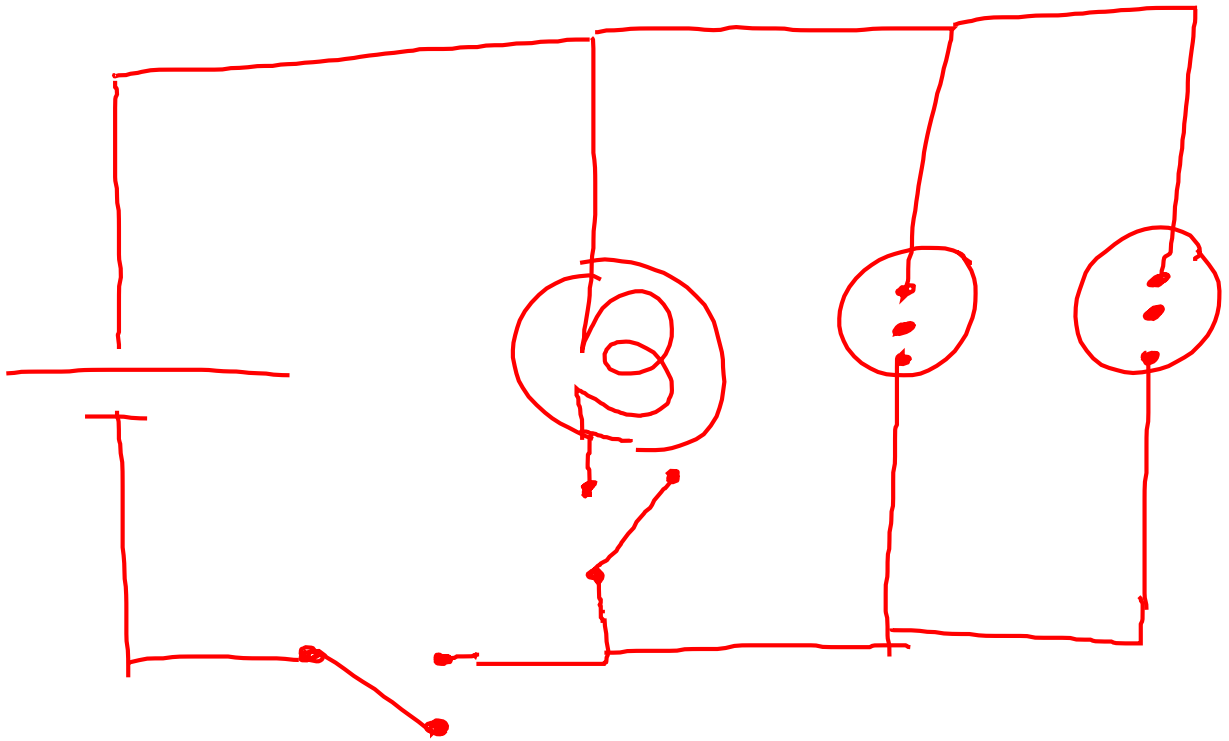
