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University of Information Technology and Sciences (UITS)

Lab Report-3

IT-202 : Digital Logic Design Lab

NAND Gate

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Contents

1 NAND Gate

A boolean operator which gives the value zero if and only if all the operands have a value of one, and otherwise has a value of one (equivalent to NOT AND).

2 Related Work

a NAND gate (NOT-AND) is a logic gate which produces an output which is false only if all its inputs are true; thus its output is complement to that of an AND gate. A LOW (0) output results only if all the inputs to the gate are HIGH (1); if any input is LOW (0), a HIGH (1) output results

2.1 Inserting Table Example

Input	Input	Output
0	0	1
0	1	1
1	0	1
1	1	0

Table 1: NAND Gate

3 Methodology

3.1 Insert Image

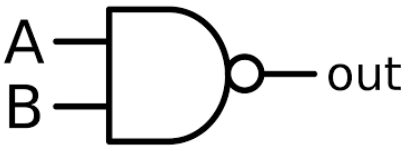

Figure 1: NAND Gate

4 Results

A two-input NAND gate is a digital combination logic circuit that performs the logical inverse of an AND gate. While an AND gate outputs a logical “1” only if both inputs are logical “1,” a NAND gate outputs a logical “0” for this same combination of inputs..

4.1 Output-1

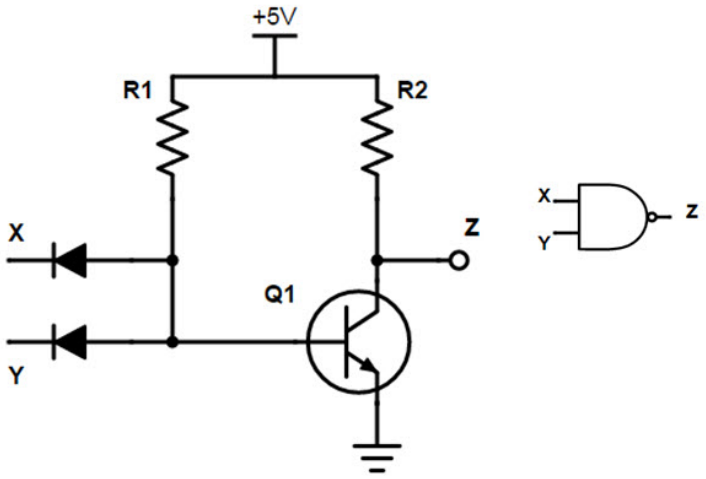

Figure 2: Output-1

5 Conclusion

NAND gate is an inverted AND gate, and a NOR gate is an inverted OR gate. The output of a two input NOR gate is low, when either one or both inputs are “High”. In Comparison, The output of a two input NAND gate is high, when either one or both inputs are “LOW”.it’s working method and how does it works and where it is use and related work and also know the truth table formula and input/output .

References

https://www.electronics-tutorials.ws/logic/logic$_4$.*html*
https : *//www.allaboutcircuits.com/textbook/digital/chpt* − 3/*not* − *gate/*