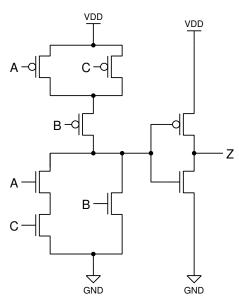
1. (a) (2 points) For the following four numbers given in decimal or hexadecimal notation, write the corresponding binary number using the indicated format.

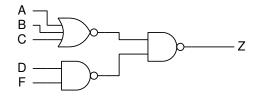
$(-5)_{10}$ using six-bit sign magnitude:	$(100101)_2$
$(38)_{10}$ using six-bit unsigned:	$(100110)_2$
$(-28)_{10}$ using six-bit two's complement:	$(100100)_2$
Hexadecimal $(2C)_{16}$ using six-bit unsigned:	$(101100)_2$

(b) (2 points) Consider the transistor level schematic below. What is the output going to be when:

$$A=1, B=0, C=1$$
 $A=0, B=1, C=1$
 $Z=1$
 $Z=1$



(c) (1 point) Find a simplified Boolean function realized by the following circuit. (Hint: use bubble pushing to simplify the circuit)



Solution: Z = (A + B + C) + (DF)