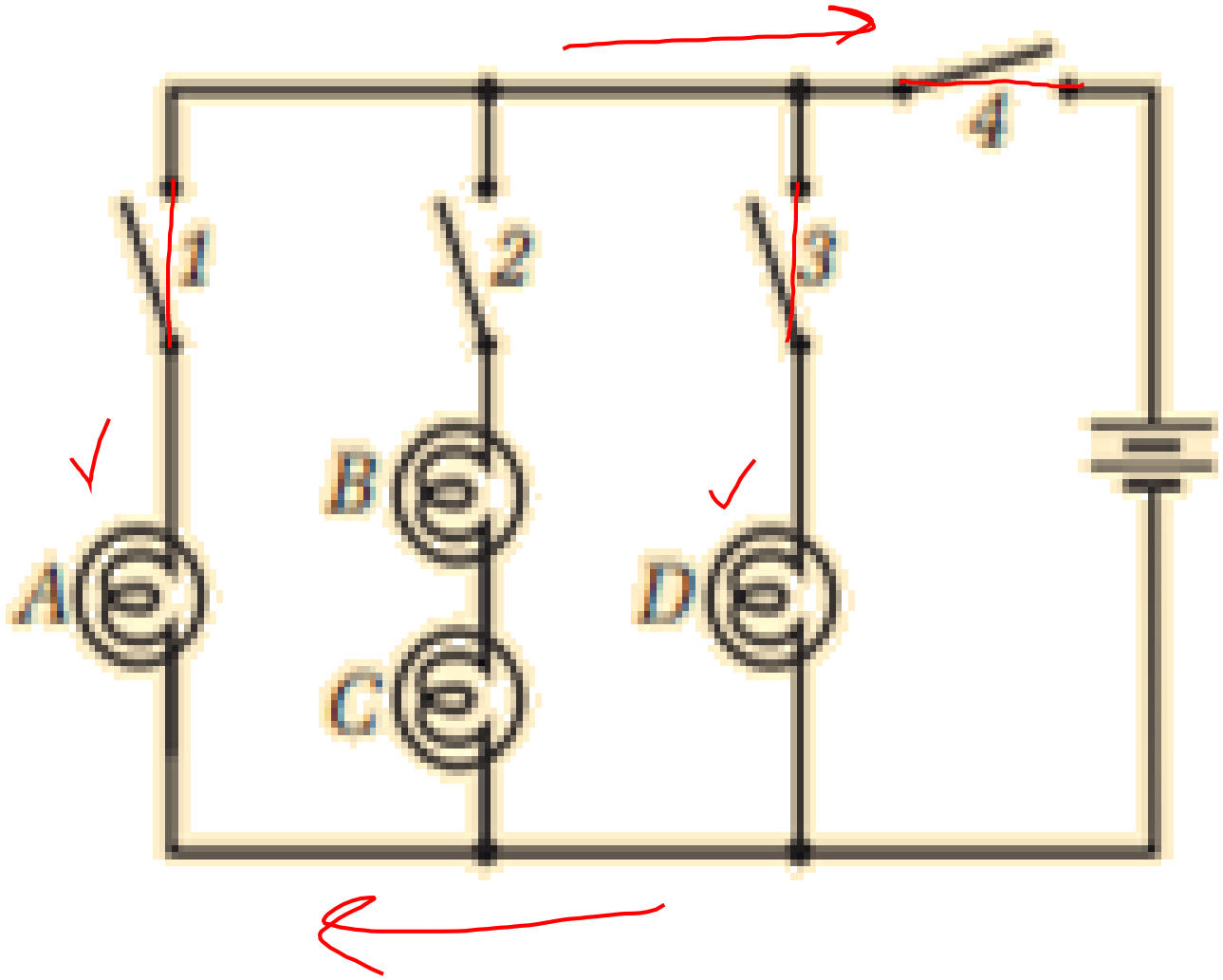
✓ Check Your Understanding

