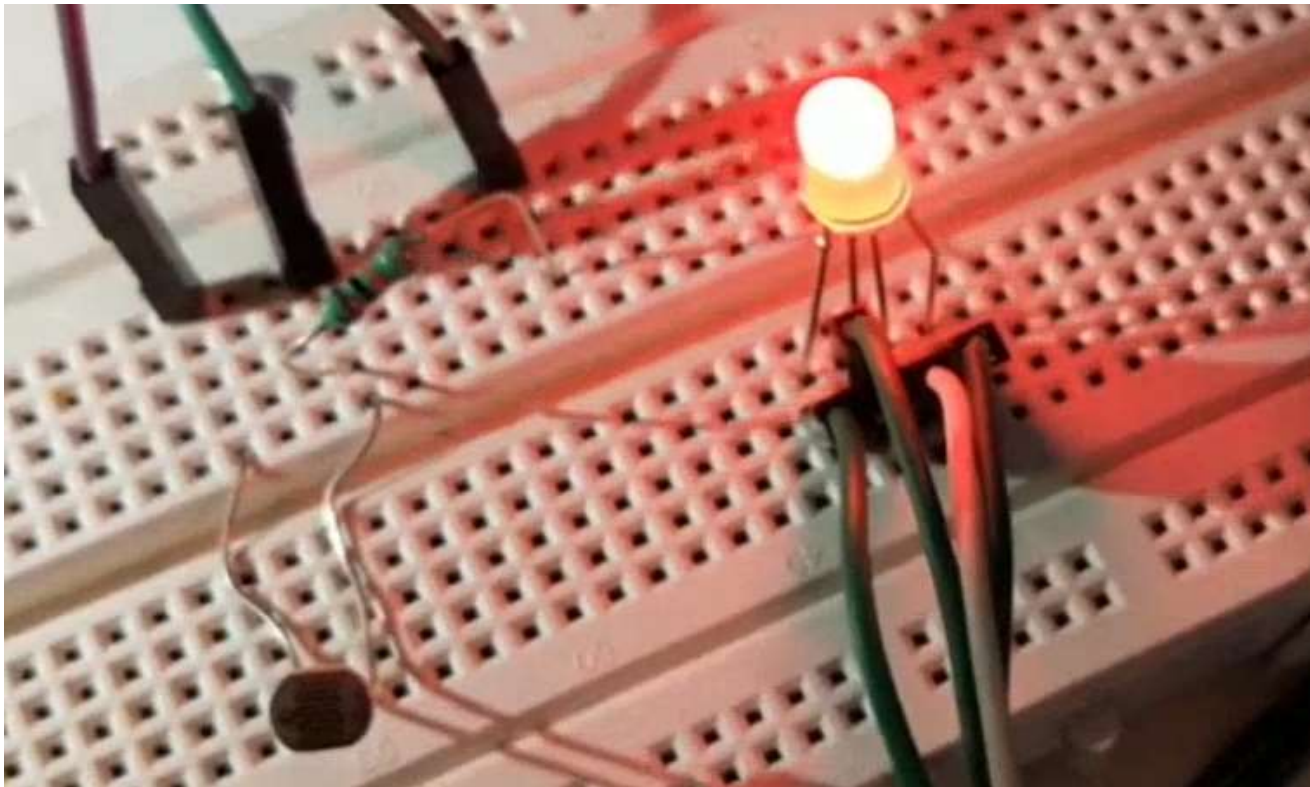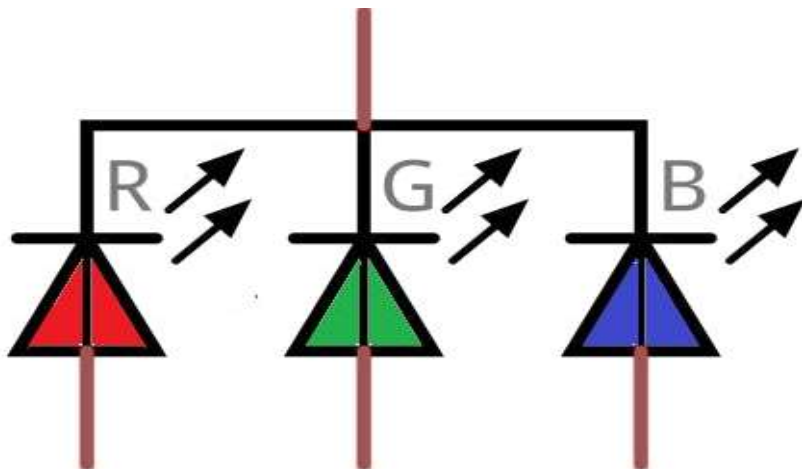# Colour Mixing Lamp

RGB LED

The RGB led consists of three different led's, from the name you can guess that these led's are red, green and blue. We can obtain many other colors by mixing up these colors. The Arduino has a analog write function which will help us in obtaining different colors for Arduino RGB led.

