

## Photosensitive resistor experiment

### Introduction of photosensitive resistor

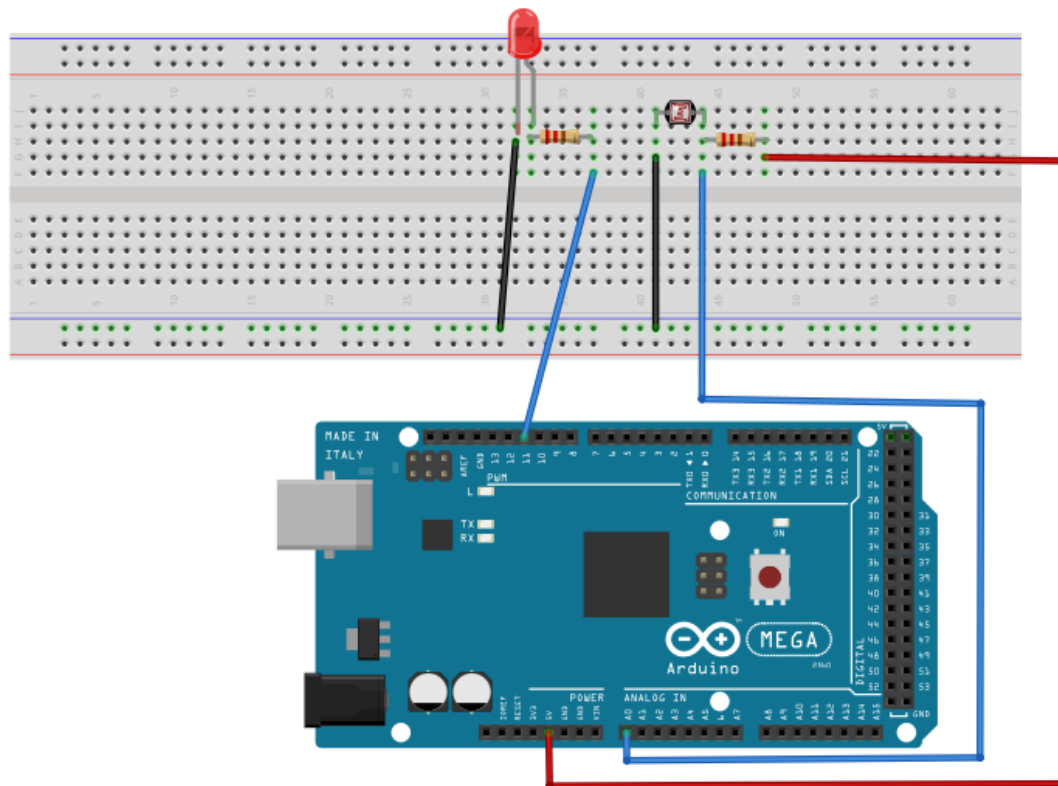
As we all know, in addition to the sound control lamp in the corridor there is a sensor, that is the light sensor (Photoresistor) also known as the photosensitive resistor. It is usually made from cadmium sulfide. When the incident light rises, the resistance decreases. The incident light decreases and the resistance increases. Photosensitive resistance is commonly used to measure, control and convert (light and power) changes between the change will change (light changes into electricity), it can also be widely used in a variety of light control circuits, control and adjust the light switch lights.

We first conducted a relatively simple experiment using a photosensitive resistor. Since the photosensitive resistor is a device that can be controlled by the intensity of light, it is necessary to read the analog value through the analog interface. Based on the previous PWM interface experiments, we can replace the potentiometer with a photosensitive resistor, and then change the intensity of the light, the brightness of the led will change accordingly.

### Component List

- ◆ Keywish Arduino Mega 2560 Mainboard
- ◆ Breadboard
- ◆ USB cable
- ◆ Photosensitive Resistor \*1
- ◆ LED\*1
- ◆ 10k $\Omega$  Resistor \*1
- ◆ 220 $\Omega$  Resistor \*1
- ◆ Several jumper wires

