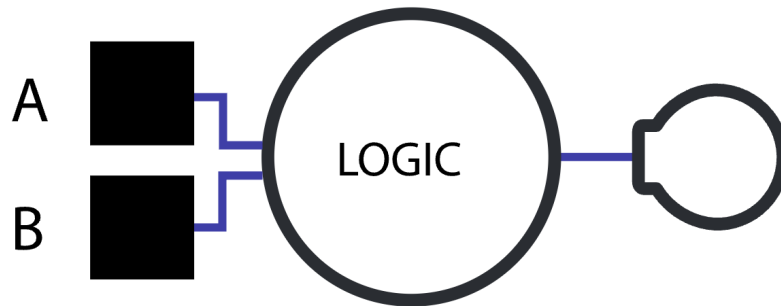


Go to the unit page.

Scenario A



A lamp is controlled by two switches, Switch A and Switch B.

When Switch A is ON **and** Switch B is ON, the lamp turns on.

Flick the switches and see if the circuit works as intended.

Does Scenario A work as intended? Circle your answer.

YES
NO

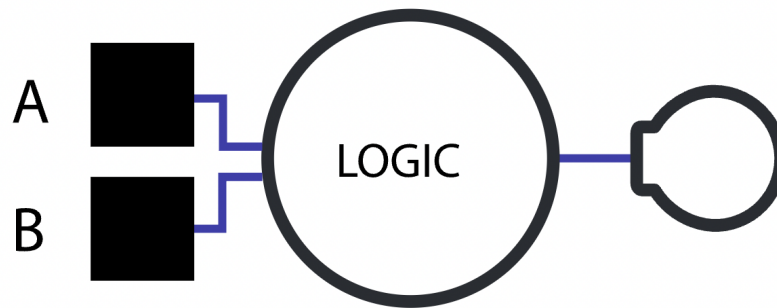
Complete the Truth Table for **AND** Logic.

A	B	Output
0	0	
0	1	
1	0	
1	1	

Complete the Logical Expression for **AND** Logic:

OUTPUT is 1 IF

Scenario B



A different logic gate has been chosen to control the lamp.

Click the switches and see if you can complete the following **truth table**.

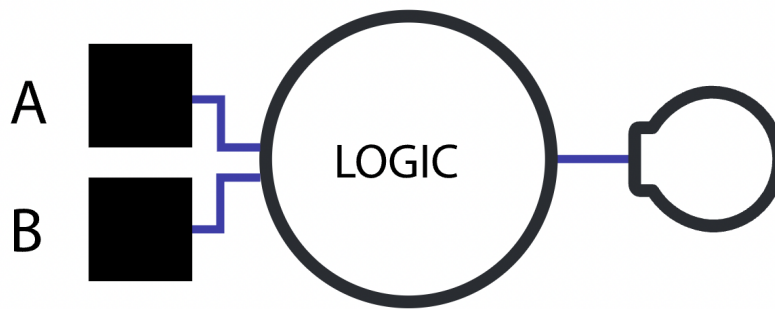
A	B	Output
0	0	
0	1	
1	0	
1	1	

Complete the Truth Table for **OR** logic.

Complete the Logical Expression for **OR** Logic:

OUTPUT is 1 IF

Scenario C



A different logic gate has been chosen to control the lamp.

Click the switches and see if you can complete the following **truth table**.

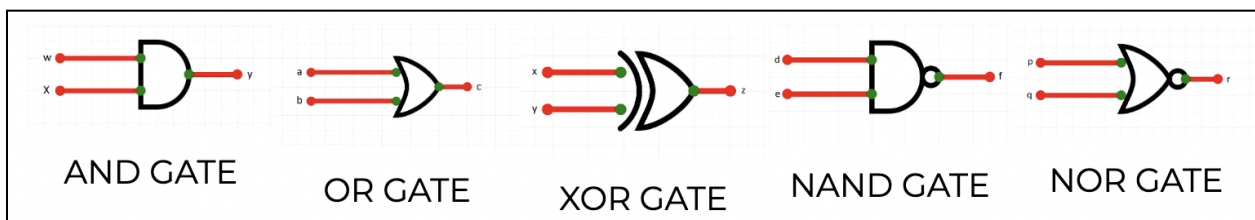
A	B	Output
0	0	
0	1	
1	0	
1	1	

Complete the Truth Table for **XOR** logic.

Complete the Logical Expression for **XOR** Logic:

OUTPUT is 1 IF

In this course you do not need to remember the shape of each logic gate which is commonly used by computer scientists. However, for your reference, here they are:



Complete the Truth Table for a NAND Gate:

A	B	Output
0	0	
0	1	
1	0	
1	1	

If you are familiar with AND logic, then you can work out NAND logic!

The same can be said for NOR logic. Complete the Truth Table¹ for NOR logic:

A	B	Output

All of the logic gates above have 2 inputs and one out output.

There is one logic gate that only has one input - what is the name of this logic gate?

Complete the truth table for this useful logic gate:

Input	Output

¹ There are 4 possible combinations of input. Make sure you get the sequence right!