Name→ Ankur Kukreti Roll No:- 2101031 En. roll→ PV-21010031 Sec- 'A'

Ans 1→ **NAND Gate→** The NAND gate is a special type of logic gate in the digit logic circuit.

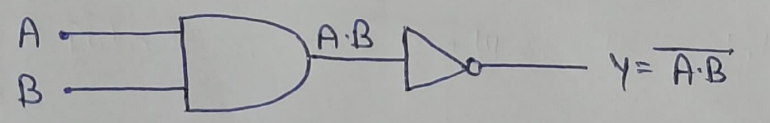
The NAND gate is the universal gate. It means all the basic gates such as AND, OR and NOT gat Can be Constructed using a NAND gate. The NAND gate is the combination of the NOT-AND gate. The output state of the NAND gate will be low only when all the inputs are high. Simply, this gate returns the Complement result of the AND gate.

The logic or Boolean expression for the NAND gate is the complement of logical multiplication of inputs denoted by a full stop or a single dot as.

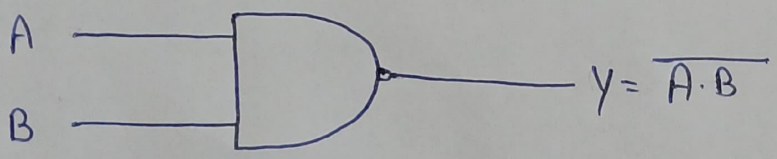
$(A \cdot B)' = Y$

The valve of Y will be tove when any one of the input is set to 0.

Logic diagram→



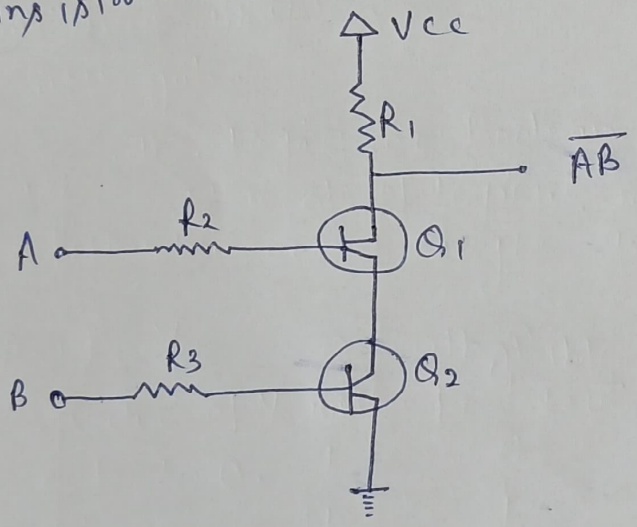
or



Touth table

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

Circuit diagram: simple 2 i/p logic NAND Gate can be constructed using transistors connected together as shown below with i/p connected directly to the transistor base. Either of the transistor must be cut off for output to be logic high. this meanif both the i/p are at logic high maping both the transistor "ON" the resultant output is low (0)



A	B	Q_1	Q_2	OUTPUT
0	0	off	off	1
0	1	off	ON	1
1	0	ON	off	1
1	1	ON	ON	0