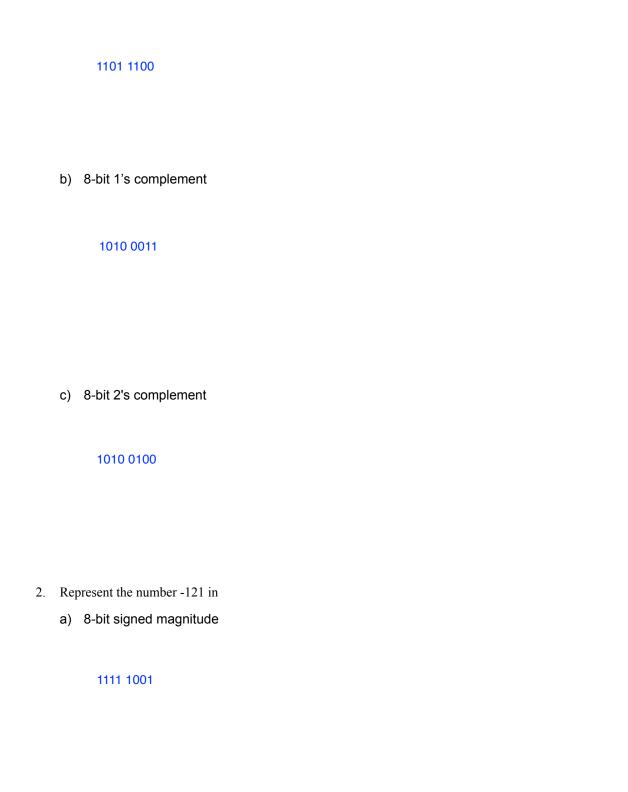
Task:

1. Represent the number -92 in

a) 8-bit signed magnitude



h)	2 hit	1'0	complement
D)	וומ-ס (18	complement

1000 0110

c) 8-bit 2's complement

1000 0111

- 3. Calculate, using binary arithmetic with 8-bit 1's complement and 2's complement representation:
 - a) 33+92

1's: 0111 1101 2's 0111 1101

b) 33-92

1's: 1100 0100 2's: 1100 0101

c) -44+66

1's: 0001 0110 2's: 0001 0110

- 4. Using a truth table to show that:
 - a. $\overline{x} + x = 1$ for all values of x.
 - b. $y(\overline{x} + x) = y$ for all values of x and y.

- 5. Boolean Expression
 - a. Write a Boolean expression function for the following truth table.

	Output		
A	В	C	Z
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	0

$$Z = (-A-BC) + (A-B-C) + (AB-C)$$

b. Draw the logic circuit for the Boolean function in (a)

- c. Simplify the above Boolean function:
 - i) Using Boolean's laws

simplified expression: A-C + -A-BC

ii) Using K-map