- Draw a circuit that contains two motors and a lamp, connected in parallel. Include two switches: one to operate the lamp and one to control the whole circuit.



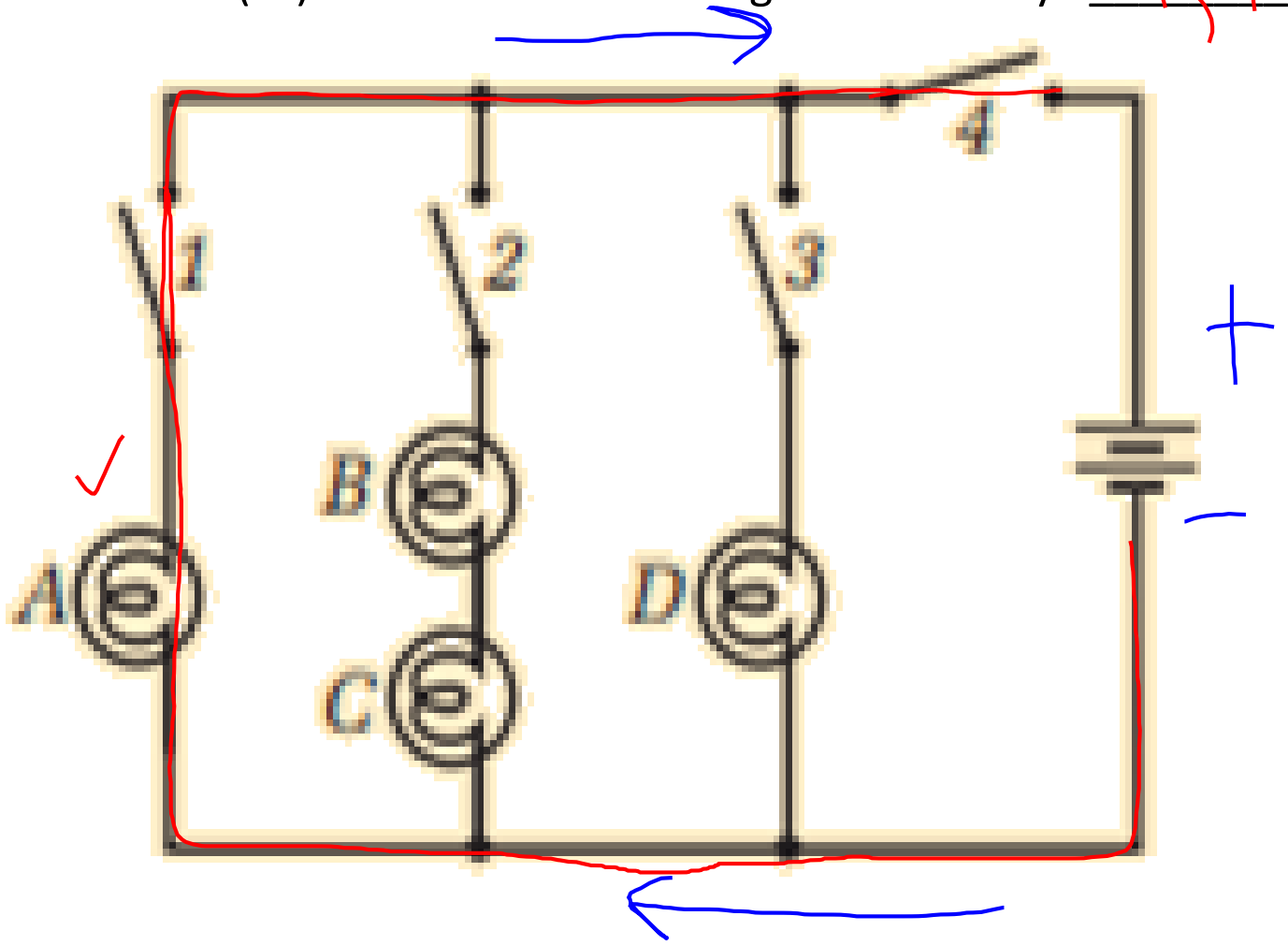
The circuit below has four bulbs (A-D) and four switches (1-4).

