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2. NAND gate

In digital electronics, a NAND gate also known as Not-AND which produces a false output only if its both the inputs are true.

In NAND gate takes two inputs '0' or '1' and produces a single output.

It produces an output '0' only if both the inputs are '1' else the output is '1'.

It can be said that NAND gate produces a complement output of AND gate.

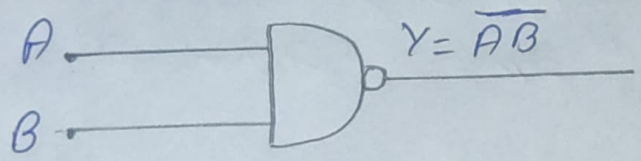
Function for NAND gate:-

$F(A,B) = \overline{AB}$

By Demorgan's law we can say that

$F(A,B) = \overline{AB} = \overline{A} + \overline{B}$

Circuit Diagram of NAND gate:-



Truth table of NAND gate

INPUTS		OUTPUT
A	B	$Y = \overline{A \cdot B}$
0	0	1
0	1	1
1	0	1
1	1	0

NAND gate on IC 7400