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HW 2
CS 362
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1. Convert the following decimal numbers to their 32-bit signed binary representation. Use two's complement to represent negative numbers.

a) 1000110110111001
b) 0110010000011110
c) 1110101010101100
d) 1111101100011111

2. For each of the following cases, determine whether the addition of the two numbers given would cause an overflow. Assume all numbers are signed and stored as 4-bit binary numbers

a) 4 and 5 - overflow
b) 4 and -5 no overflow
c) -2 and 6 no overflow
d) -5 and -3 no overflow

3. Determine the total current (Itotal) flowing in the circuits given below

a) I(total) = I1 + I2
   I1 = V/R1 = 9/900 = 1/100 A
   I2 = V/R2 = 9/900 = 1/100 A
   I(total) = 1/50 A
b)
   I(total) = 5/250 = 1/50 A

4. Determine if the sentences (a) to (d) are True/False by analyzing the circuit given below.

a)False
b)False
c)True
d)Ture

5. Write the truth table for the CMOS Circuit given below and mention what logic gate does it represent.

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

Therefore the table represents the NAND gate