

Example Logic Gates

The outside door to my classroom is locked. It can be opened if either the green button on the inside is pressed or if a valid passcard is touched on the pad on the outside.

How many inputs?

How many gates?





A: green button
B: touchpad
Q: output

Example Logic Gates

The door is also opened if the timer is activated. This lets children through it even without a card at the right times of day. In theory...

How many inputs?

How many gates?

A



B



C



Q



A: green button

B: touchpad

C: timer

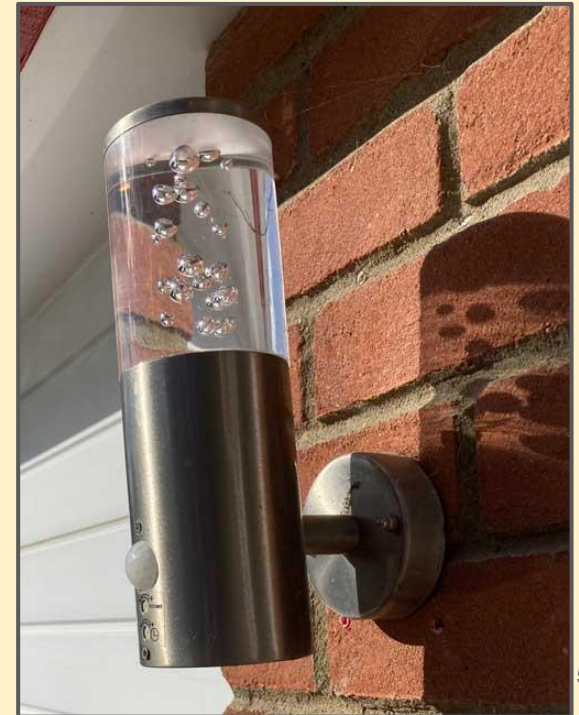
Q: output

Example Logic Gates

My neighbour Steve has this light outside his house. It has a light sensor and a movement sensor. The light turns on if it is dark and something moves.

How many inputs?

How many gates?





A: light sensor
B: movement sensor
Q: output

Example Logic Gates

There's also a light switch inside Steve's house.
This has to be turned on for the light to activate.

How many inputs?

How many gates?

