

ECE 2300 Digital Logic and Computer Organization, Fall 2026

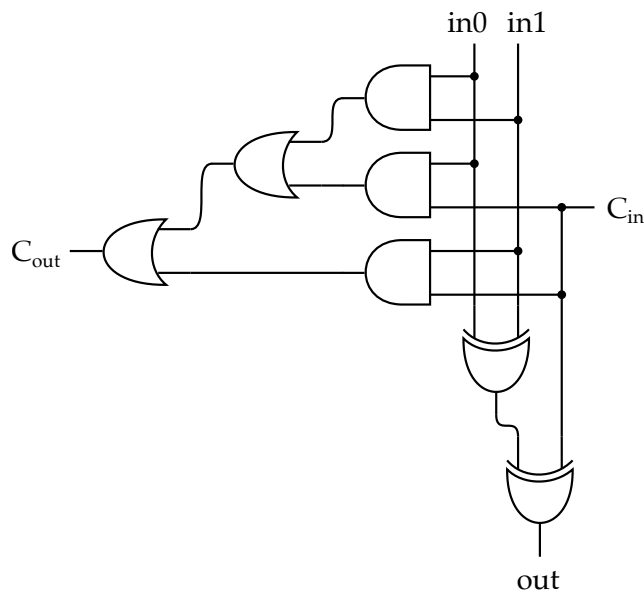
Discussion Section 4: Worksheet

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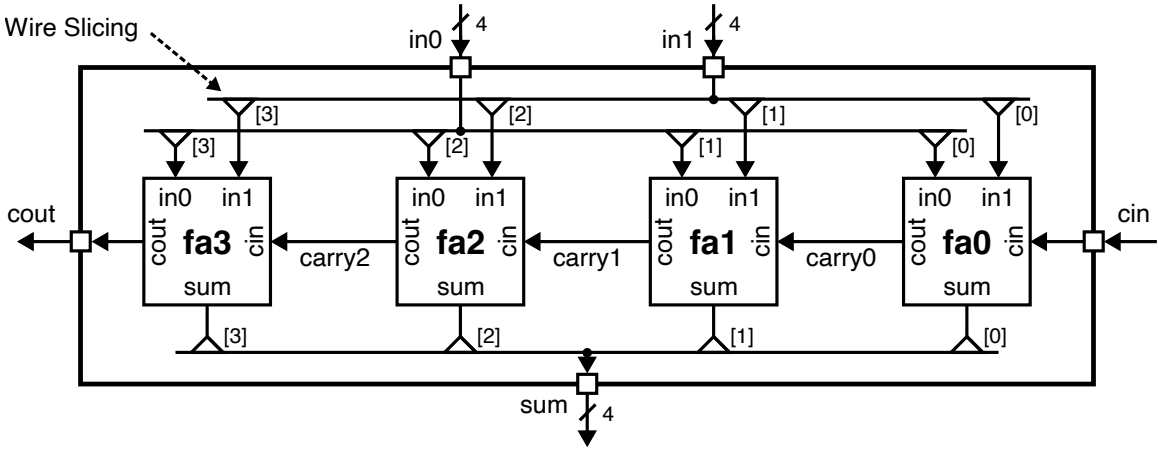
In this discussion section, we will be implementing a full adder and a four-bit ripple carry adder. Here is an incomplete truth table for the full adder.

in0	in1	cin	cout	sum
0	0	0		
0	0	1		
0	1	0		
0	1	1		
1	0	0		
1	0	1		
1	1	0		
1	1	1		

Here is the implementation of a full adder.



Here is the implementation of the ripple-carry adder.



Here is an incomplete partial truth table for the ripple-carry adder.

in0	in1	carry2	carry1	carry0	cin	cout	sum
0000	0000				0		
0001	0001				0		
0001	0001				1		
0011	0011				0		