a.) Which switch(es) should be closed to light bulbs A and D only? 1, 3, 4



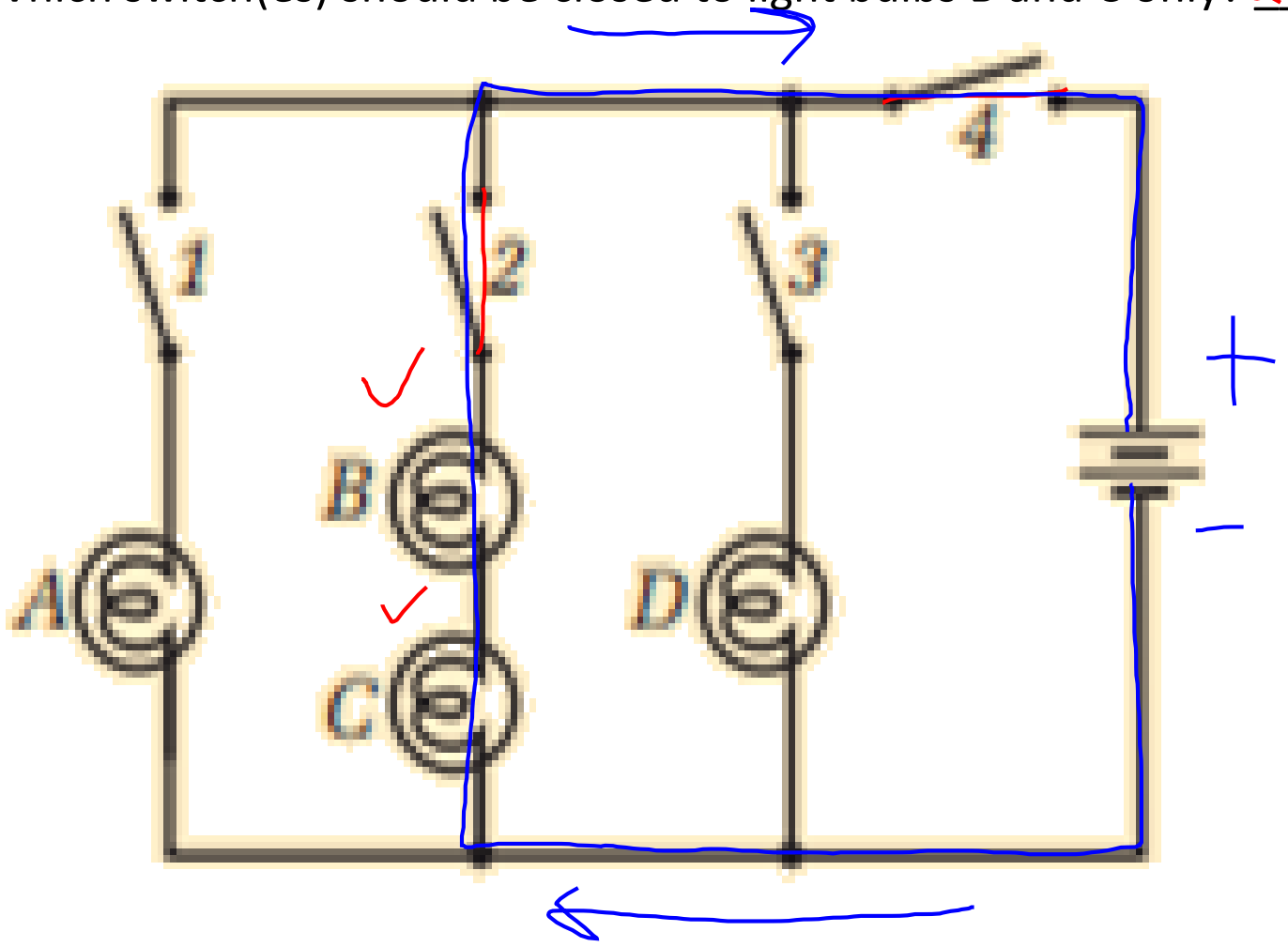
The circuit below has four bulbs (A-D) and four switches (1-4).

