

OR & AND Gates

Presented By:

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Outline

➤ **OR Gate**

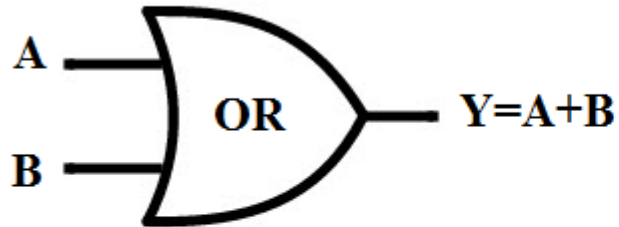
- Symbol and Truth Table
- Multi Input OR Gate
- OR Gate IC

➤ **AND Gate**

- Symbol and Truth Table
- Multi Input AND Gate
- AND Gate IC

OR Gate

Symbol



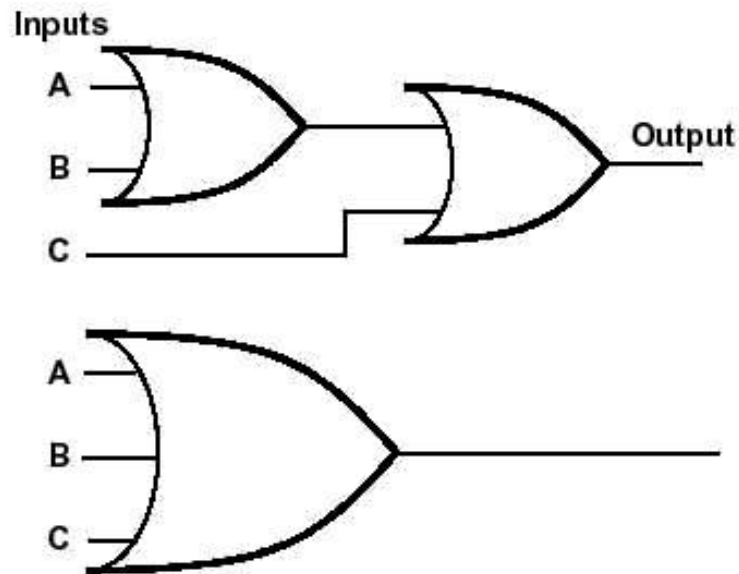
Truth Table

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

- This is a two input OR gate.
- A and B are inputs and Y is output.
- Output will be high (1) when either one of the input is high or both of the inputs are high.

Multi Input OR Gate

- OR gate with more than two inputs is multi input OR gate.
- Multi input OR gate can be made by joining OR gates with less inputs as shown below:

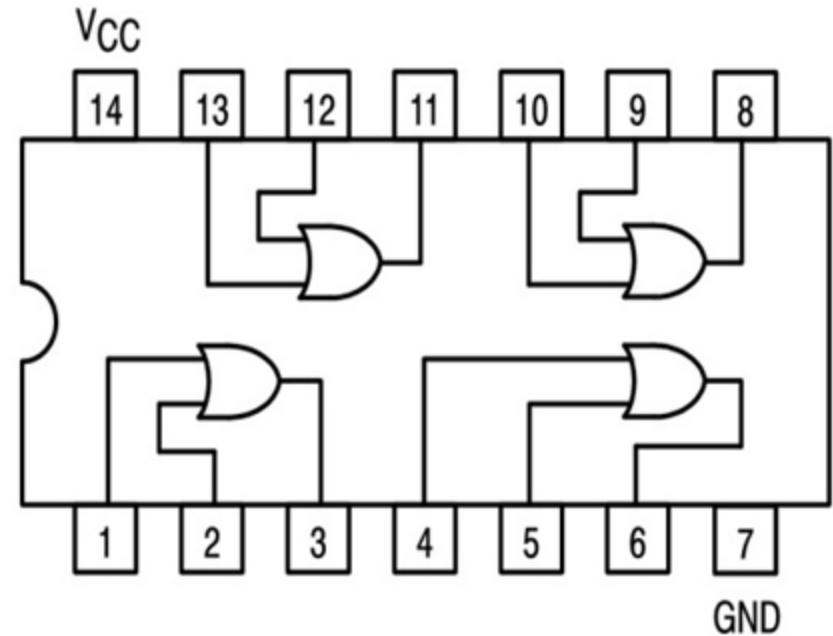
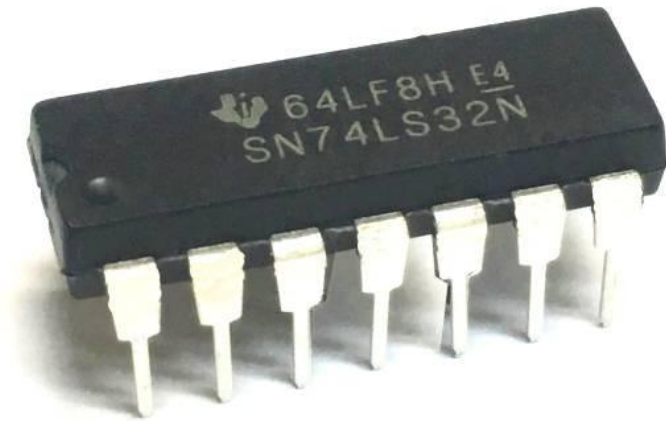


A	B	C	Output
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

3 Input OR Gate

Truth Table

OR Gate IC and PIN Diagram



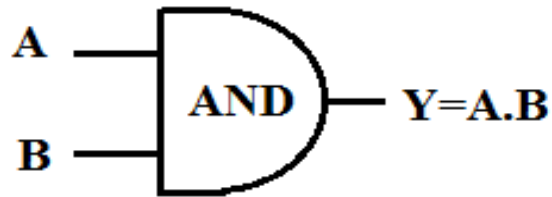
IC 7432 OR Gate IC

7432 IC PIN Diagram

- IC 7432 is a two input OR gate IC which contains four OR gate as shown in PIN diagram. To activate the IC +Vcc is provided at PIN 14 and ground at PIN 7.

AND Gate

Symbol



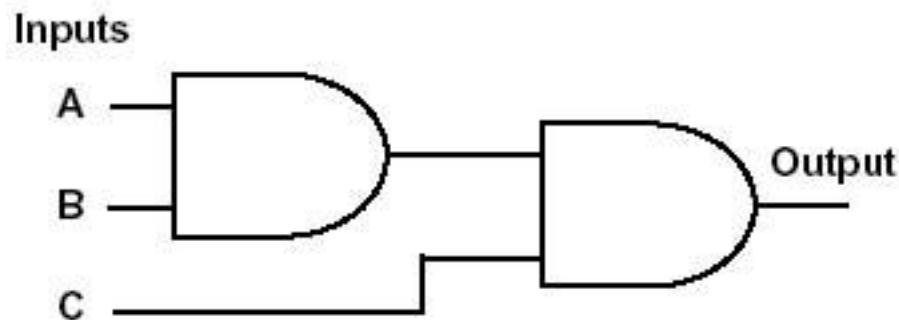
Truth Table

Inputs		Output
A	B	$Y=A.B$
0	0	0
0	1	0
1	0	0
1	1	1

- This is a two input AND gate.
- A and B are inputs and Y is output.
- Output will be high (1) only and only if all the inputs are high.

Multi Input AND Gate

- Multi input AND gate have more than two inputs and can be made by joining AND gates with less inputs as shown below:

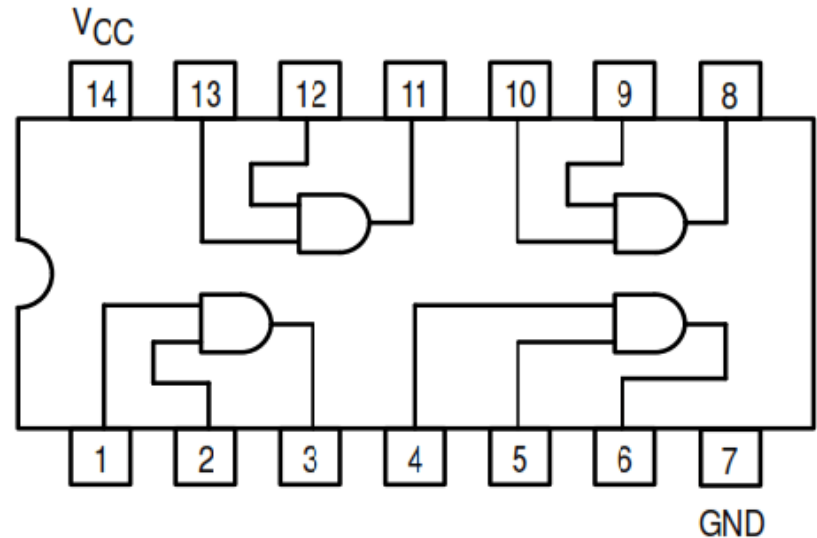
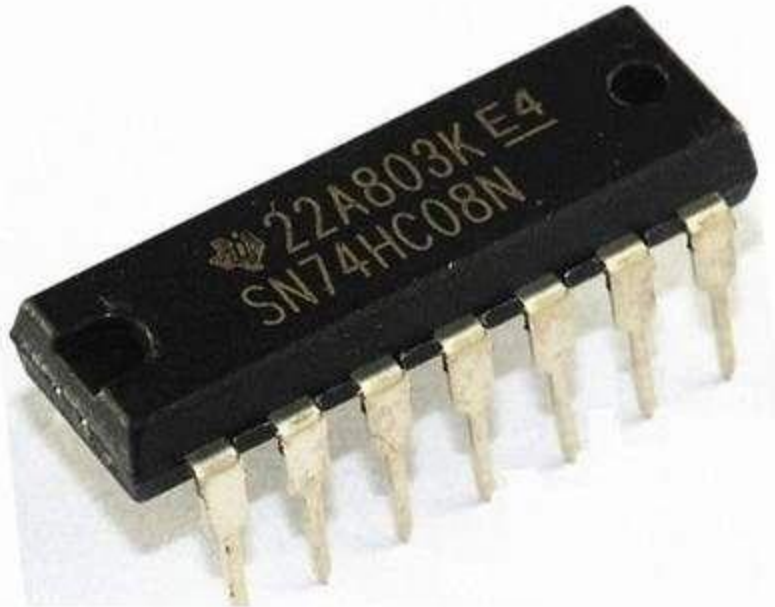


A	B	C	Output
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	1

3 Input AND Gate

Truth Table

AND Gate IC and PIN Diagram



IC 7408 AND Gate IC

7408 IC PIN Diagram

- IC 7408 is a two input AND gate IC which contains four AND gate as shown in PIN diagram. To activate the IC +Vcc is provided at PIN 14 and ground at PIN 7.