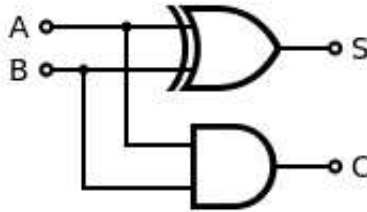


## 1-Bit Addition

Two Input Sum with Carry-out

a	b	Sum	Carry-Out
0	0	0	0
0	1	1	0
1	0	1	0
1	1	0	1

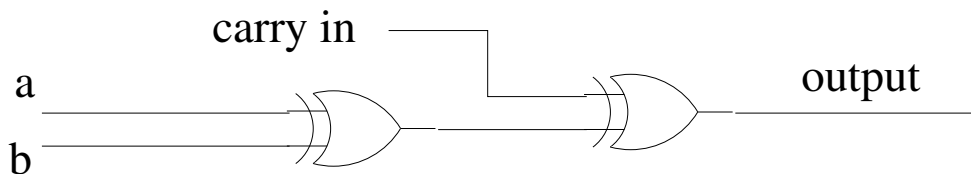
Circuit: (a.k.a. “Half Adder”)



Three Input Sum (two bits in, plus the carry-in bit)

a	b	carry-in	output
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

Circuit:



Three Input Sum with Carry-Out (two input bits and the carry-in bit)

a	b	carry-in	sum	carry-out
0	0	0	0	0
0	0	1	1	0
0	1	0	1	0
0	1	1	0	1
1	0	0	1	0
1	0	1	0	1
1	1	0	0	1
1	1	1	1	1

Full Adder Circuit:

