Ilkay Tevfik Devran

1 (20pt)	2 (20 pt)	3 (20 pt)	4 (20 pt)	5 (20 pt)	Total (100 pt)

1. Show the systematic sequence of transformations when we solve a problem using a computer

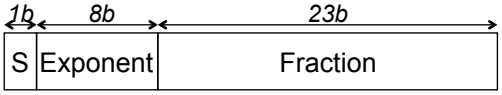
Sequence	Explanation	An example

2. Write the Two's complement representation of the decimal numbers given in the table

Decimal Number	Two's complement (1 sign bit + 7bits)
+21	
-21	
+57	
-15	

3. By using the formula below, write the floating point number corresponding to

Binary representation	Floating Point Value
10000101011000000000000000000000	

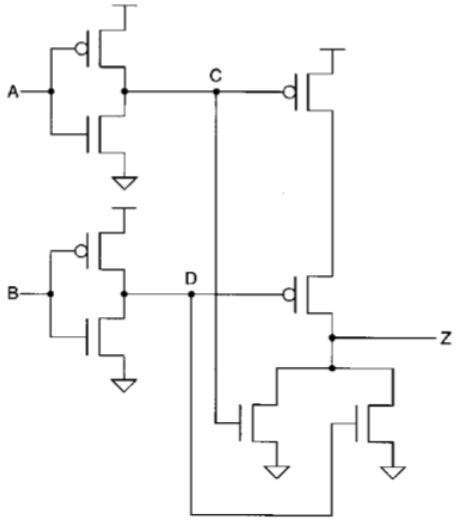


$N = -1^S \times 1.\text{fraction} \times 2^{\text{exponent}-127},\ 1 \le \text{exponent} \le 254$

$N = -1^S \times 0.\text{fraction} \times 2^{-126},\ \text{exponent} = 0$

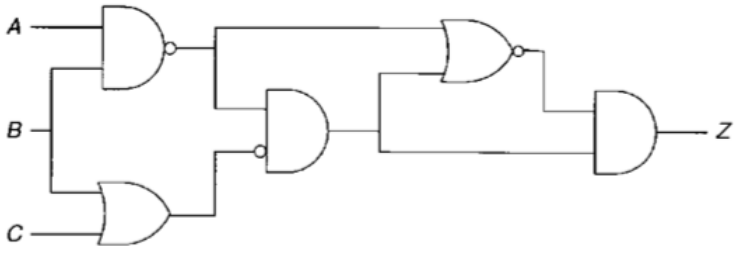
4. For the transistor-level circuit in the figure below, fill in the truth table. What is Z in terms of A and B?

A	B	C	D	Z



5. Given the logic circuit below, fill in the truth table for the output value Z.

A	B	C	Z
0	0	0	
0	0	1	
0	1	0	
0	1	1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	



Muhammed Kostekli

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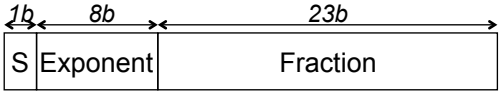

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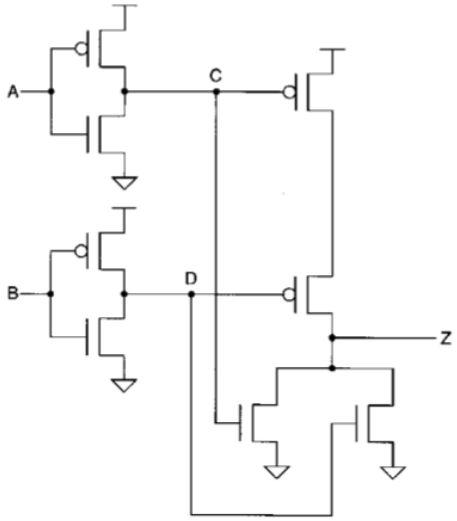

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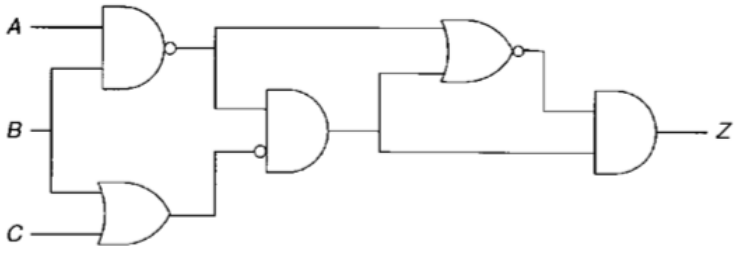

Uluc Furkan Vardar

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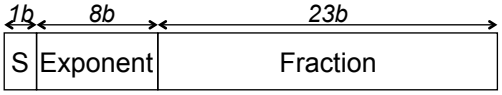

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Uluc Furkan Vardar

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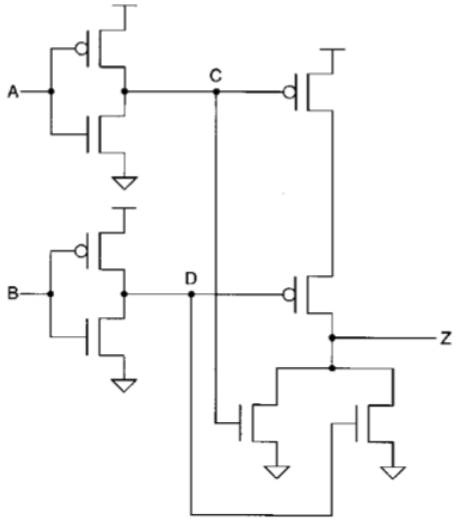

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