the dataword: ")
count1 = 0
lrow = m.sqrt(len(data))
if int(lrow)**2 != len(data):
    print("Not applicable for non-linear codes")
    exit()
else:
    lrow = int(lrow)
    rowparity = ""
    for i in range(lrow):
        count1 = 0
        for j in range(lrow):
            if data[i*lrow+j] == "1":
                count1 = count1+1
        if count1%2 == 1:
            rowparity = rowparity+"1"
        else:
            rowparity = rowparity+"0"

    colparity = ""
    count1 = 0
    for i in range(lrow):
        count1=0
        for j in range(lrow):
            if data[j*lrow+i] == "1":
                count1 = count1+1
        if count1%2 == 1:
            colparity = colparity+"1"
        else:
            colparity = colparity+"0"

    count1 = 0
    for i in rowparity:
        if i == '1':
            count1 = count1+1
    if count1%2 == 1:
        colparity = colparity+"1"
    else:
        colparity = colparity+"0"
    res = ""
    for i in range(lrow):
        res += data[i*lrow:(i+1)*lrow] + rowparity[i]
    res = res + colparity

print("\nCodeword is: "+ res+"\n\n")
print("\t----Receiver Side----\n")
code = input("Enter the received Codeword: ")
count1 = 0
lrow = m.sqrt(len(code))
if int(lrow)**2 != len(code):
    print("Not applicable for non-linear codes")
    exit()
else:
    lrow = int(lrow)
    for i in range(lrow-1):
        count1 = 0
        for j in range(lrow):
```

```

        if code[i*lrow+j] == "1":
            count1 = count1+1
    if count1%2 == 1:
        print("\tIncorrect Message\n")
        exit()
for i in range(lrow):
    count1 = 0
    for j in range(lrow):
        if code[j*lrow+i] == "1":
            count1 = count1+1
    if count1%2 == 1:
        print("\tIncorrect Message\n")
        exit()

print("\tCorrect Message")

```

Screenshot:

```

-----Sender Side-----

Enter the dataword: 1110

Codeword is: 110101011

-----Receiver Side-----

Enter the received Codeword: 110101011

Correct Message

```