Photosensitive resistor experiment

Introduction of photosensitive resistor

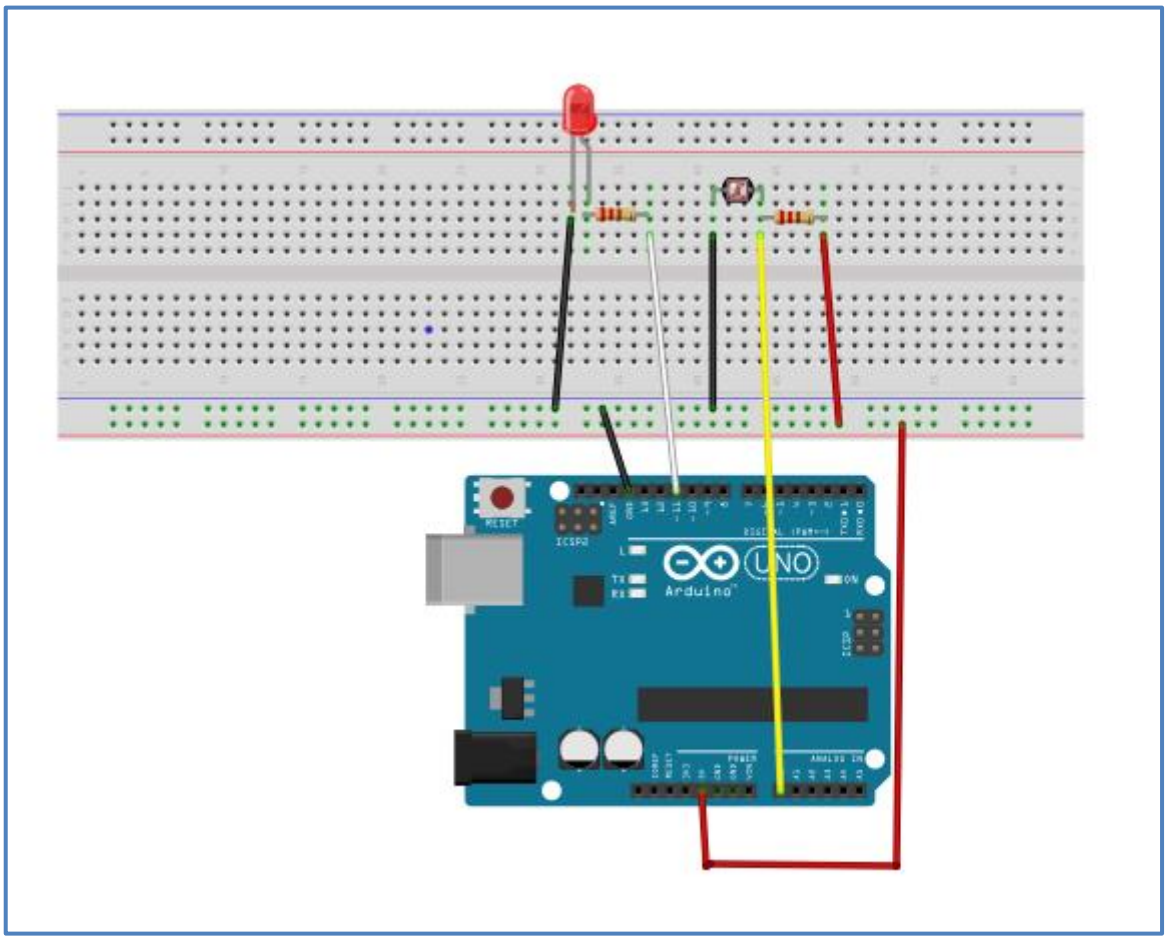
As we all know, in addition to the sound control lamp in the corridor there is a sensor, that is the light sensor (Photovaristor) also known as the photosensitive resistor. It is usually made from cadmium sulfide. When the incident light rises, the resistance decreases. The incident light decreases and 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 UNO R3 Mainboard
- Breadboard
- USB cable
- Photosensitive Resistor *1
- LED*1
- 10kΩ Resistor *1
- 220Ω Resistor *1
- Several jumper wires

