# Physical Computing

## Basic logic gates

- AND
- OR
- NOT

### AND Gate



The following table shows whether the tank receives water or not from the main supply based on whether the A and B valves are closed or open.

| A valve | B valve | Water supply to tank |
|---------|---------|----------------------|
| Closed  | Closed  | does not receive water |
| Closed  | Open    | does not receive water |
| Open    | Closed  | does not receive water |
| Open    | Open    | receives water |

| A valve | B valve | Water supply to tank |
|---------|---------|----------------------|
| 0 | 0 | |
| 0 | 1 | |
| 1 | 0 | |
| 1 | 1 | |

A

B

A.B

The standard symbol for AND Gate
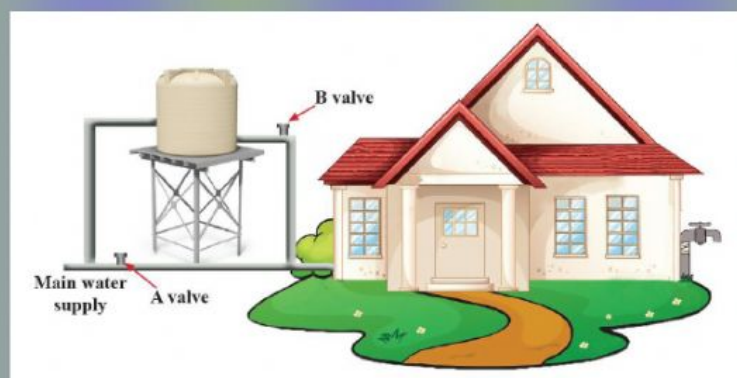
OR Gate



| A valve | B valve | Water supply to tank |
|---------|---------|----------------------|
| Closed | Closed | does not receive water |
| Closed | Open | receives water |
| Open | Closed | receives water |
| Open | Open | receives water |

| A valve | B valve | Water supply to tank |
|---------|---------|----------------------|
| 0 | 0 | |
| 0 | 1 | |
| 1 | 0 | |
| 1 | 1 | |



The standard symbol of the OR Gate

**NOT Gate**



| Sun light | Electric lamp |
|-----------|---------------|
| available | OFF |
| unavailable | ON |

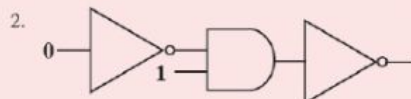| Sun light | Electric lamp |
|-----------|---------------|
| 1 | |
| 0 | |
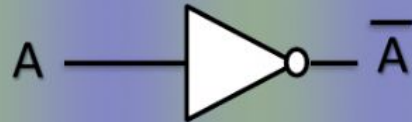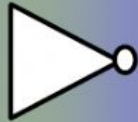
Standard Symbol of NOT gate
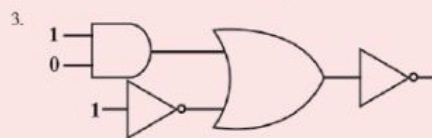
## Connecting logic gates in circuits
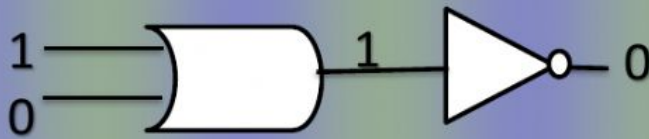


Obtaining the relevant output according to the input given In OR gate, the inputs are added to give the output (1 + 0 = 1)

**Write down the output corresponding to the inputs given in the following circuits**

1.


_____

2.


_____

3.


_____

please watch this video