



专题五 串、并联电路的识别与设计

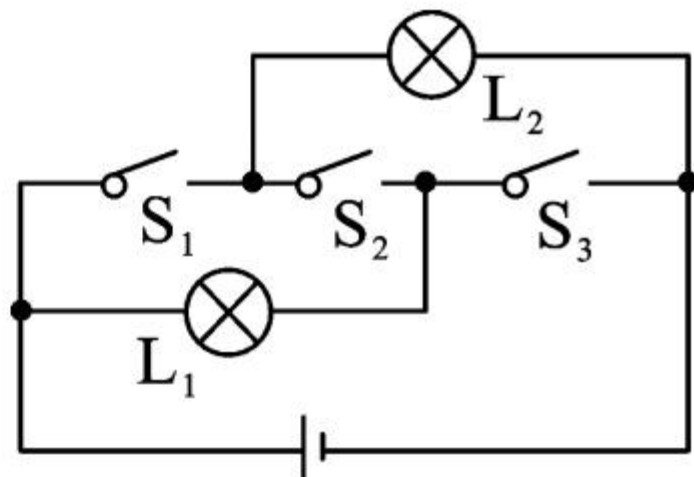


类型 1 识别串、并联电路

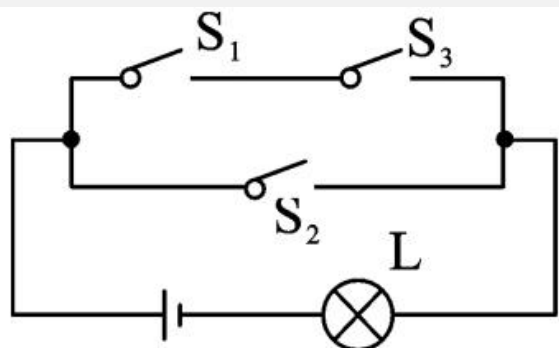
1. 如图所示的电路,要使两个小灯泡 L_1 、 L_2 并联,应

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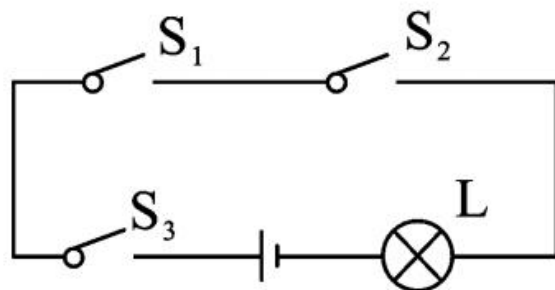
- A. 断开开关 S_1 、 S_2 , 闭合开关 S_3
- B. 断开开关 S_1 、 S_3 , 闭合开关 S_2
- C. 断开开关 S_1 , 闭合开关 S_2 、 S_3
- D. 断开开关 S_2 , 闭合开关 S_1 、 S_3



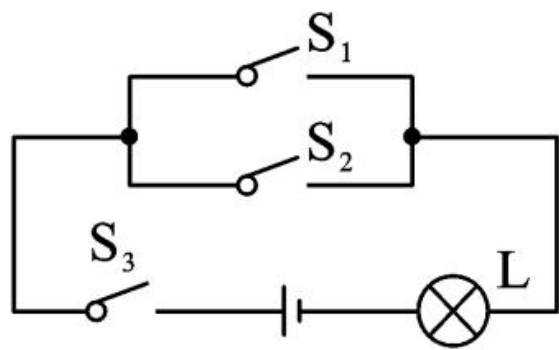
2. 常用智能手机是通过指纹开关 S_1 或密码开关 S_2 来解锁的,若其中任一方式解锁失败后,锁定开关 S_3 均会断开而暂停手机解锁功能, S_3 将在一段时间后自动闭合而恢复解锁功能。若用灯泡 L 发光模拟手机解锁成功,则符合要求的模拟电路是 ()



