






1 Link the **start**, **middle** and **end** of these sentences.

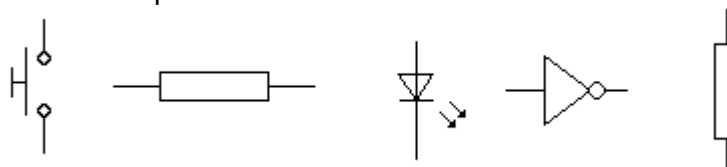
start	middle	end
A high signal is known as 0 and is above +3 V.
An uncertain signal is known as 1 and is below +2 V.
A signal which is low...	... is neither 1 or 0 and is between +2 V and +3 V

2 Link the gate symbols to their names and truth tables.

AND	EOR	NAND	NOR	OR
				

B	A	Q	B	A	Q	B	A	Q	B	A	Q	B	A	Q
0	0	0	1	1	1	1	1	0	1	1	0	0	0	0
1	1	1	0	1	1	0	1	0	0	1	1	1	1	0
1	0	0	1	0	1	1	0	0	1	0	1	1	0	1
0	1	0	0	0	0	0	0	1	0	0	1	0	1	1

3 There are two ways in which these components can be connected such that the LED only glows when the switch is pressed. Draw the circuits.



4 Do calculations to complete the table.

LED colour	operating values	supply voltage	series resistor	LED power
red	20 mA at 2.3 V	5 V		
yellow	10 mA at 2.0V	12 V		
green	3 mA at 1.9 V	3 V		

5 Complete the sentences. Choose words from this list.

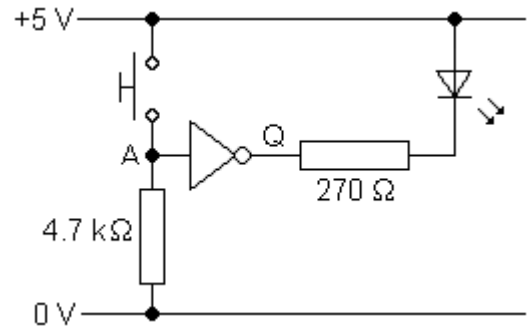
charge current forward gate LED resistor reverse voltage

The _____ in series with an LED limits the _____ in it.

The _____ across the _____ doesn't vary with current when it is in _____ bias.

6 Complete the sentences for the circuit.

Closing the _____ allows _____ to flow in the _____, giving a current of _____ mA. The output of the _____ gate goes _____. The current in the LED is _____ mA, so it _____.



7 Link each **circuit** to the **bias** of its LED

circuit	bias
	reverse bias
	forward bias
	no bias at all

8 Link the **name** of each logic gate with its **behaviour**.

name	behaviour
OR	low output only when both inputs are low
AND	low output only when both inputs are high
EOR	high output only when both inputs are low
NOR	high output only when both inputs are high
NAND	low output only when both inputs are the same