

**ASSIGNMENT 2**

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| Subject: | CSE1004 Network and Communication Lab |
| Slot: | L52+L53+L54 (Prof. Ganesan R) |
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Mr. BankerManager wants to send the pin number 14072020 to one of his bank customer Mr. Customer. Help the manager to send the pin number in a secured manner to his client using parity bits method. Also, help Mr. Customer to verify whether he received the same pin or not. (Apply both odd parity and even parity to implement the same).

Logic: Convert Decimal to BCD and perform even/odd parity on the same.

**Code:**

opt = int(input("Press 0 for Encoding PIN and 1 for Decoding PIN: "))

if opt == 0:

pn = input("Enter the PIN Number: ")

choice = int(input("Enter choice: 0 for Even Parity and 1 for Odd Parity: "))

# Converting digits of decimal to BCD

for i in pn:

r = (bin(int(i)).replace("0b", ""))

while (len(r) != 4):

r = '0' + r

# Even parity

if choice == 0:

even = 0

for j in r:

if j == '1':

even = even + 1

if even % 2 == 0:

r = r + '0'

else:

r = r + '1'

# Odd parity

if choice == 1:

odd = 0

for j in r:

if j == '1':

odd = odd + 1

if odd % 2 == 0:

r = r + '1'

else:

r = r + '0'

print(r, end=" ")

elif opt == 1:

no = int(input("Enter number of BCD segments in order of 5(xxxxx): "))

ep = 0

op = 0

pin = ''

for i in range(no):

b = input("Enter bcd: ")

bin = b

even = 0

odd = 0

# Check for even parity

for j in b:

if j == '1':

even = even + 1

if even % 2 == 0:

ep = ep + 1

# Check for odd parity

for k in b:

if k == '0':

odd = odd + 1

if odd % 2 == 0:

op = op + 1

bin = bin[0:4]

dec = int(bin, 2)

pin = pin + str(dec)

if no == ep:

print("The PIN is encoded in Even Parity")

elif no == op:

print("The PIN is encoded in Odd Parity")

else:

print("The PIN is encoded in Unknown Format")

# original PIN

print("The original PIN is: ", pin)

else:

print("Wrong Input")

**Output:**