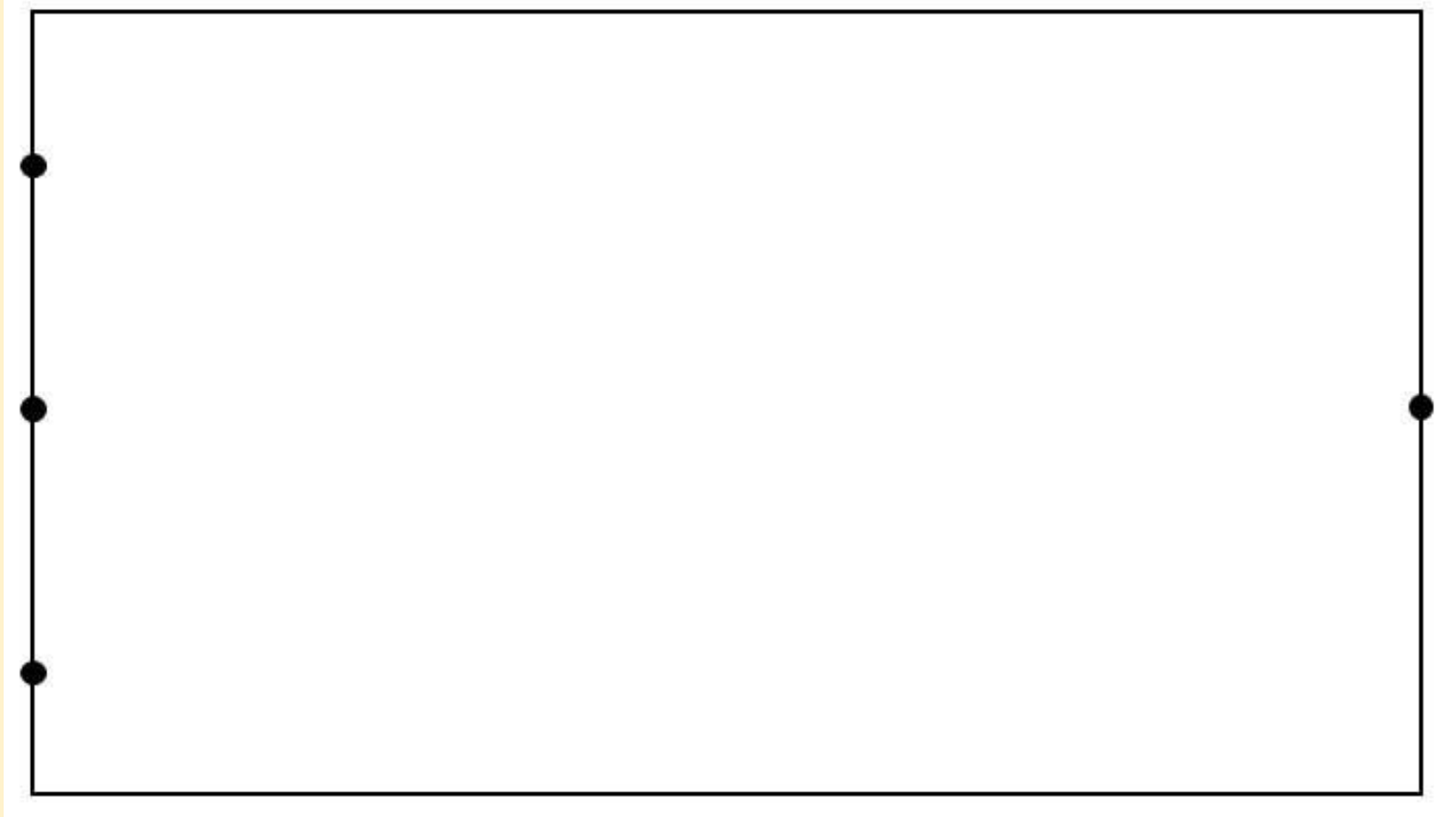
A



B



C



Q

A: light sensor
B: movement sensor
C: switch
Q: output

Logic Gate Question

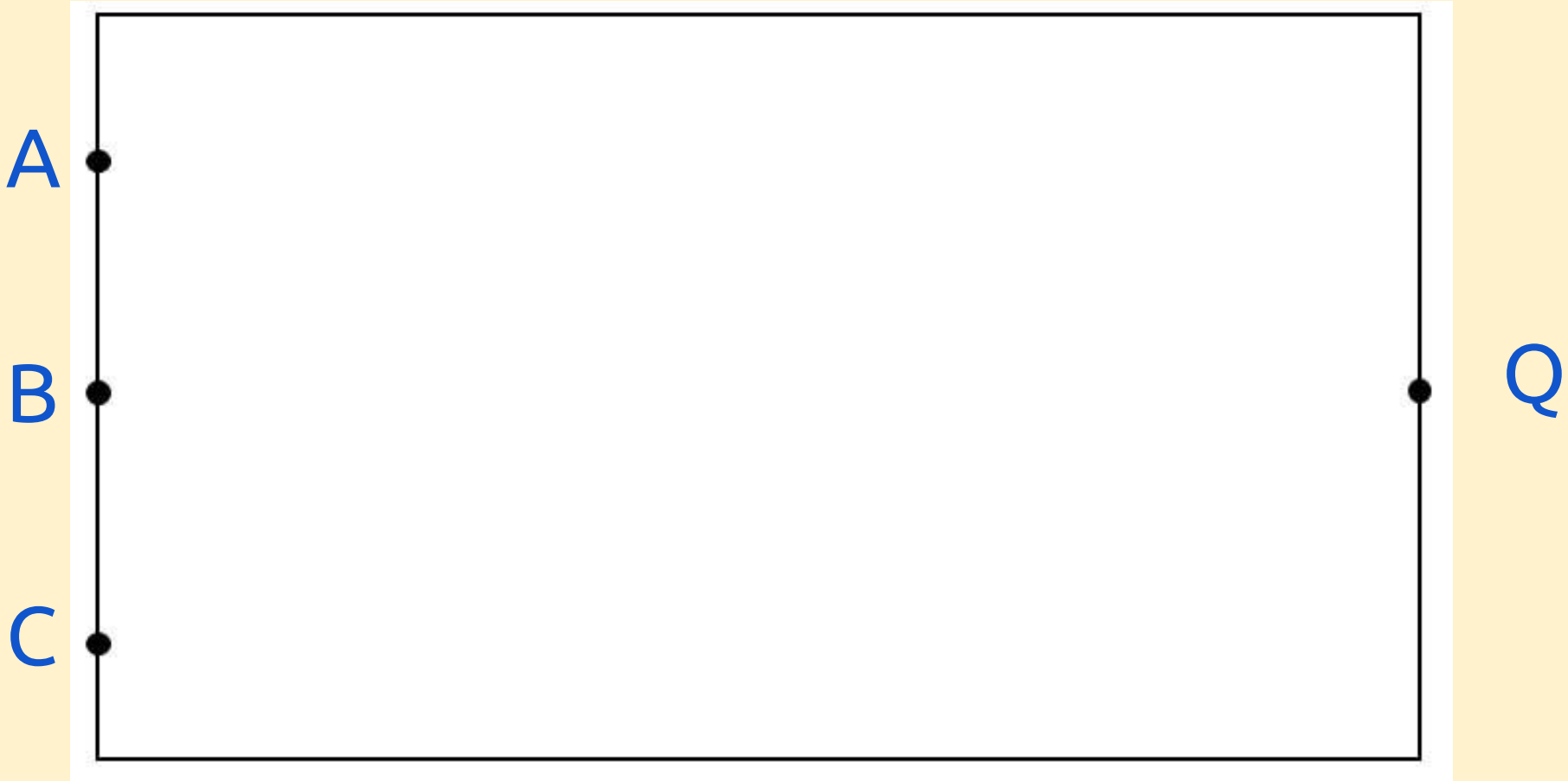
A logic circuit is being developed for a bird scaring device in a garden.

The system has two sensors, **A** and **B**, that detect movement. The bird scarer should operate if either of these sensors is activated

The system has a switch, **C**, which can be turned on or off when required. The bird scarer should only operate if this switch is turned on

The output from the circuit is **Q**

Complete the logic circuit for this system.



A: movement sensor
B: movement sensor
C: switch
Q: output