

Computing

# Lesson 10: Logic Problems

**Computer Systems**

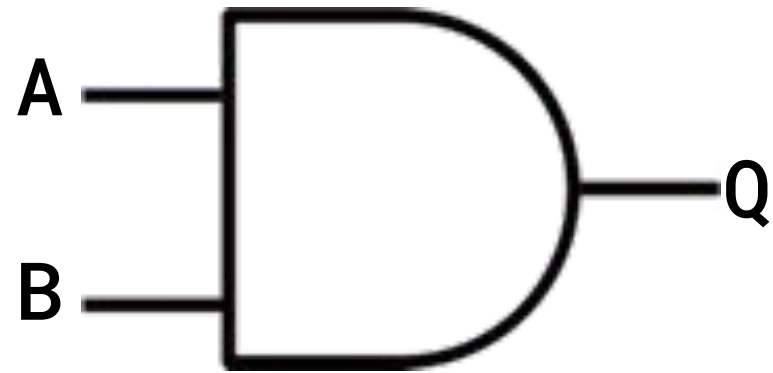
Mac Bowley

<sup>1</sup> Materials from the Teach Computing Curriculum created by the National Centre for Computing Education



# Recalling Logic Gates

Name these gates:



Answer:



Answer:



# Recalling Logic Gates

Complete the truth table for the **OR** gate.

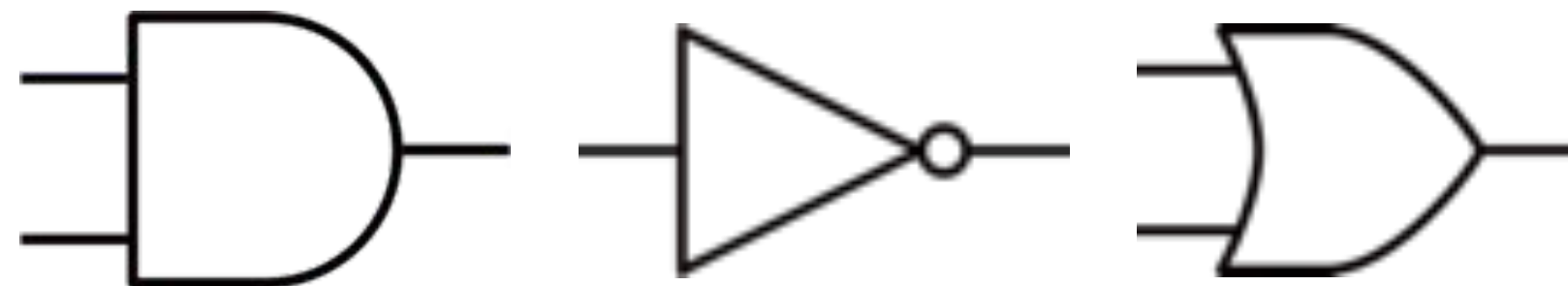
Inputs		Output
A	B	Q



## Putting it all together

**“A picture will be taken if the motion sensor activates and the light is on or the proximity sensor activates.”**

1. Identify the **inputs** in the expression
2. Identify the **output**
3. Identify the **logical operator**
4. Draw the **logic diagram**



# Three input truth tables


**“A picture will be taken if the motion sensor activates and the light is on or the proximity sensor activates.”**

Complete the truth table for this expression.



# Boolean expressions

**“The warning siren will sound on if the pressure is too high and the valve is not open, or the temperature is too high.”**

1. Identify the **inputs** in the expression
2. Identify the **output**
3. Identify the **logical operator**
4. Draw the **logic diagram**
5. Create a **truth table**
6. Write a **boolean expression**

