Exercises :

#1) LED + Resistor + Battery

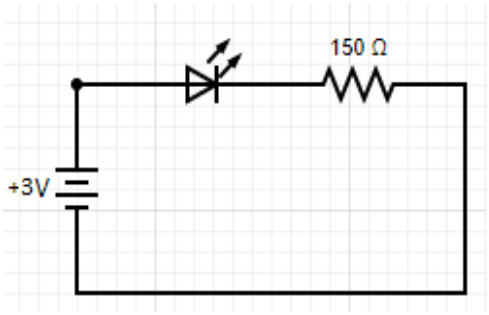

Fig. 1. LED ckt.

#2.1) LED + Push Button + Battery. (Application?)

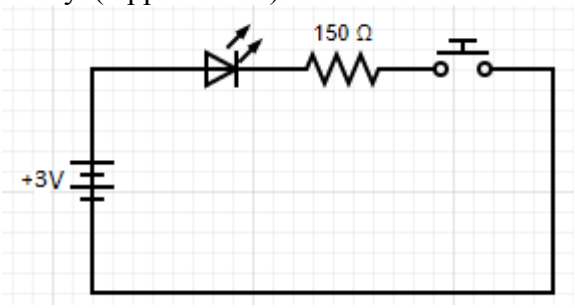

Fig. 2. LED + Push Button ckt.

#2.2) LED + Slide switch + Battery.

#3) 2 LEDs in series v/s 2 LEDs in parallel.

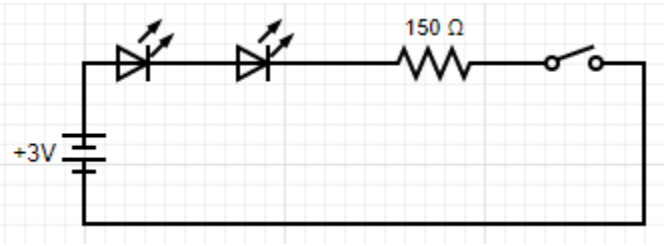

Fig. 3. Series Connection

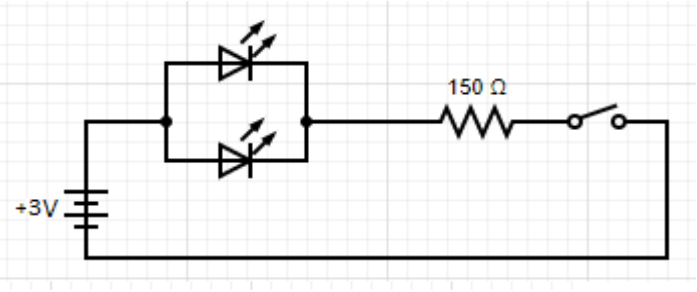

Fig.4. Parallel Connection

#4) LED + Potentiometer + resistor + Battery.

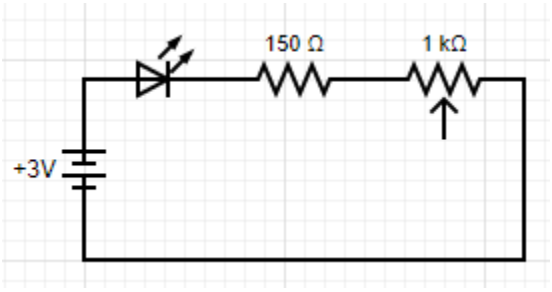

Fig. 5. LED + Potentiometer ckt.

5) Bread board and Multimeter.

6) Design a circuit diagram and simulate the circuit. The circuit should consist an LED-switch circuit and an LDR connected with a digital multimeter. The connections should be made on a breadboard.

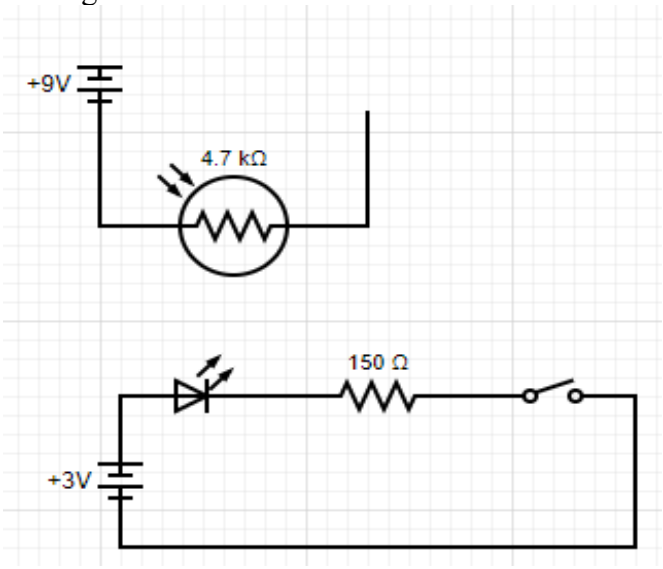

Fig. 6.

7) DC motor + Battery

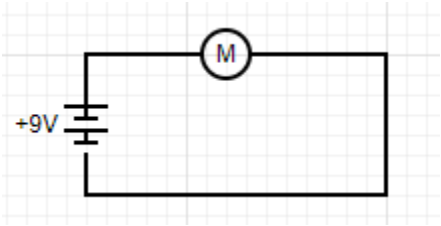

Fig. 7.

8.1) Two Push Buttons and two motors connected to a single battery. (Application?)

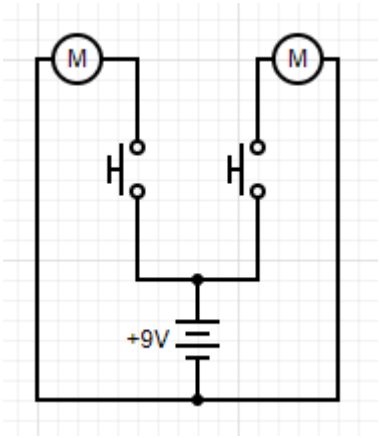

Fig. 8. Two motors with two switches.

8.2) One Slide switch and two motors such that at a time only one motor runs.

9) Potentiometer and a motor where the pot is used to control the speed of the motor.
Input voltage α Speed of the motor.(Application?)

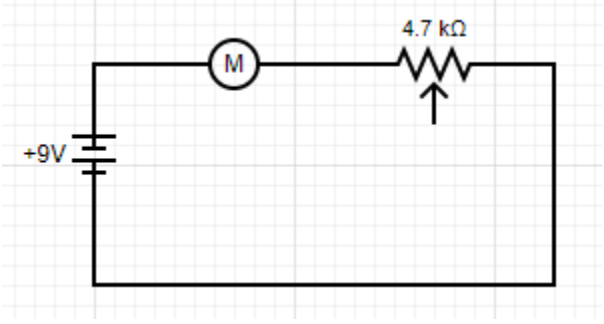

Fig. 8. Controlling speed of a motor.

10) Design a circuit such that the brightness of an LED controls the speed of a motor.

Circuit Diagram

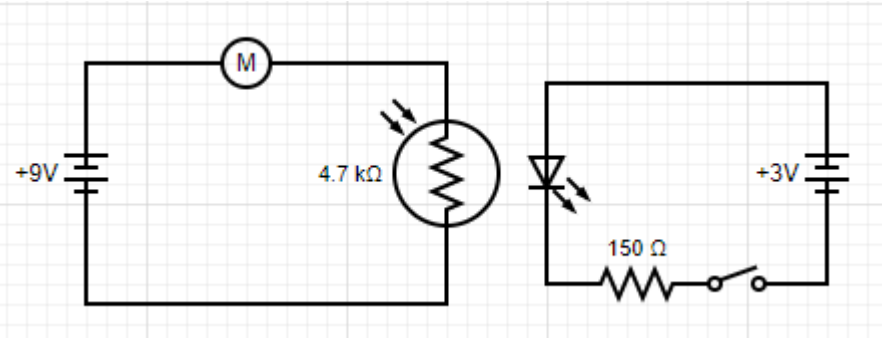

Fig. 9. Controlling a motor through brightness of an LED.