EXPERIMENT NO:-7

➢ **AIM:** To design and test 1-bit Magnitude comparator.

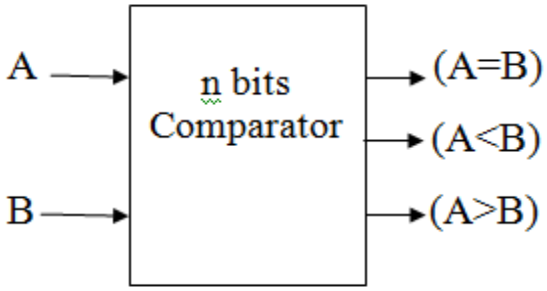
➢ **APPARATUS:** Breadboard, jumpers wires, IC's, LED's, power supply.

➢ **THEORY:**

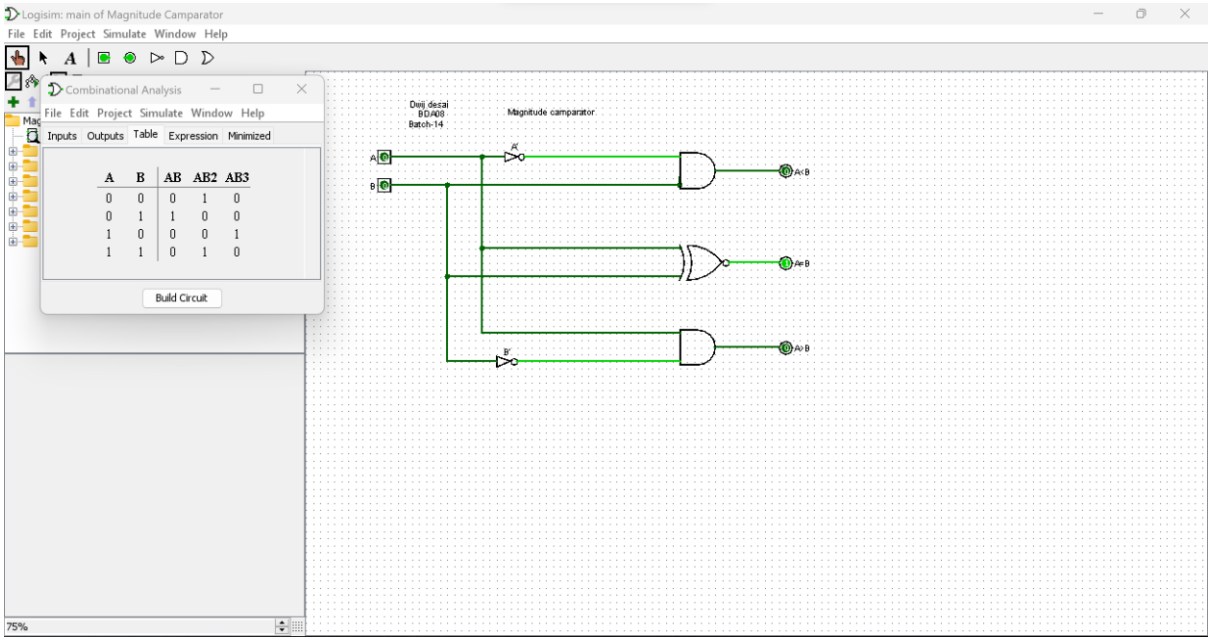
The 1 bit magnitude comparator is a combinational circuit that compares magnitude of two 4 bit numbers to make either of its O/P (A>B, A=B, A<B) at logic high level.
Let A=A0 & B= B0 are 1-bit number respectively. The 1-bit magnitude comparator compares magnitudes as per following expressions for outputs.

Let xi will be at logic high level when Ai & Bi are at equal level. (i= 0, 1)

BLOCK DIAGRAM OF 1-BIT MAGNITUDE COMPARATOR:



CIRCUIT DIAGRAM OF 1-BIT MAGNITUDE COMPARATOR:



TRUTH TABLE

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