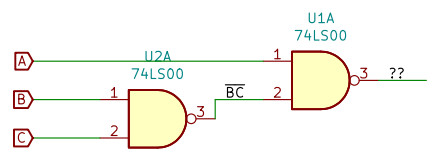


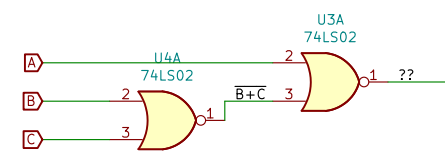
Proof of FAILURE



This is NOT a 3-input NAND function

A	B	C	\overline{BC}	??	\overline{ABC}
0	0	0	1	1	1
0	0	1	1	1	1
0	1	0	1	1	1
0	1	1	0	1	1
1	0	0	1	0	1
1	0	1	1	0	1
1	1	0	1	0	1
1	1	1	0	1	0

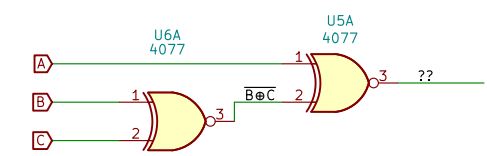
$$\overline{A(\overline{BC})} \neq \overline{ABC}$$



This is NOT a 3-input NOR function

A	B	C	$\overline{B+C}$??	$\overline{A+B+C}$
0	0	0	1	0	1
0	0	1	0	1	0
0	1	0	0	1	0
0	1	1	0	1	0
1	0	0	1	0	0
1	0	1	0	0	0
1	1	0	0	0	0
1	1	1	0	0	0

$$\overline{A+(\overline{B+C})} \neq \overline{A+B+C}$$



This is NOT a 3-input XNOR gate

A	B	C	$\overline{B \oplus C}$??	$\overline{A \oplus B \oplus C}$
0	0	0	1	0	1
0	0	1	0	1	0
0	1	0	0	1	0
0	1	1	1	0	1
1	0	0	1	1	0
1	0	1	0	0	1
1	1	0	0	0	1
1	1	1	1	1	0

$$\overline{A \oplus (\overline{B \oplus C})} \neq \overline{A \oplus B \oplus C}$$

This circuit is a 3-in XOR gate!!

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File: 05-combinatorial-3-in-fails.sch

Title: Can Not Construct These 3-in Functions This Way!!

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