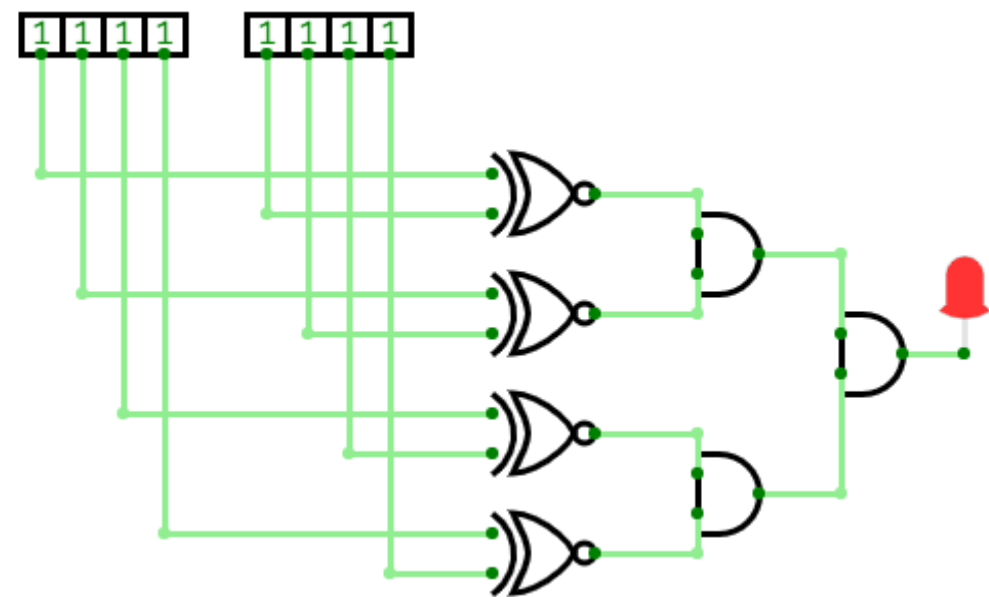


Part 1. The 4-bit Equality Comparator Circuit



Part 2: Part 2. A More General Comparator:

1-Bit Comparator:

A > B:		
A	B	F
0	0	0
0	1	0
1	0	1
1	1	0

F true when:  $F = A * \neg B$



A = B:		
A	B	F
0	0	1
0	1	0
1	0	0
1	1	1

F true when:  $F = \neg A * \neg B = (A+B)$   
and true when:  $F = A * B = \neg(A+B)$

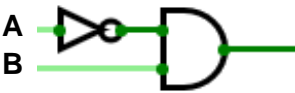
XOR		
A	B	F
0	0	0
0	1	1
1	0	1
1	1	0

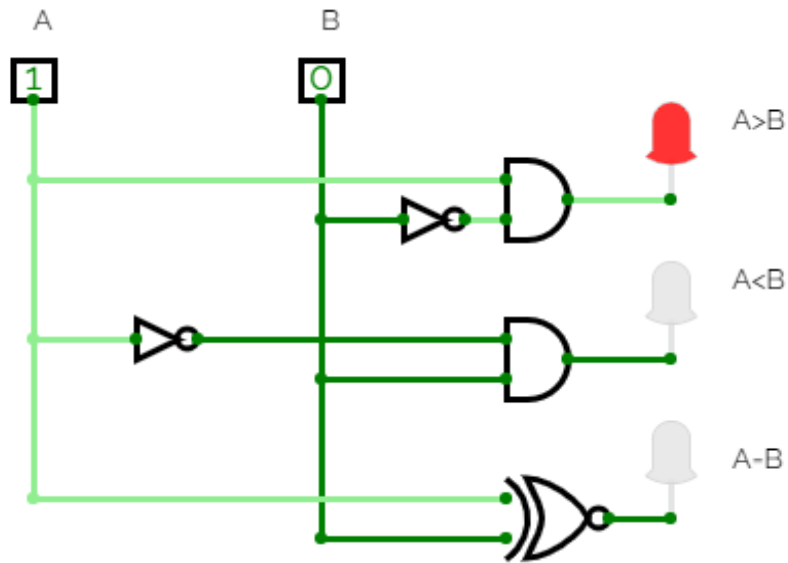
XNOR (Complement XOR)		
A	B	F
0	0	1
0	1	0
1	0	0
1	1	1



A < B:		
A	B	F
0	0	0
0	1	1
1	0	0
1	1	0

F true when:  $F = A * \neg B$





### Part 3: 1-Bit comparator only using NAND-gate:

