

# NAND Gate

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

Spoken Tutorial & FOSSEE Team

IIT Bombay

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# Learning Objectives



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**We will learn about**



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**We will learn about**

- **NAND Gate**



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- **NAND Gate**
- **Verify its truth table**



# Pre-requisites



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To follow this tutorial, you should have basic knowledge of

- **Electrical Circuits**



# System Requirement



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- **Ubuntu Linux 20.04 OS**



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- **Ubuntu Linux 20.04 OS**
- **CircuitJS Application**



# NAND Gate



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- **NAND is an abbreviation for NOT AND**



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- **NAND is an abbreviation for NOT AND**
- **Its truth table is exactly opposite of the AND gate**



# NAND Gate

- **NAND is an abbreviation for NOT AND**
- **Its truth table is exactly opposite of the AND gate**
- **The output is LOW if both inputs are HIGH**



# NAND Gate Truth Table



# Assignment 1

- 1 **Connect the logic input and logic output to the NAND gate**
- 2 **Use Add Logic Input and Add Logic Output to connect input and output of the NAND gate**



# Assignment 1

- 1 Label the input pins as A and B and output pin as Y
- 2 Follow the truth table input values and verify the NAND Gate



# Assignment 2

- 1 Build a 3-input NAND gate as shown in the image
- 2 Label the input pins as A, B and C and the output pin as Y
- 3 Verify the truth table for the 3-input NAND gate



# Summary

**In this tutorial, we learnt about**

- **NAND Gate**
- **Verify its truth table**



# About the Spoken Tutorial Project

- Watch the video available at [https://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](https://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates to those who pass an online test
- For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



# Answers for THIS Spoken Tutorial

- Questions in THIS Spoken Tutorial?
- Visit <https://forums.spoken-tutorial.org>
- Choose the minute and second where you have the question
- Explain your question briefly
- The Spoken Tutorial project will ensure an answer



# Acknowledgements

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# Thank You

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