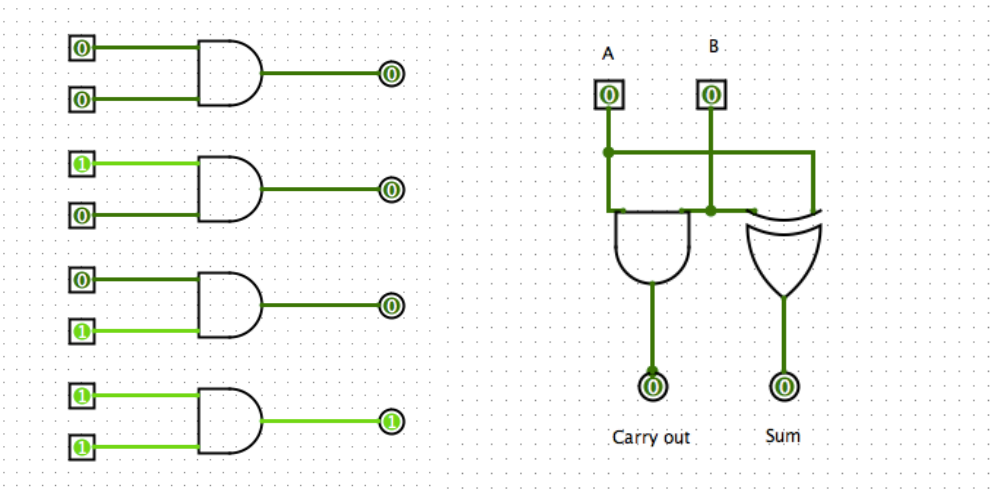
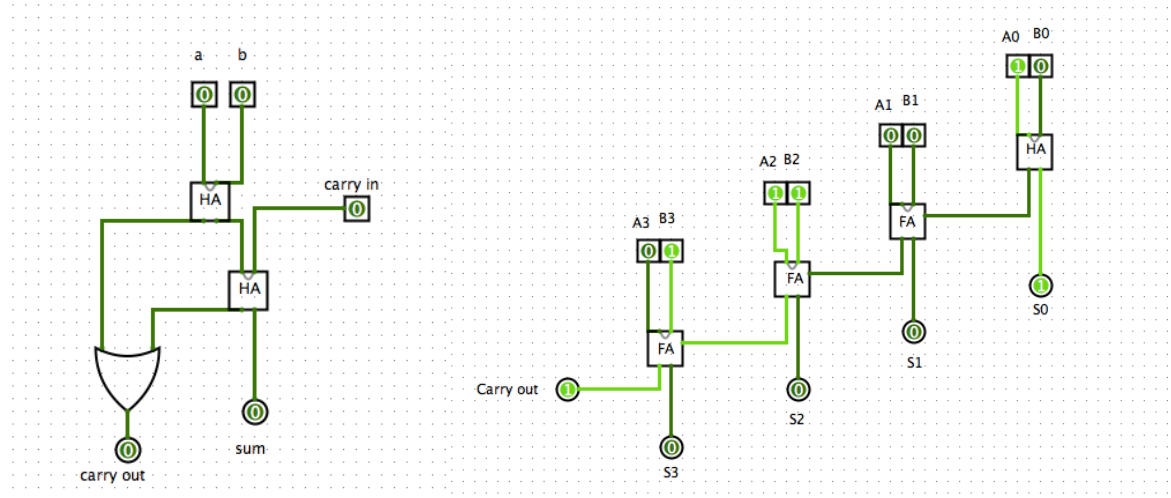
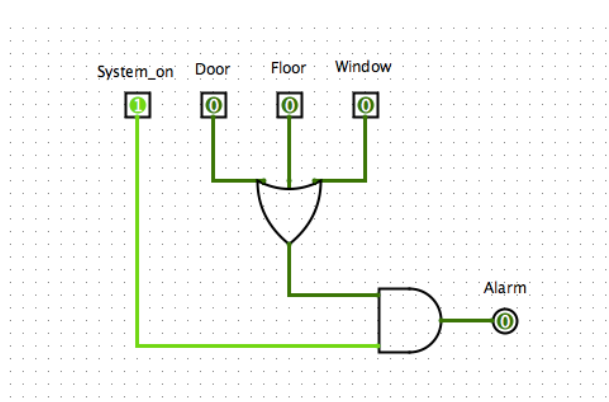
Grayson Goolsby
Lab X 4-11-17

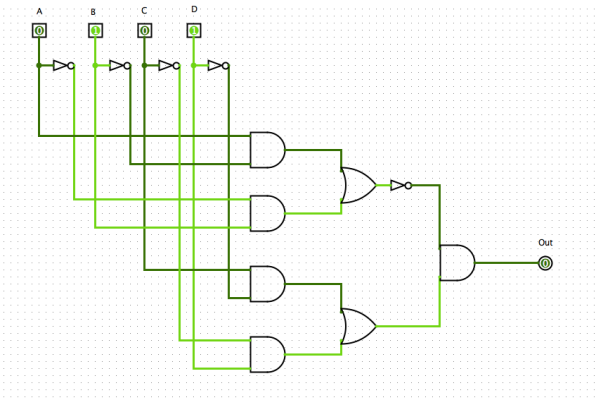
Pre lab





HW6





Grayson Goolsby
Lab X 4-11-17

Truth tables

Reverse engineering			equation for circuit		
truth table			~((A*~B)+(~A*B))*((C*~D)+(~C*D))		
A	B	C	D	Out	equation if Out==1
0	0	0	0	0	
0	0	0	1	1	~((0*~0)+(~0*0))*((0*~1)+(~0*1))
0	0	1	0	1	~((0*~0)+(~0*0))*((1*~0)+(~1*0))
0	0	1	1	0	
0	1	0	0	0	
0	1	0	1	0	
0	1	1	0	0	
0	1	1	1	0	
1	0	0	0	0	
1	0	0	1	0	
1	0	1	0	0	
1	0	1	1	0	
1	1	0	0	0	
1	1	0	1	1	~((1*~1)+(~1*1))*((0*~1)+(~0*1))
1	1	1	0	1	~((1*~1)+(~1*1))*((1*~0)+(~1*0))
1	1	1	1	0	

Simple Alarm			Equation for circuit	
Truth Table			System_on*(Door+Floor+Window)	
System_on	Door	Floor	Window	Alarm
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	0
1	0	0	1	1
1	0	1	0	1
1	0	1	1	1
1	1	0	0	1
1	1	0	1	1
1	1	1	0	1
1	1	1	1	1

Challenge 1- the circuit tests if the 8-bit numbers are the same or not, returns 1 if they are same and 0 if they aren't
Challenge 2- the circuit tells which bit is larger, Pout==1 if A is larger, Qout==1 if B is larger