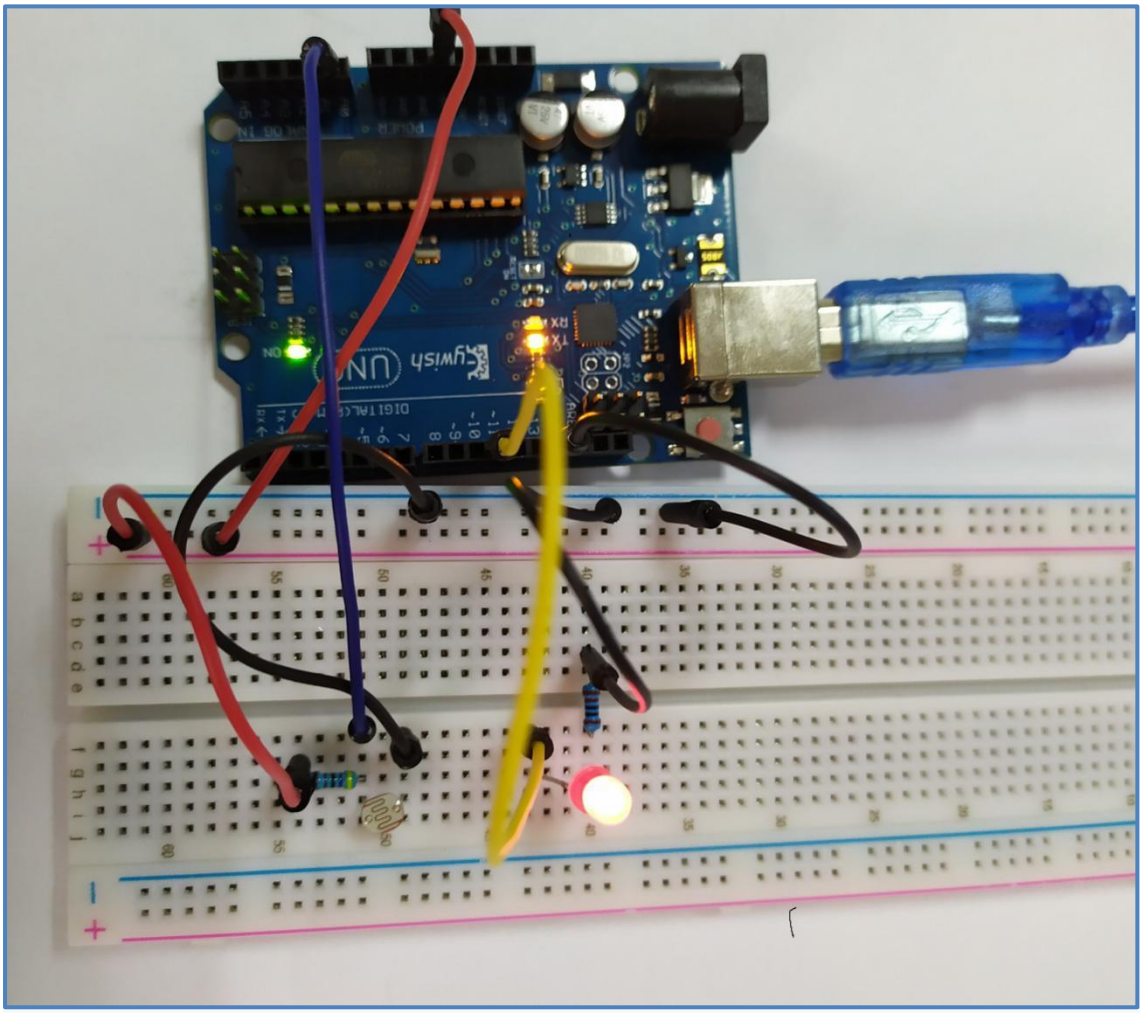
Wiring of Circuit



Code

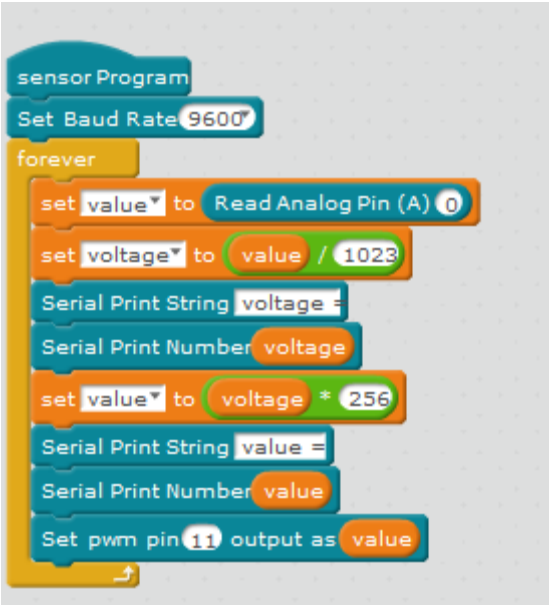
```
int  ADPIN  = A0  ;
int  LEDPIN = 11 ;
int  value = 0 ;
float voltage = 0.0 ;
void setup()
{
    pinMode(LEDPIN,OUTPUT);
    Serial.begin(9600);    //Serial Baud rate is 9600