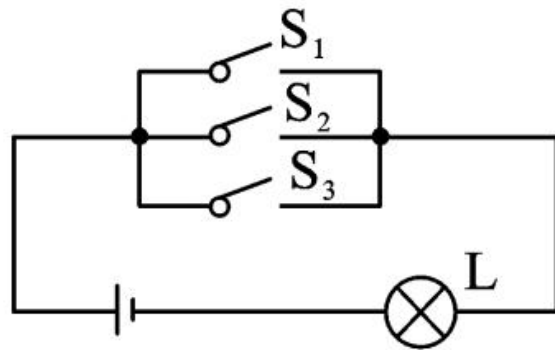
A



B



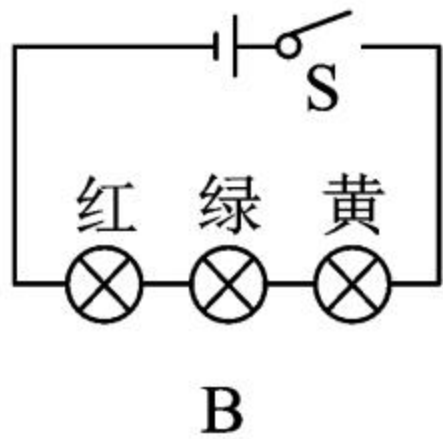
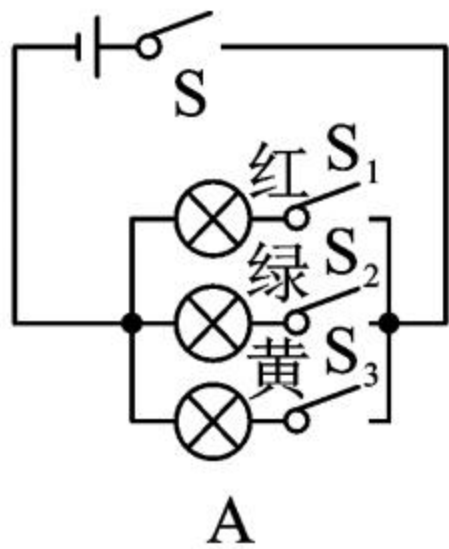
C

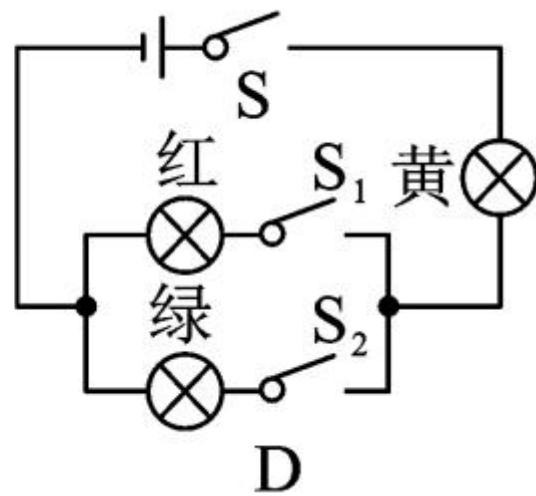
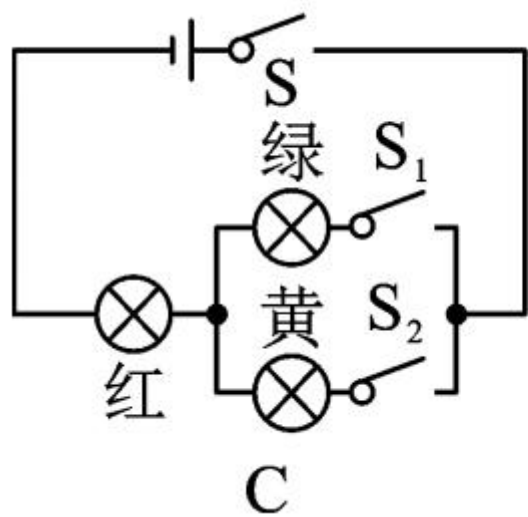


D

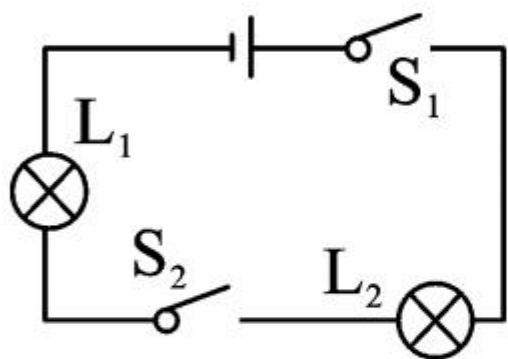
② 并联类

3. 过交通路口时要遵守红灯停、绿灯行、黄灯等的规则，小明同学用小灯泡、电池、开关和导线来模拟路口的交通信号灯，要求红、绿、黄灯可独立发光。他设计了如图所示的电路图，其中正确的是 ()