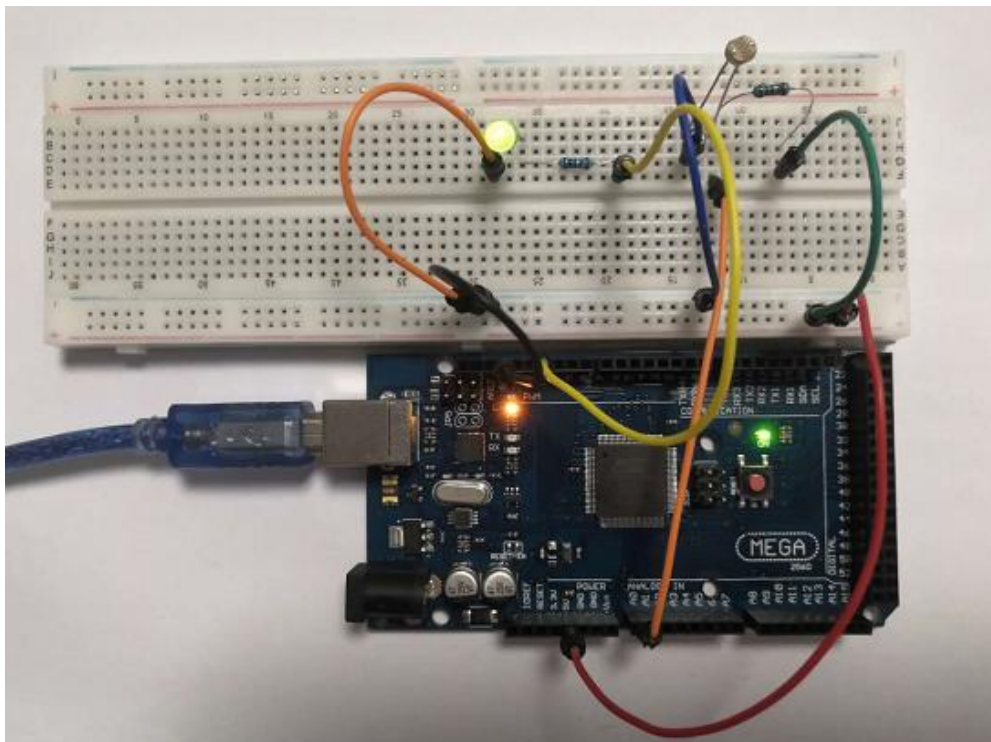
## Wiring of Circuit



## Code

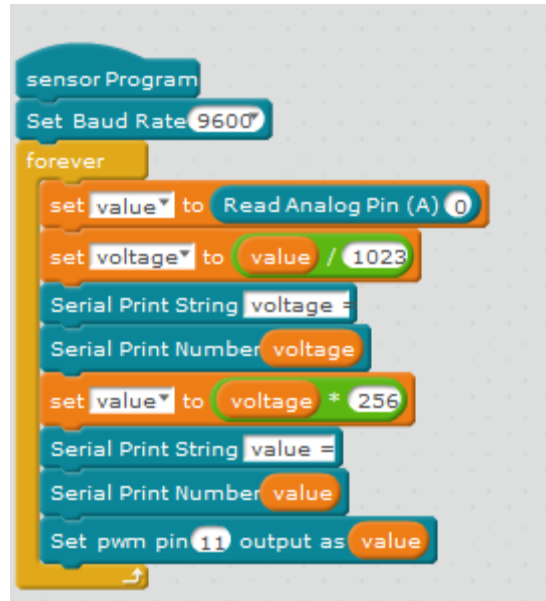
```
int  ADPIN  = A0  ;
int  LEDPIN = 11  ;
int  value  = 0   ;
float voltage = 0.0 ;
void setup()
{
    pinMode(LEDPIN, OUTPUT);
    Serial.begin(9600);    //Serial Baud rate is 9600
}
void loop()
{
    value = analogRead(ADPIN);
    voltage = ( ( float )value )/1023 ;
    value = (int)voltage * 256 ;    //convert voltage to value
    analogWrite(LEDPIN, value);
    delay(1000);
}
```

## Exeripment Result

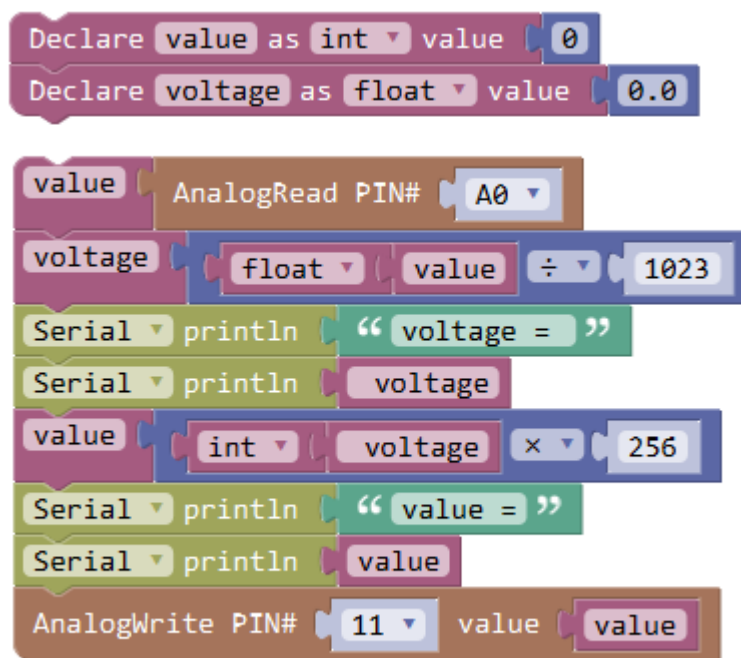


## Mblock programming program

The program written by Mblock is show in the following figure:



## Mixly programming program



## MagicBlock programming program

