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Code:

```
def bin_to_dec(num):
    return int(num,2)

def hex_to_bin(x):
    return bin(int(x,16))#.replace("0b","")

def hex_to_dec(x):
    return int(x, 16)

def dec_to_hex(x):
    return hex(x)#.replace("0x", "")

def bcd_to_dec(x):
    d = ""
    j = 0
    for i in range(1, len(x)//4+1):
        #print(x[j:4*i], i)
        d = d + str(bin_to_dec(x[j:4*i]))
        j = j+4
    return d

def bin_to_gray(x):
    x = list(x)
    #print(x)
    new = x[0]
    for i in range(len(x)-1):
        new = new + str((int(x[i]) +int(x[i+1]))%2)
    return new

def gray_to_bin(x):
    x = list(x)
    new = x[0]
    for i in range(0, len(x)-1):
        new = new + str((int(new[i]) + int(x[i+1]))%2)
    return new

def bin_to_ascii(x):
    #print(binascii.b2a_uu(x))
    return None

def even_parity(x):
    parity = x.count('1')
    if parity % 2 == 0:
        return True
    return False

#================================================================================

print("---------------#37:---------------")
print("a", hex_to_bin('38'))
print("b", hex_to_bin('59'))
print("c", hex_to_bin('a14'))
```

```
print("d", hex_to_bin('5c8'))
print("e", hex_to_bin('4100'))
print("f", hex_to_bin('fb17'))
print("g", hex_to_bin('8a9d'))

print("---------------#39:---------------")
print("a", hex_to_dec('23'))
print("b", hex_to_dec('92'))
print("c", hex_to_dec('1a'))
print("d", hex_to_dec('8d'))
print("e", hex_to_dec('f3'))
print("f", hex_to_dec('eb'))
print("g", hex_to_dec('5c2'))
print("h", hex_to_dec('700'))

print("---------------#40:---------------")
print("a", dec_to_hex(8))
print("b", dec_to_hex(14))
print("c", dec_to_hex(33))
print("d", dec_to_hex(52))
print("e", dec_to_hex(284))
print("f", dec_to_hex(2890))
print("g", dec_to_hex(4019))
print("h", dec_to_hex(6500))

print("---------------#50:---------------")
print("a", bcd_to_dec('0001'))
print("b", bcd_to_dec('0110'))
print("c", bcd_to_dec('1001'))
print("d", bcd_to_dec('00011000'))
print("e", bcd_to_dec('00011001'))
print("f", bcd_to_dec('00110010'))
print("g", bcd_to_dec('01000101'))
print("h", bcd_to_dec('10011000'))
print("i", bcd_to_dec('100001110000'))

print("---------------#56:---------------")
print("a", bin_to_gray('11011'))
print("b", bin_to_gray('1001010'))
print("c", bin_to_gray('1111011101110'))

print("---------------#57:---------------")
print("a", gray_to_bin('1010'))
print("b", gray_to_bin('00010'))
print("c", gray_to_bin('11000010001'))

print("---------------#60:---------------")
print("HELLO. HOW ARE YOU?")

print("---------------#63:---------------")
print("a", even_parity('100110010'))
print("b", even_parity('011101010'))
print("c", even_parity('10111111010001010'))
```

Results:

```
---------------#37:---------------
a 0b111000
b 0b1011001
c 0b101000010100
d 0b10111001000
e 0b1000000100000000
f 0b1111101100010111
g 0b1000101010011101
---------------#39:---------------
a 35
b 146
c 26
d 141
e 243
f 235
g 1474
h 1792
---------------#40:---------------
a 0x8
b 0xe
c 0x21
d 0x34
e 0x11c
f 0xb4a
g 0xfb3
h 0x1964
---------------#50:---------------
a 1
b 6
c 9
d 18
e 19
f 32
g 45
h 98
i 870
```

```
----------------#56:----------------
a 10110
b 1101111
c 1000110011001
----------------#57:----------------
a 1100
b 00011
c 10000011110
----------------#60:----------------
HELLO. HOW ARE YOU?
----------------#63:----------------
a True
b False
c True
```