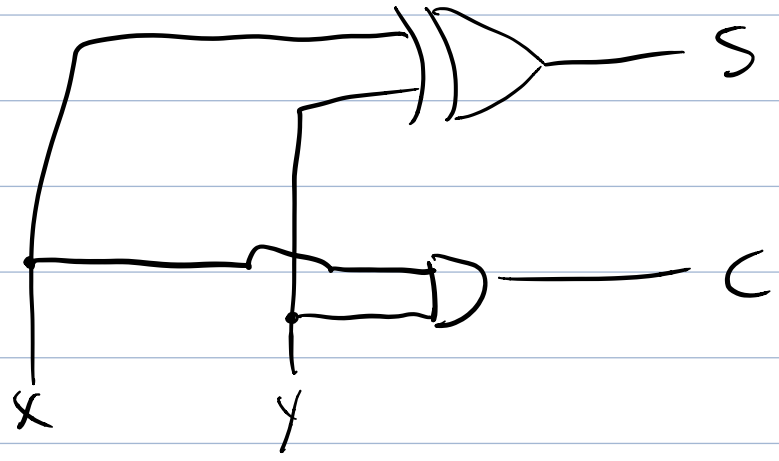
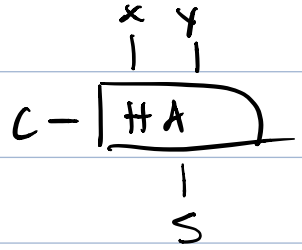
Part A

Half-Adder:

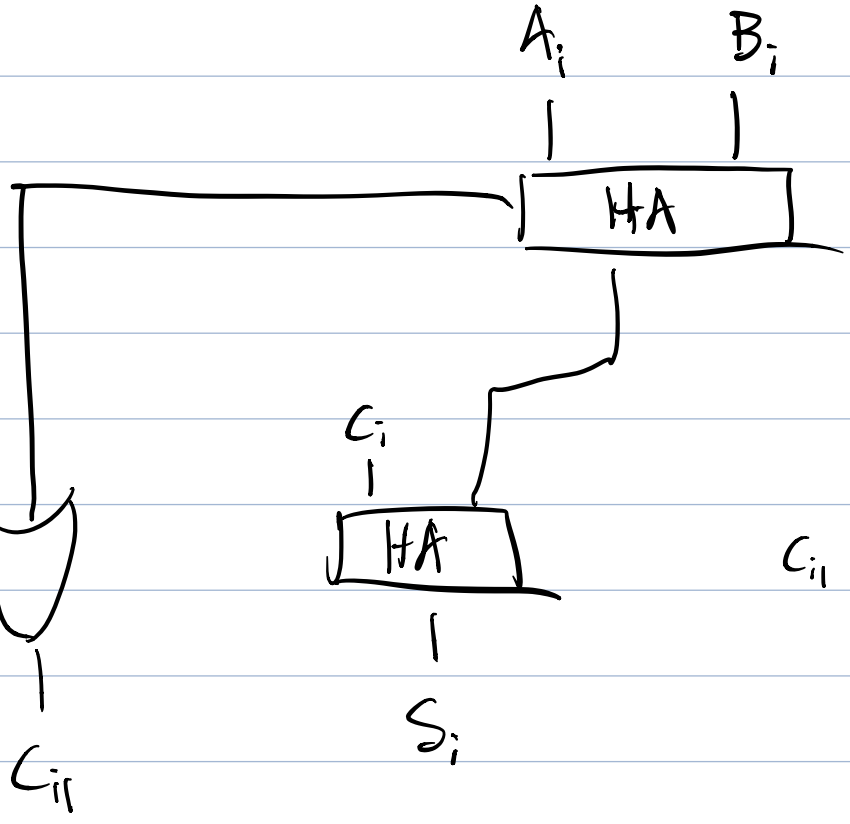


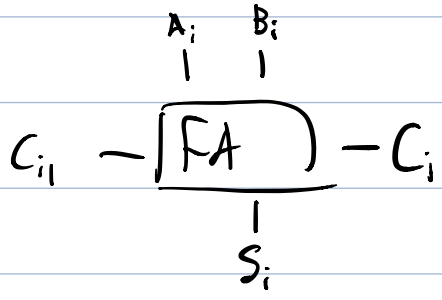


$C = XY$

$S = X \oplus Y$

Full-Adder:

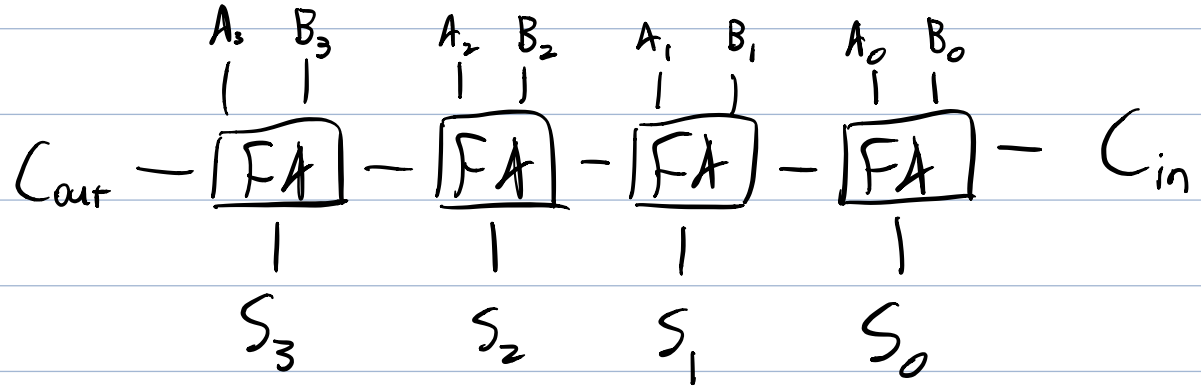




$$C_{i1} = A_i B_i + C_i(A_i \oplus B_i)$$

$$S_i = A_i \oplus B_i \oplus C_i$$

Ripple Carry Adder:



Part B

	A	B	C4S
Example	0101	1111	10100
1	0000	1001	01001
2	0110	1110	10100
3	0001	1000	01001
4	0111	1101	10100
5	0010	0111	01001
6	1000	1100	10100
7	0011	0110	01001
8	1001	1011	10100
9	0100	0101	01001
10	1010	1010	10100