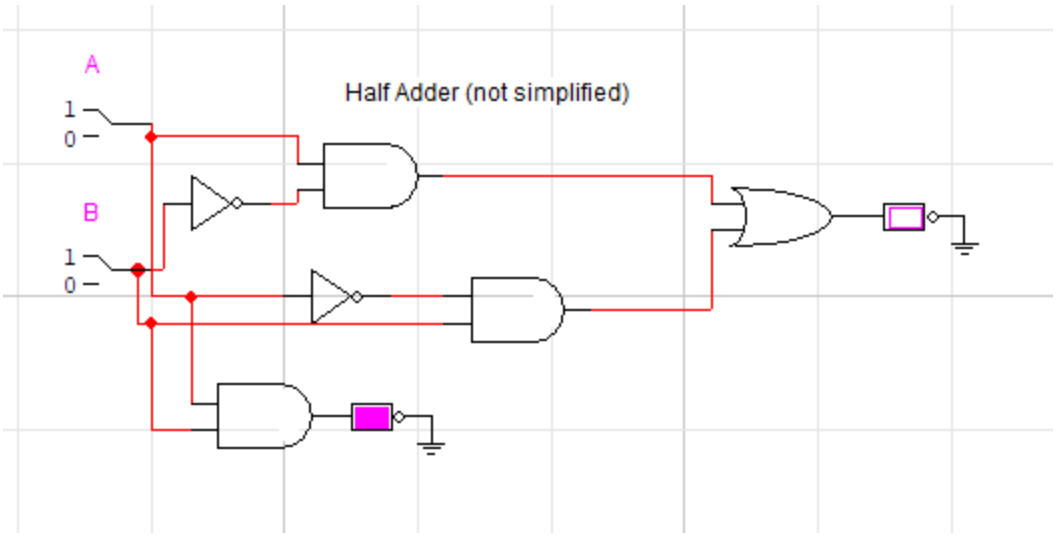
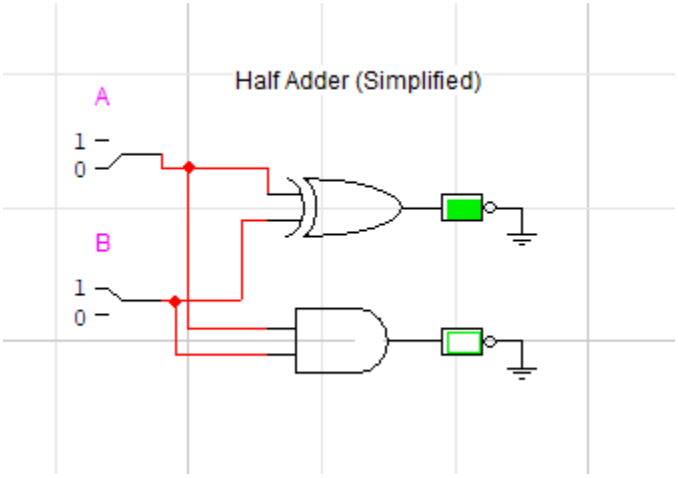
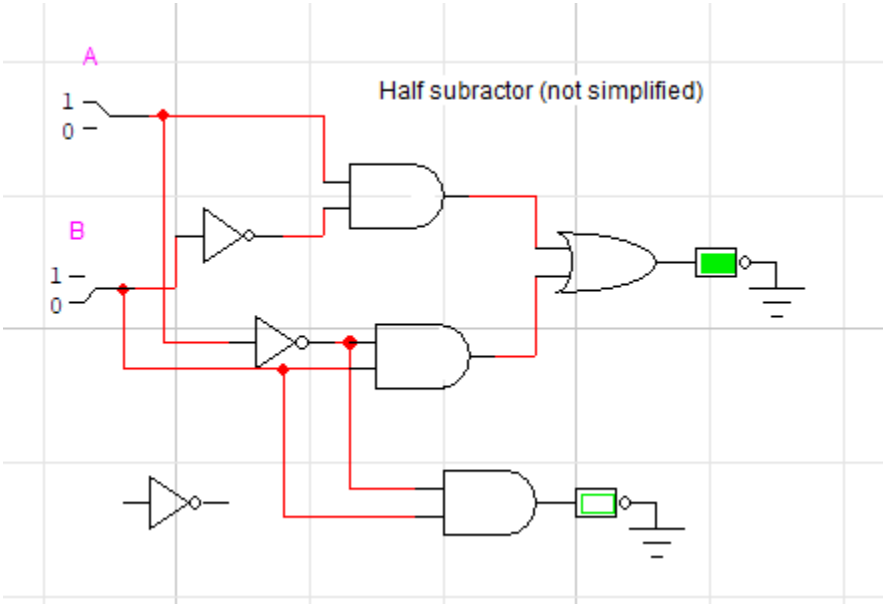
