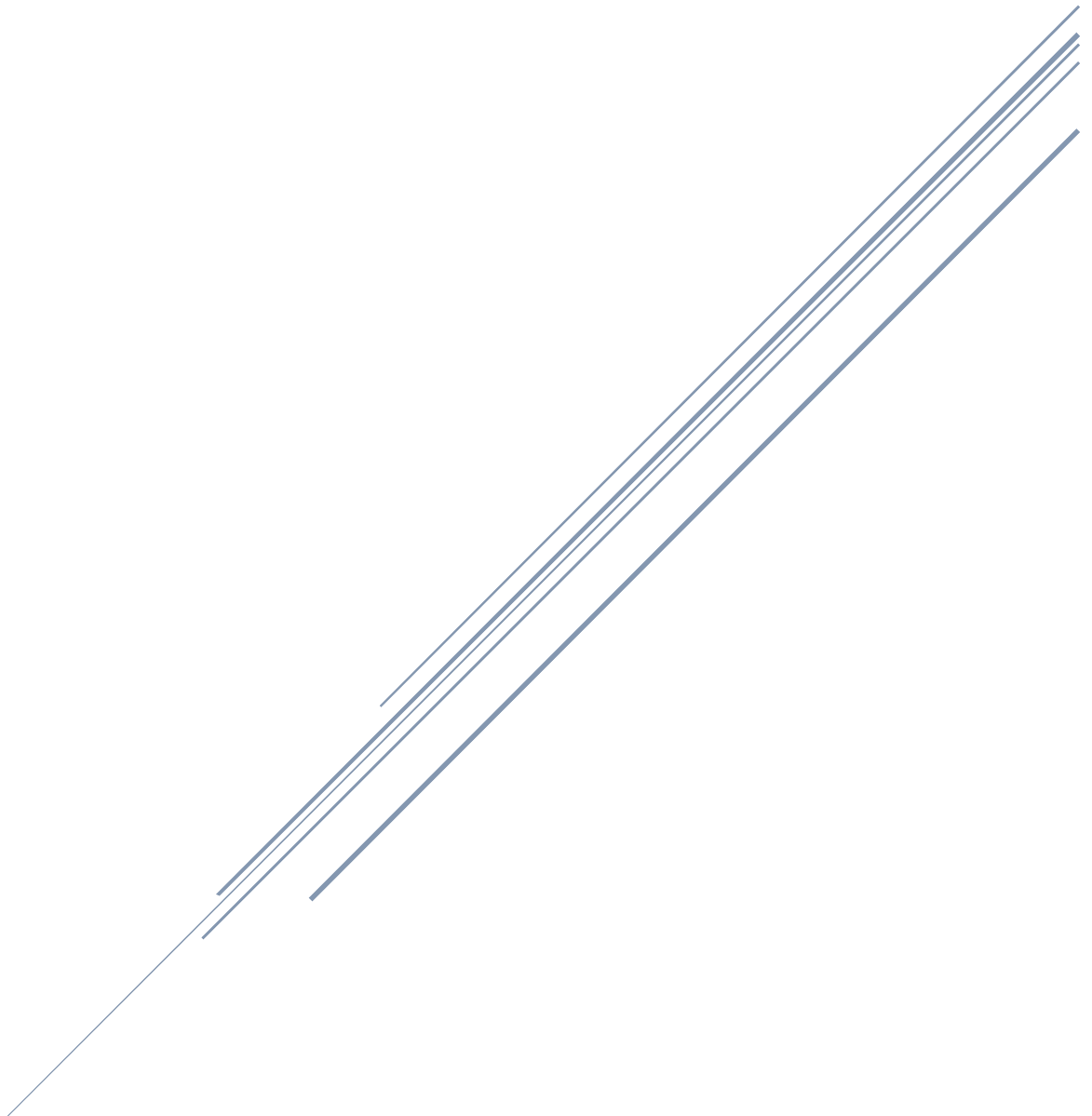


# DLD LAB #8

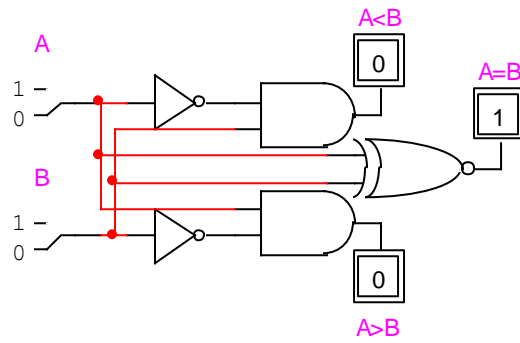
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## Exercise #1



