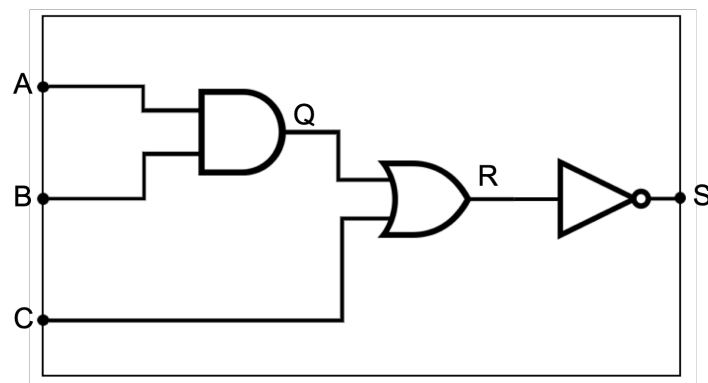**01** A series of logic gates is shown in **Figure 1**. These show a logic system for a house alarm.

Figure 1

01.1 How many inputs are there into the system shown in **Figure 1**?

[1 mark]

………..

01.2 Identify the three logic gates used in **Figure 1**.

[3 marks]

Gate Q: …………………………………………………………………………………………..

Gate R: …………………………………………………………………………………………..

Gate S: …………………………………………………………………………………………..

02 A logic system to control the lights in a classroom is needed.
The system has three inputs:

      A: a manual switch

      B: a second manual switch

      C: a movement sensor which is checked every 10 minutes. If there is no movement in the room the lights should switch off.

The lights should be on if either switch A or switch B is pressed and if the movement sensor is triggered. Draw a logic diagram for the system described.

[2 marks]