Light Dependent Resistor(LDR)

An **LDR** is a component that has a (variable) resistance that changes with the light intensity that falls upon it. This allows them to be used in light **sensing** circuits. A Light Dependent **Resistor** (**LDR**) or a photo **resistor** is a device whose resistivity is a **function** of the incident electromagnetic radiation. Hence, they are light sensitive devices. They are also called as photo conductors, photo conductive cells or simply photocells.
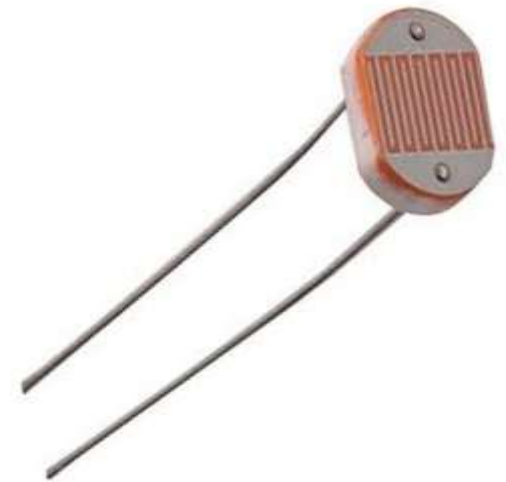
Working of project

• Every color is the combination of Red, Green and Blue color. So we can generate any color by using red, green and blue colors .

• So, we will vary PWM i.e. intensity of light on **LDRs**.

• That will further changes the intensity of red, green and blue color in **RGB LED**, and different colors will be produced.

Components Required

- Arduino Nano
- RGB LED
- LDR Sensor
- Resistor (10k, 1k)
- Breadboard
- Jumper Wires

Connection Diagram
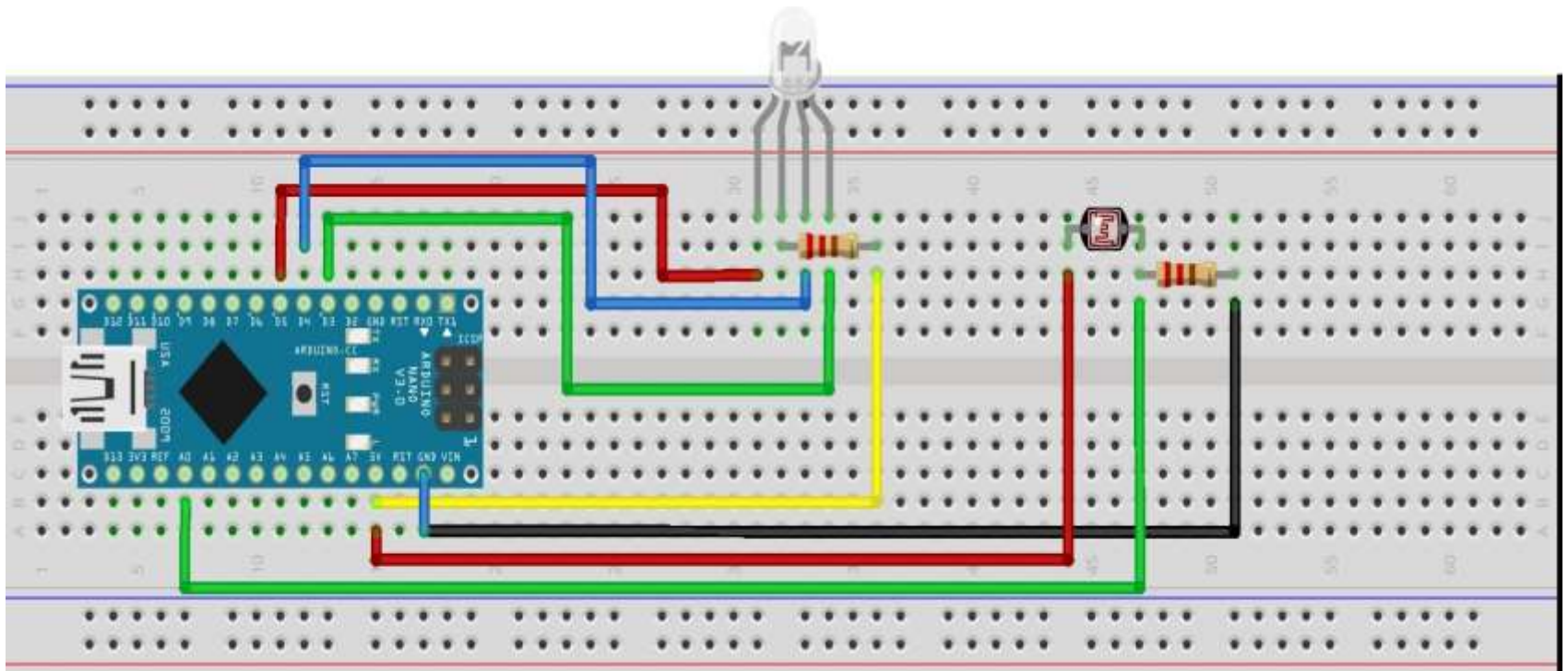
Connections

1. Connect the anode of the RGB led which is the longer pin of RGB led to the resistor (1kohms) then, connect this resistor to 5V of Arduino Nano.

2. The other three pins to the pin 5,4,3 of Arduino Nano.

3. Connect 1st pin of LDR sensor with A0 pin of Arduino Nano.

4. Connect resistor(10k) with 1st pin of LDR sensor.

5. Then connect resistor's another end with GND pin of Arduino Nano.

6. Connect 2nd pin of LDR sensor with (+5V) of Arduino Nano.

Project Link: **https://youtu.be/1gcKP7muf8A**