One-Bit Comparator

A	B	$A > B$	$A = B$	$A < B$
0	0	0	1	0
0	1	0	0	1
1	0	1	0	0
1	1	0	1	0

## Exercise #2

		B	
		0	1
A	0	0	1
	1	0	0

A'B

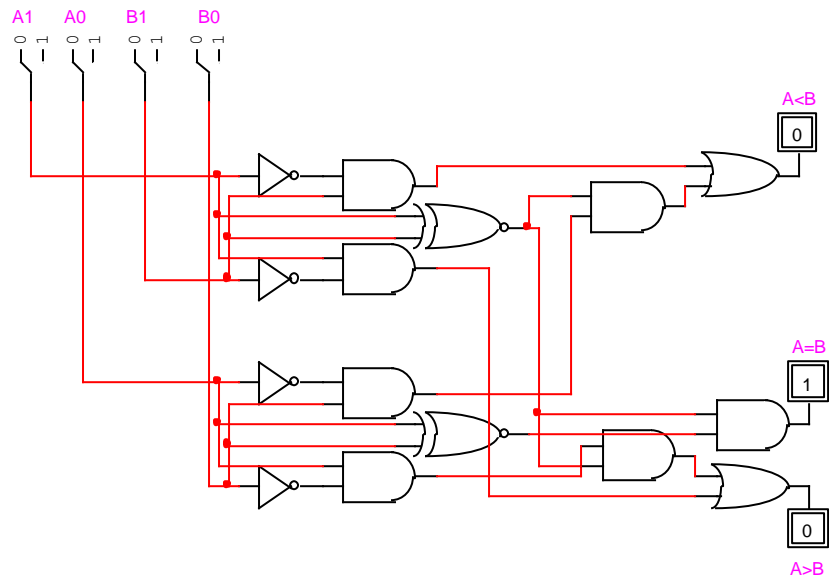
		B	
		0	1
A	0	0	0
	1	1	0

AB'

		B	
		0	1
A	0	1	0
	1	0	1

A'B' + AB

### Exercise #3



A1	A0	B1	B0	A<B	A=B	A>B
0	0	0	0	0	1	0
0	0	0	1	1	0	0
0	0	1	0	1	0	0
0	0	1	1	1	0	0
0	1	0	0	0	0	1
0	1	0	1	0	1	0
0	1	1	0	1	0	0
0	1	1	1	1	0	0
1	0	0	0	0	0	1
1	0	0	1	0	0	1
1	0	1	0	0	1	0
1	0	1	1	1	0	0
1	1	0	0	0	0	1
1	1	0	1	0	0	1
1	1	1	0	0	0	1
1	1	1	1	0	1	0

Dated:

$A_1 A_0$  00 01 11 10

$B_1 B_0$

00 0 0 0 0

01 1 0 0 0

11 1 1 0 1

10 1 1 0 0

$$\bar{A}_1 B_1 + \bar{A}_1 \bar{A}_0 B_0 = L = (A < B)$$

$$+ \bar{A}_0 B_0$$

$A_1 A_0$  00 01 11 10

$B_1 B_0$

00 1 0 0 0

01 0 1 0 0

11 0 0 1 0

10 0 0 0 1

$$\bar{A}_1 \bar{A}_0 \bar{B}_0 + \bar{A}_1 \bar{A}_0 B_0 = A_1 \bar{A}_0 B_0$$

$$+ A_1 A_0 B_0$$

$$\Rightarrow (A_1 \text{ XOR } B_1) (A_0 \text{ XOR } B_0) = (A = B) = F$$

$A_1 A_0$  00 01 11 10

$B_1 B_0$

00 0 1 1 1

01 0 0 1 1

11 0 0 0 0

10 0 0 1 0

$$A_1 \bar{B}_1 + A_0 \bar{B}_0 + A_1 A_0 \bar{B}_0 = G = (A > B)$$