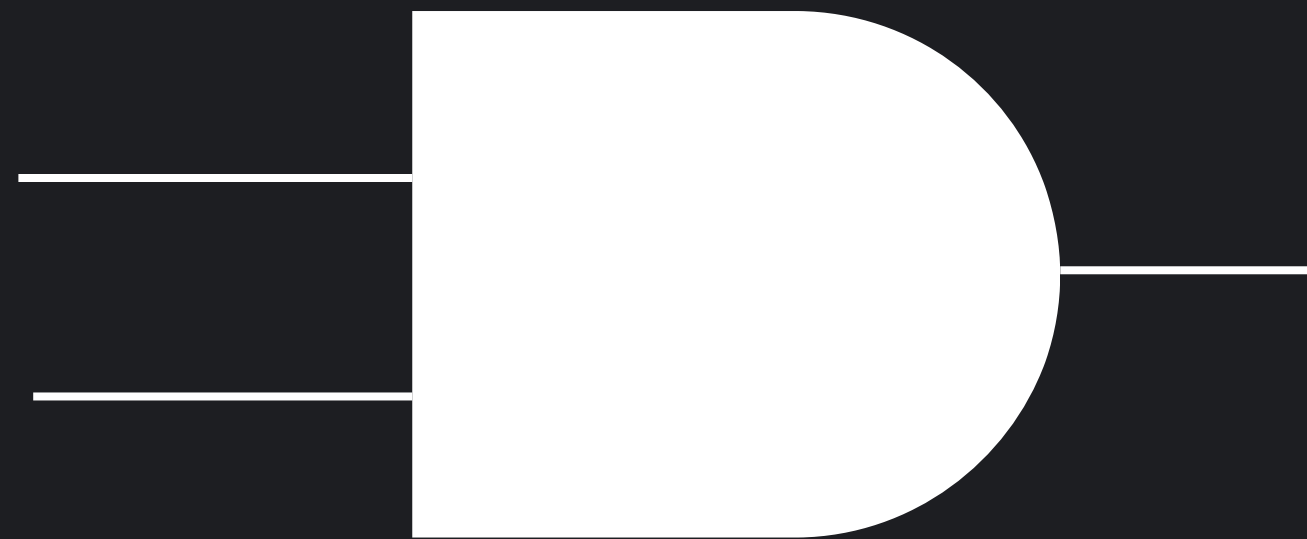


# AND GATE



## What is an AND Gate?

An AND gate is a basic digital logic gate used in electronic circuits

It performs the operation of logical conjunction

It outputs a high value (1) only if all inputs are high (1)

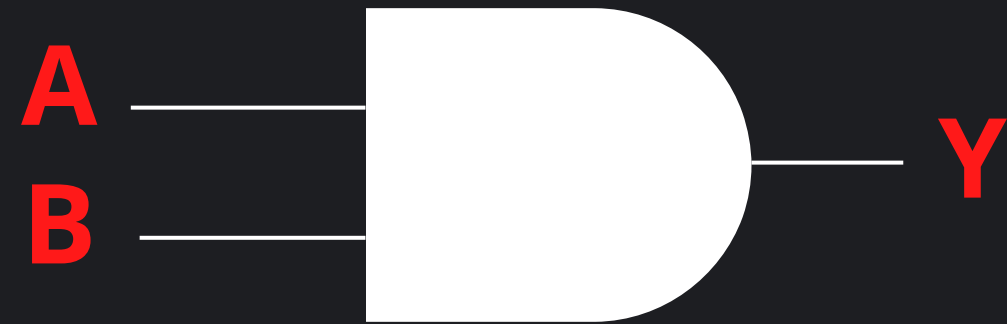


# Function of the AND Gate

The main function of an AND gate is to combine two or more input signals and produce an output signal according to this rule

- Output = 1 only when all inputs = 1
- If any input = 0  $\rightarrow$  Output = 0

# Truth Table



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

# Summary

- **The AND gate is a fundamental digital logic gate.**
- **It performs logical AND, producing a 1 only when all inputs are 1.**
- **It is used in decision-making circuits, processors, controllers, and larger digital system.**
- **It forms the foundation for building more complex digital logic circuit.**