b.) Which switch(es) should be closed to light bulb A only? 1, 4



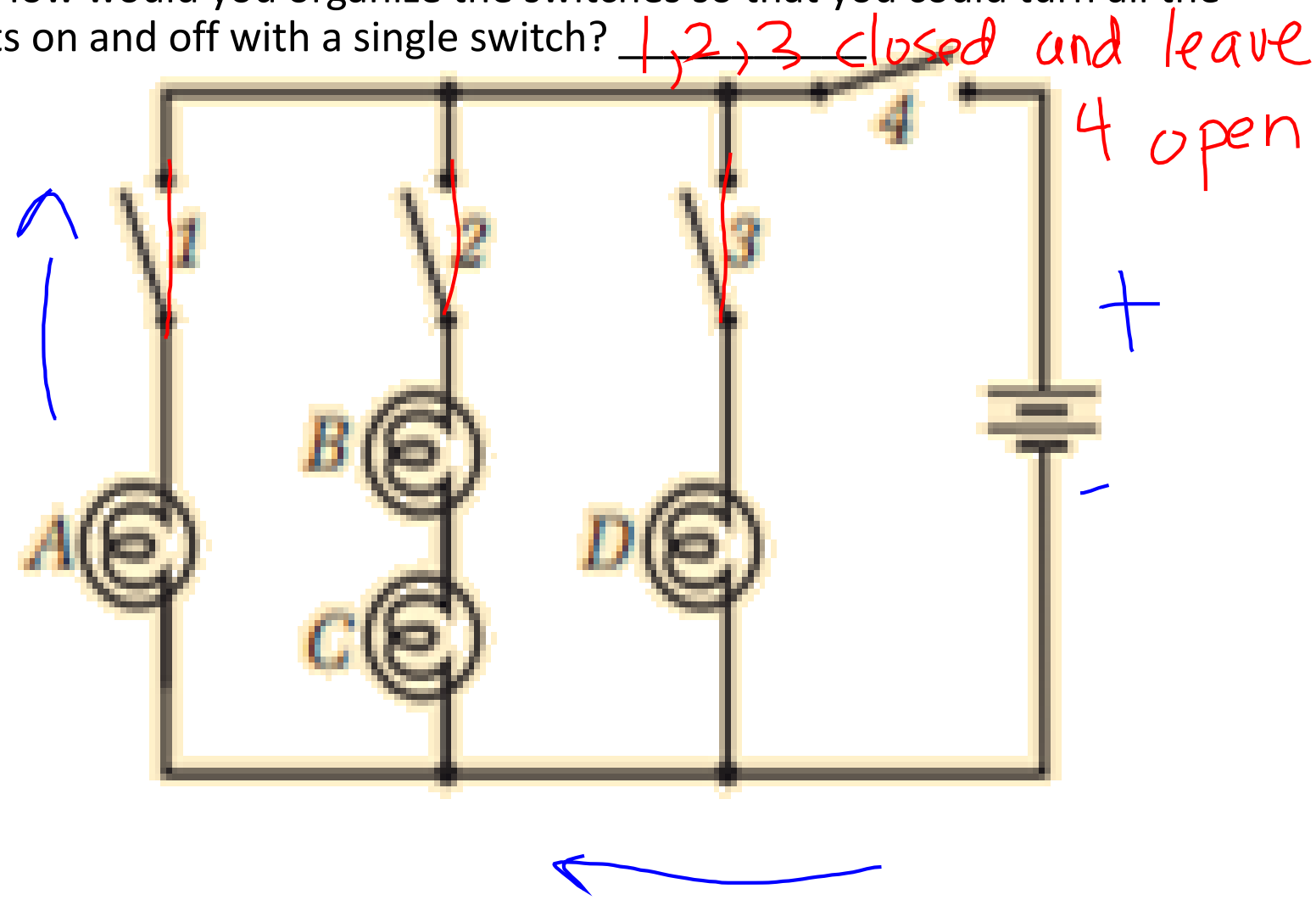
The circuit below has four bulbs (A-D) and four switches (1-4).

