

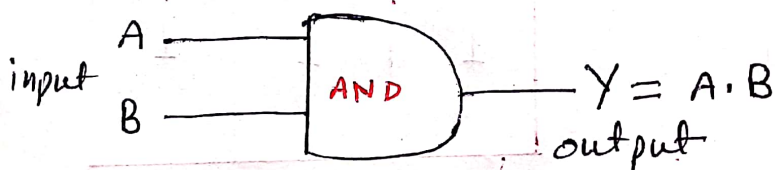
Logic Gates $\Rightarrow$ Logic gates can be broadly classified into three main gates.

AND Gate $\Rightarrow$ An AND gate is used to perform logical multiplication of binary input.

The Boolean expression is given as for AND gate.

$$Y = A \cdot B$$

Symbol



Truth Table

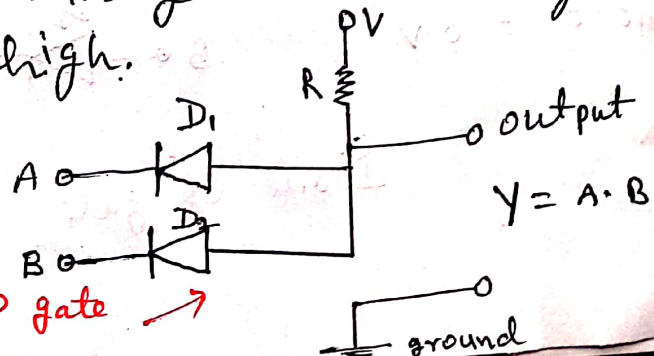
A	B	$Y = A \cdot B$
0	0	0
0	1	0
1	0	0
1	1	1

The output state of the AND gate will be high if both the input is high.

Logic 1 = 5 V

Logic 0 = 0 V

Diode AND gate $\rightarrow$

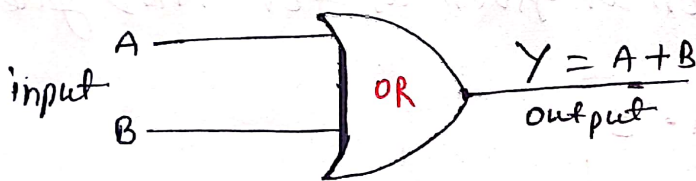


OR Gate $\Rightarrow$ OR gate is most widely used digital logic circuit.

The Boolean expression for the OR gate is given as

$$Y = A + B$$

Symbol



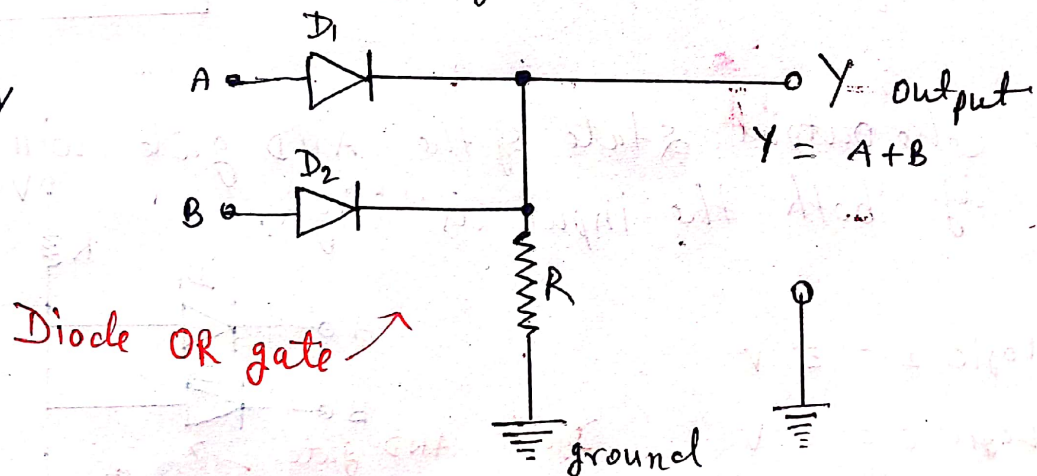
Truth Table

A	B	$Y = A + B$
0	0	0
0	1	1
1	0	1
1	1	1

The output state of OR gate will be high if any one of the input state is high.

Logic 1 = 5 V

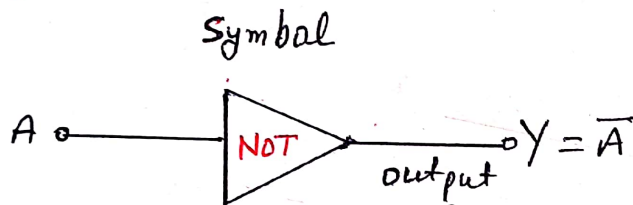
Logic 0 = 0 V



NOT Gate $\Rightarrow$ The NOT gate is one of the basic logic gate having only a single input and a single output. It is also known as inverter.

The Boolean expression for the NOT gate is given as

$$Y = \bar{A}$$



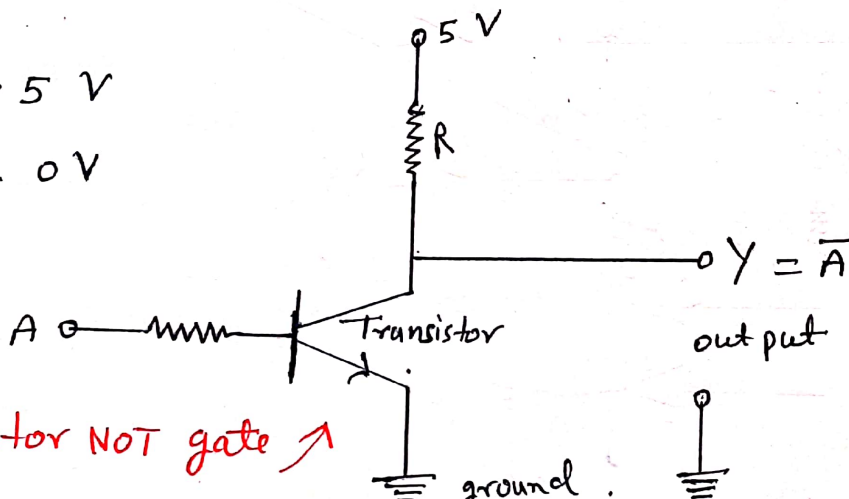
Truth Table

A	$Y = \bar{A}$
0	1
1	0

The output state of NOT gate will be high when the input state is low and vice-versa.

logic 1 = 5 V

logic 0 = 0 V



Transistor NOT gate $\nearrow$