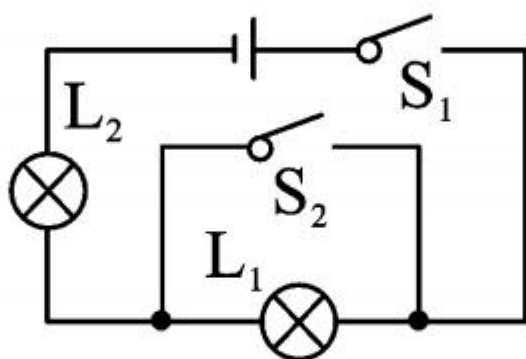




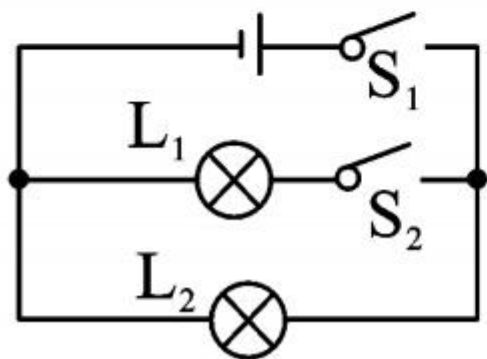
4. 如图所示,汽车装有日间行车灯可以提高行车安全。当汽车启动时, S_1 闭合,日间行车灯 L_1 立即亮起;再闭合 S_2 ,车前大灯 L_2 也亮起。符合这一情况的电路图是 ()



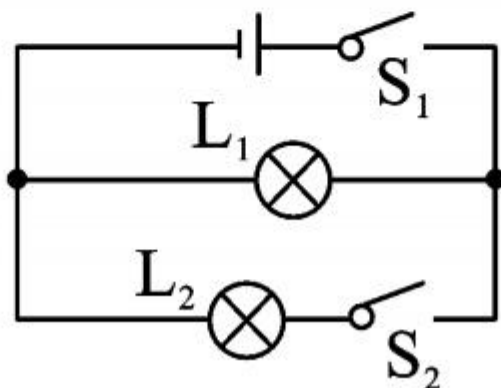
A



B



C



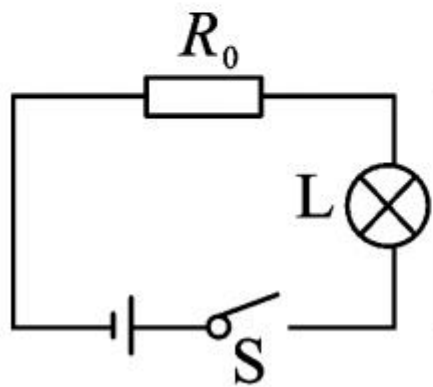
D



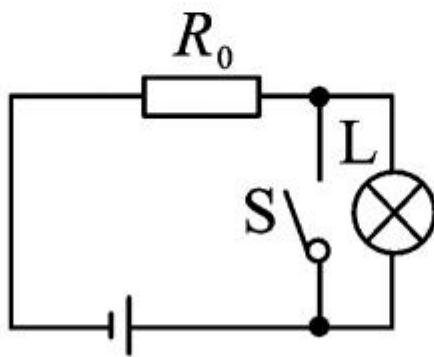
大灯 日间行车灯

③“短路”类

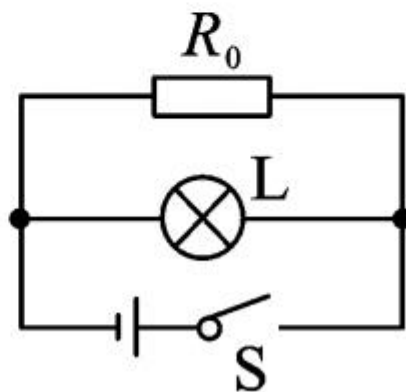
5. 某同学设计了道路井盖移动报警电路。当井盖没有被移动, 井盖开关 S 闭合, 警示灯 L 不亮; 当井盖被移动, 井盖开关 S 断开, 警示灯 L 发光, R_0 为保护电阻。下图中符合设计要求的电路图是 ()



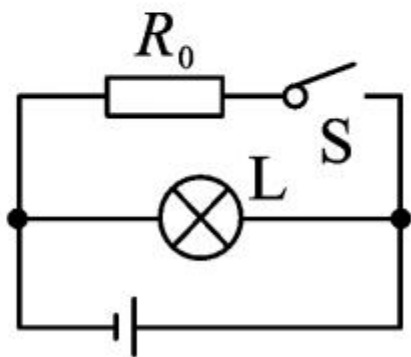
A



B



C



D

6. 设计一个自动防盗报警电路。要求：如图所示，晚间房门被打开，细导线 AB 被扯断，灯亮且电铃响自动报警；晚间房门未被打开，细导线 AB 完好，灯亮但电铃不响不报警。

