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
```

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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
```