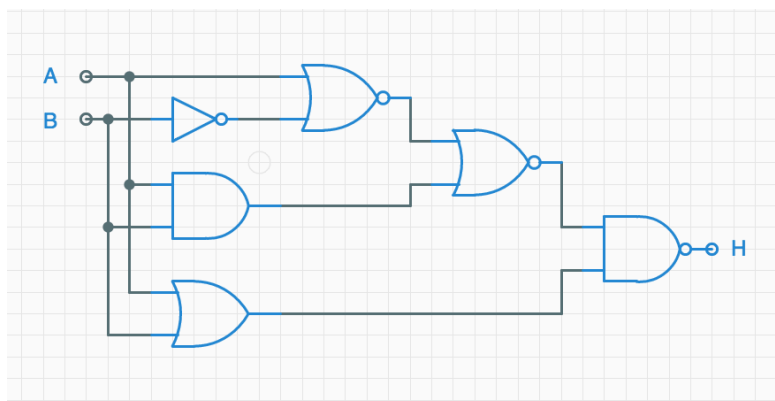


Video explanation of solution is provided below the problem.

Gates and Boolean Logic

4/4 points (ungraded)

Given the circuit shown below, create a truth table that describes the function H that this circuit represents



A	B	H
0	0	<input type="text" value="1"/> ✓ Answer: 1
0	1	<input type="text" value="1"/> ✓ Answer: 1
1	0	<input type="text" value="0"/> ✓ Answer: 0
1	1	<input type="text" value="1"/> ✓ Answer: 1

Explanation

In order to fill in the truth table for H , one can fill in the intermediate truth tables for all the gates within the circuit. For example, the output of the inverter is \overline{B} . Continuing this process will eventually lead to having the following truth table. Note that the output of the NAND gate is equivalent to the output H .

A	B	NOT	AND	OR	$1stNOR$	$2ndNOR$	$NAND$	H
0	0	1	0	0	0	1	1	1
0	1	0	0	1	1	0	1	1
1	0	1	0	1	0	1	0	0
1	1	0	1	1	0	0	1	1

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i Answers are displayed within the problem

Gates and Boolean Logic

Combining Boolean Gate

<u>A</u>	B	<u>NOT</u>	<u>AND</u>	OR	<u>NOR1</u>	<u>NOR2</u>
<u>0</u>	0	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	
<u>0</u>	1	<u>0</u>	<u>0</u>	<u>1</u>	<u>1</u>	
<u>1</u>	0	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	
<u>1</u>	1	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>	

▶ 4:00 / 7:51

▶ 1.0x

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