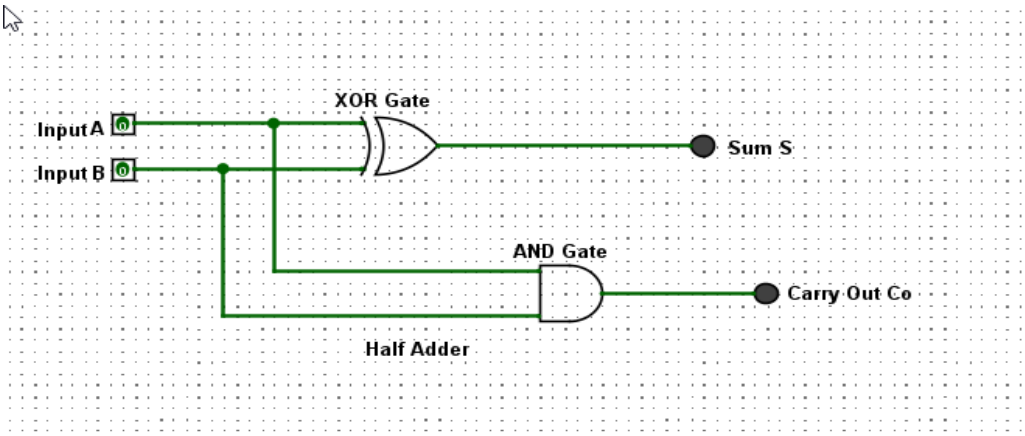
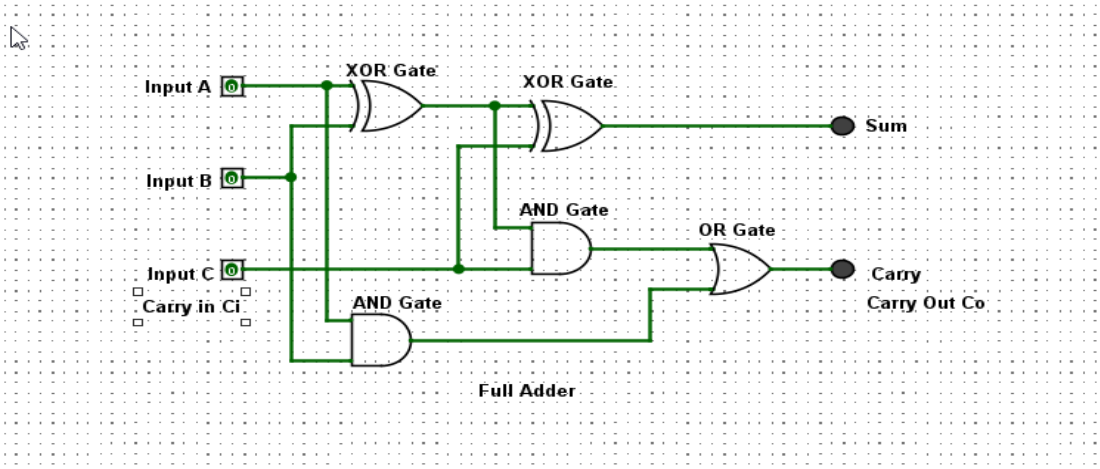
Q1 construct a half-adder and test it.



Truth Table

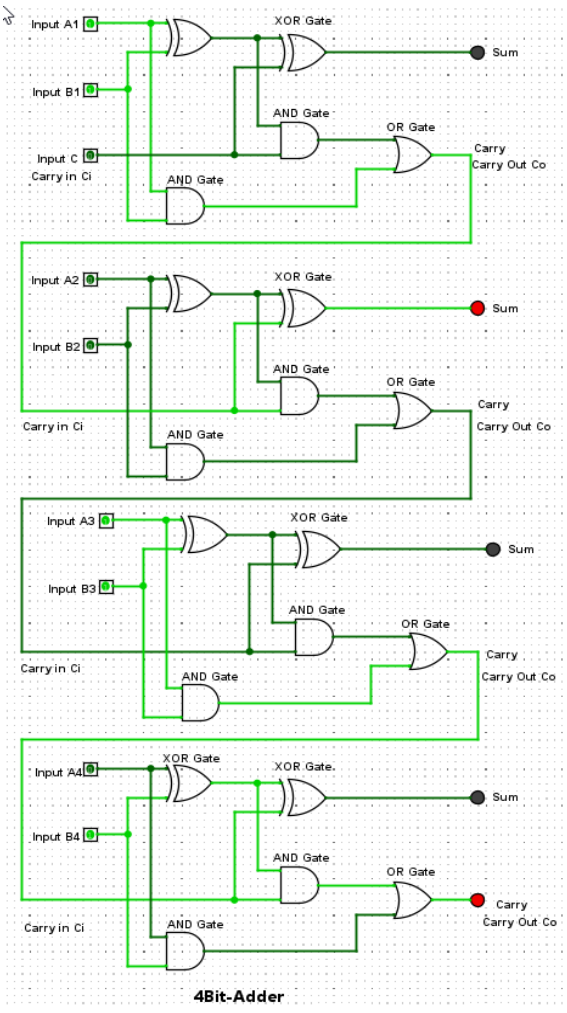
Input		Output	
A	B	Sum	Carry
0	0	0	0
0	1	1	0
1	0	1	0
1	1	0	1

Q4 extend your half-adder to a full adder.



Input A	Input B	Carry in	Sum Output	Carry Output
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

Q5 Build a 4-bit adder.



Input A	Input B	Output
0101	0000	0101
0101	0001	0110
0101	0010	0111
0101	0011	1010
0101	0100	1001
0101	0101	1010
0101	0110	1011
0101	0111	1100
0101	1000	1101
0101	1001	1110
0101	1010	1111
0101	1011	10000
0101	1100	10001
0101	1101	10010
0101	1110	10011
0101	1111	10100