c.) Which switch(es) should be closed to light bulbs B and C only? 2, 4



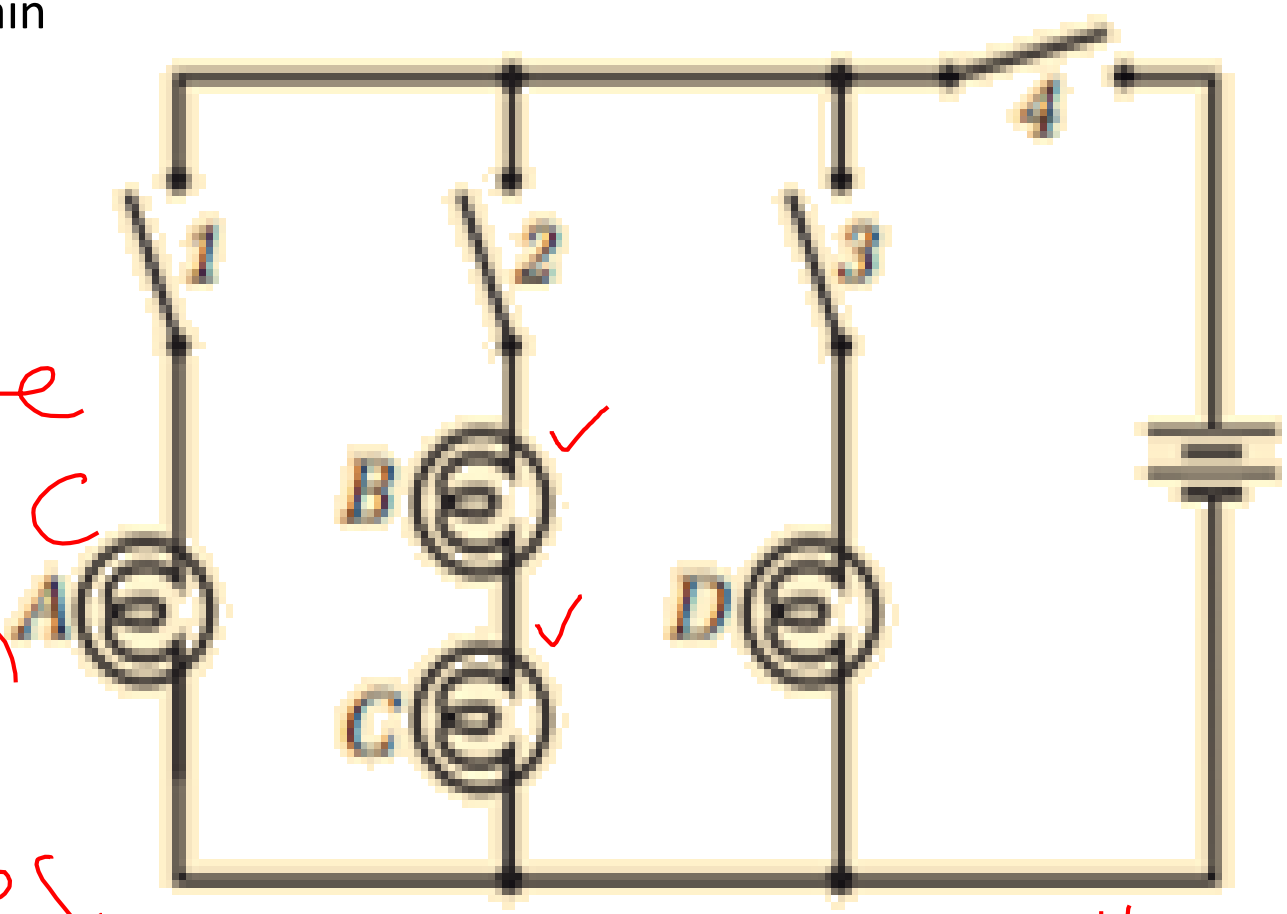
The circuit below has four bulbs (A-D) and four switches (1-4).

d.) How would you organize the switches so that you could turn all the lights on and off with a single switch? ~~1, 2, 3 closed~~ and leave 4 open



The circuit below has four bulbs (A-D) and four switches (1-4).

e.) Is it possible to operate bulbs B and C independently of each other? Explain



No, because B and C are in series. What happens to one also happens to the other.

4. A circuit was made with 3 cells, each with a voltage of 2.0 V. There were 2 lamps connected in parallel. An ammeter was connected right after the battery and read 5.8 A. There was also a resistor connected in series with both lamps.

- Draw the circuit and indicate the direction of electron flow
- Calculate the resistance of the circuit at the point of the ammeter