Experiment Name: 2-bit comparator verification with circuit.

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Session: 2016-17

Course : CSE-2112

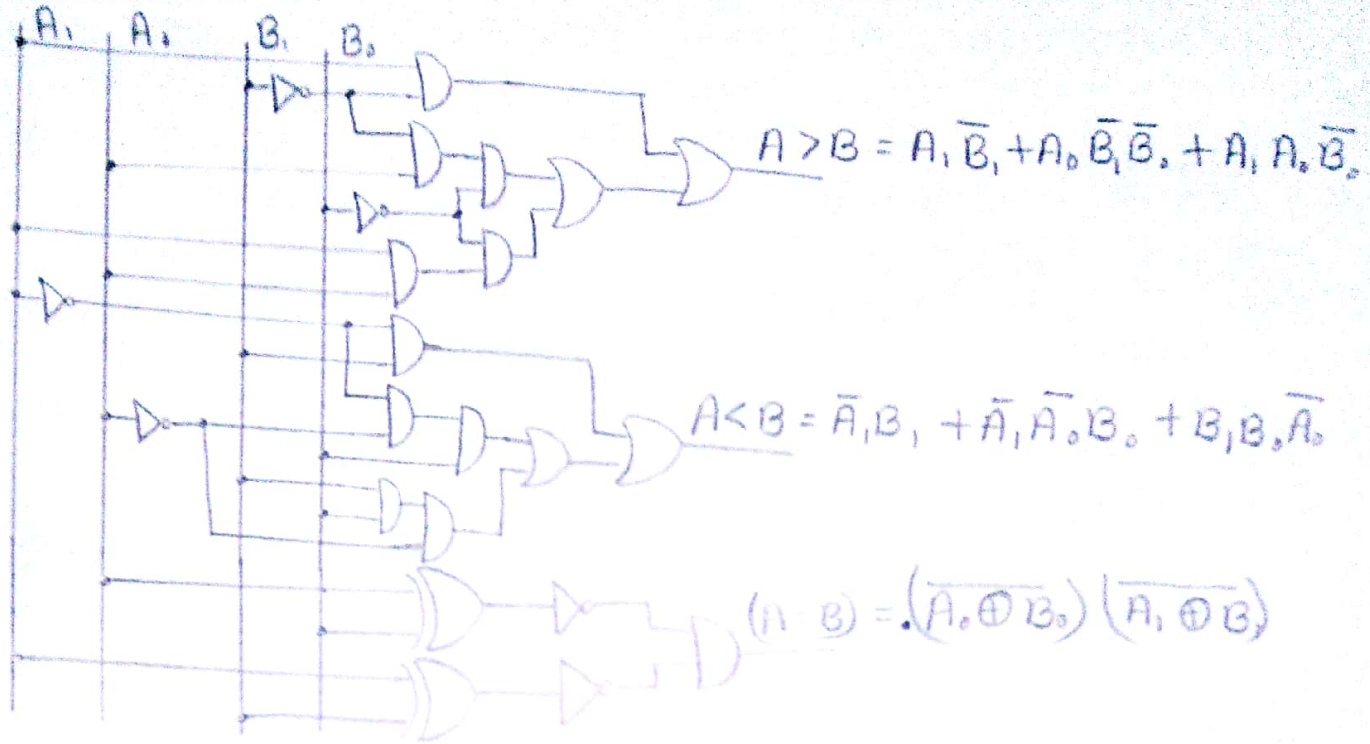
Date : 26-02-2018

Experiment: 2-bit comparator verification with circuit.

Theory: Comparator is a digital electronics device which can compare between two binary numbers if they are equal or greater or less then one another. Two bit comperator compares between two binary numbers of two digit and give output in only one of three states equal, less or greater.

Instruments: wire, bread-board, power source, Not gate. AND gate. OR gate. XOR gate.

Circuit:



Truth Table:

A_1	A_0	B_1	B_0	Verification	A>B	A<B	A=B
0	0	0	0	✓	0	0	1
0	0	0	1	✓	0	1	0
0	0	1	0	✓	0	1	0
0	0	1	1	✓	0	1	0
0	1	0	0	✓	1	0	0
0	1	0	1	✓	0	0	1
0	1	1	0	✓	0	1	0
0	1	1	1	✓	0	1	0
1	0	0	0	✓	1	0	0
1	0	0	1	✓	1	0	0
1	0	1	0	✓	0	0	1
1	0	1	1	✓	0	1	0
1	1	0	0	✓	1	0	0
1	1	0	1	✓	1	0	0
1	1	1	0	✓	1	0	0
1	1	1	1	✓	0	0	1

Result and discussion: From the circuit we have designed the results we got are similar as the ansers from logic. The results we got are valid. So the circuit and equations are right.

Pre-caustion:

1. connect the circuit when design is complete

2. Please cheack the circuit before connecting.

3. Ware shoes in the lab.

4. After finishing experiment switch off the power source.