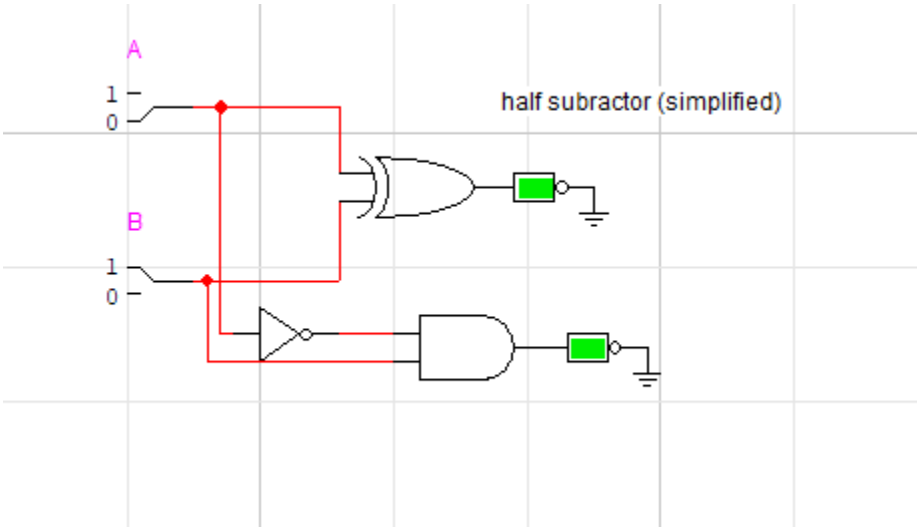
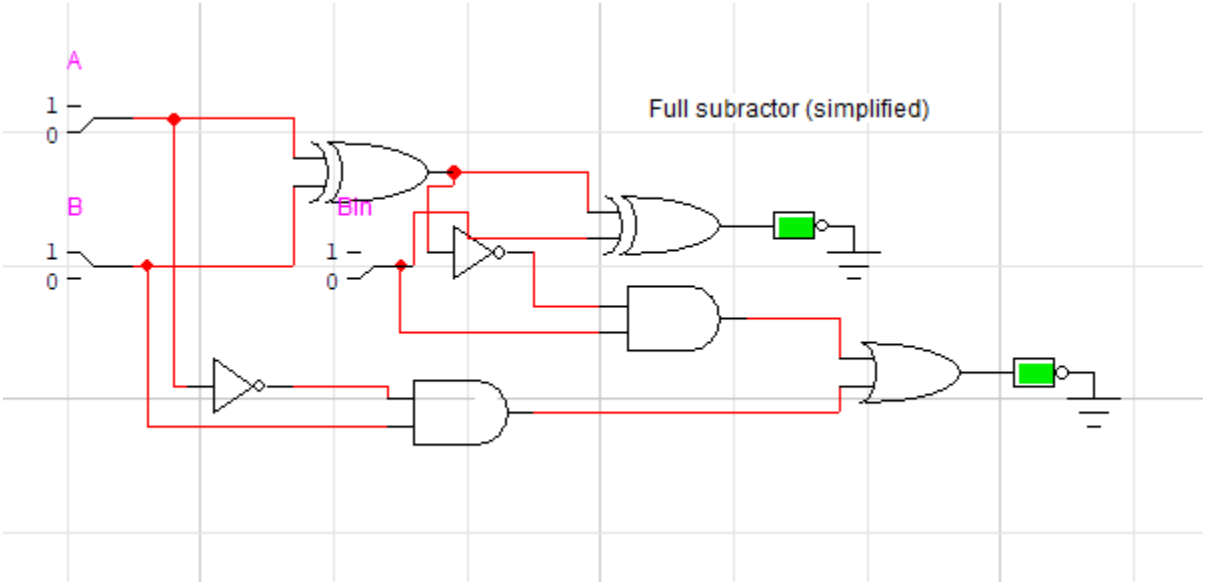

