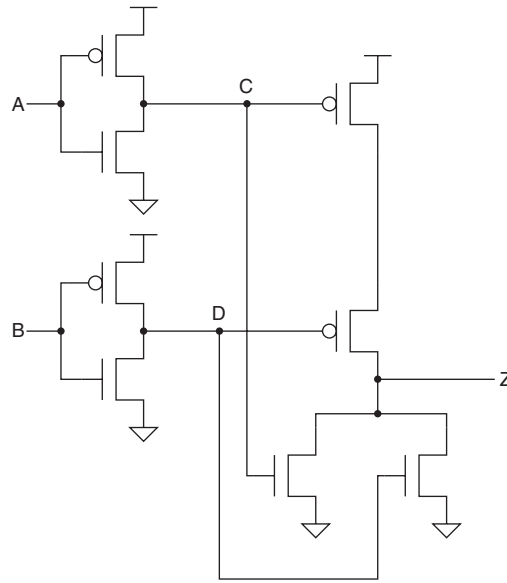


CS150 - Computer Organization and Architecture Homework #2 - Spring 2024

1. Fill in the truth table corresponding to the transistor-level circuit shown below.



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

2. Referring back to the transistor-level circuit shown in Problem 1, what is **Z** in terms of **A** and **B**?

$Z = A \text{ AND } B$

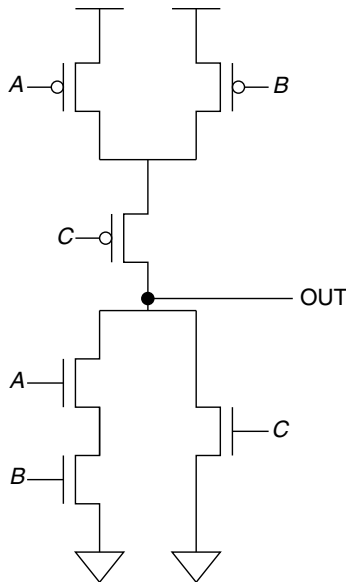
3. Fill in the truth table below:

A	B	NOT(NOT(A) OR NOT(B))
0	0	0
0	1	0
1	0	0
1	1	1

4. Referring back to the truth table in Problem 3, what single logic gate has the same truth table?

AND gate

5. Fill in the truth table corresponding to the transistor-level circuit shown below.



A	B	C	OUT
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	0