Half Adder (not simplified)
A
1
0
B
1
0


Half Adder (Simplified)
A
1
0
B
1
0


Half subractor (not simplified)
A
1
0
B
1
0

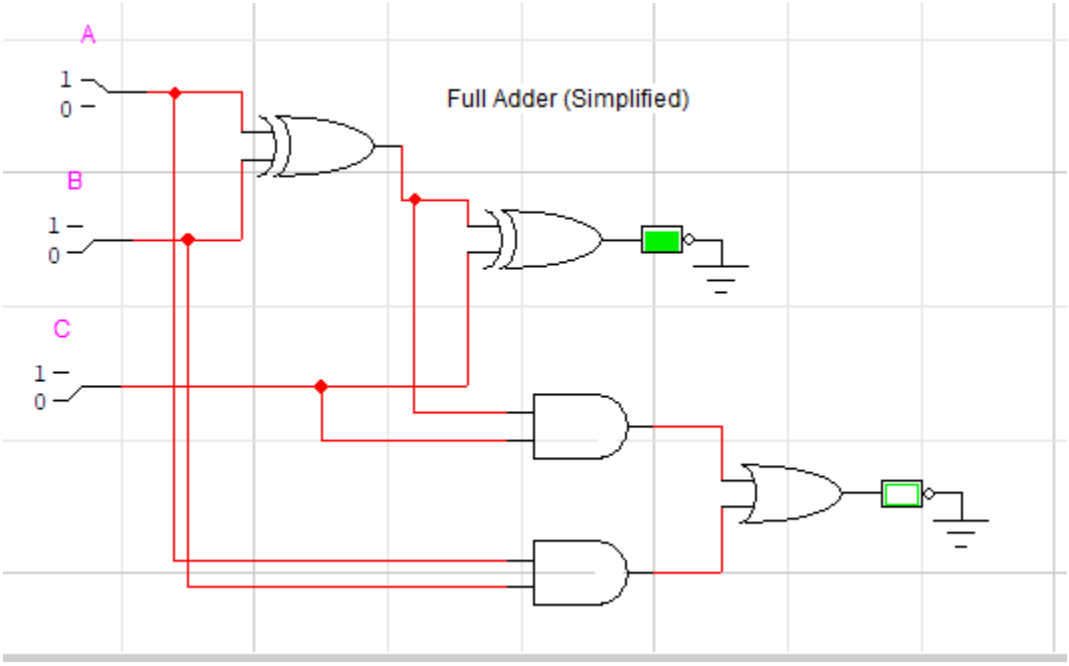




A	B	Bin	Difference (D)	Borrow-out (Bout)
0	0	0	0	0
0	0	1	1	1
0	1	0	1	1
0	1	1	0	1
1	0	0	1	0
1	0	1	0	0
1	1	0	0	0
1	1	1	1	0

Difference =(A′·B′·Bin)+(A′·B·Bin′)+(A·B′·Bin′)+(A·B·Bin)

Bout=(A′·B·Bin′)+(A′·B·Bin)+(A·B′·Bin)+(A·B·Bin)



A	B	Cin	Sum	Carry-out (Cout)
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

Sum=(A′·B′·Cin)+(A′·B·Cin′)+(A·B′·Cin′)+(A·B·Cin)

Cout=(A′·B·Cin)+(A·B′·Cin)+(A·B·Cin′)+(A·B·Cin)