}
void loop()
{
    value =  analogRead(ADPIN);
    voltage = ( ( float )value )/1023 ;
    value = (int)voltage * 256 ; 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

Exeripment Result



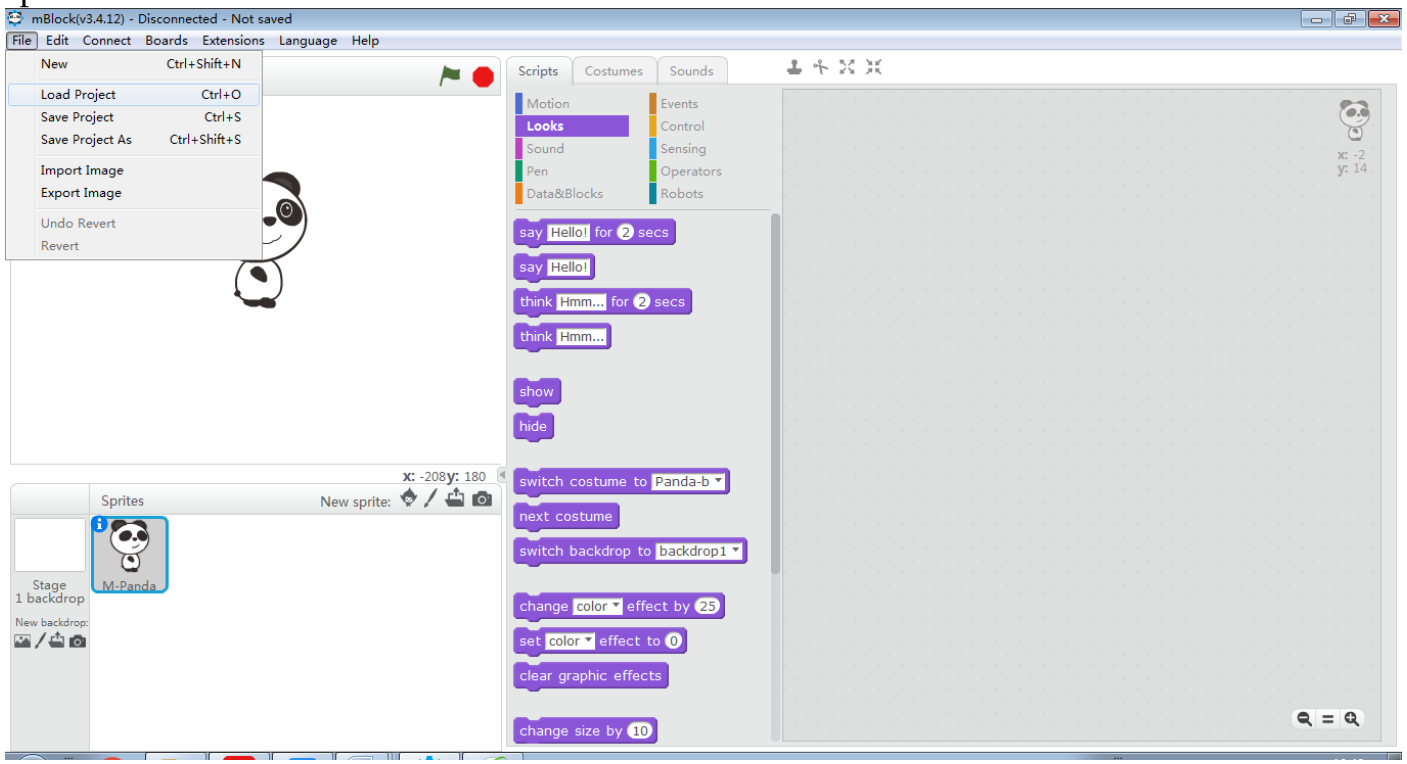
Mblock programming program

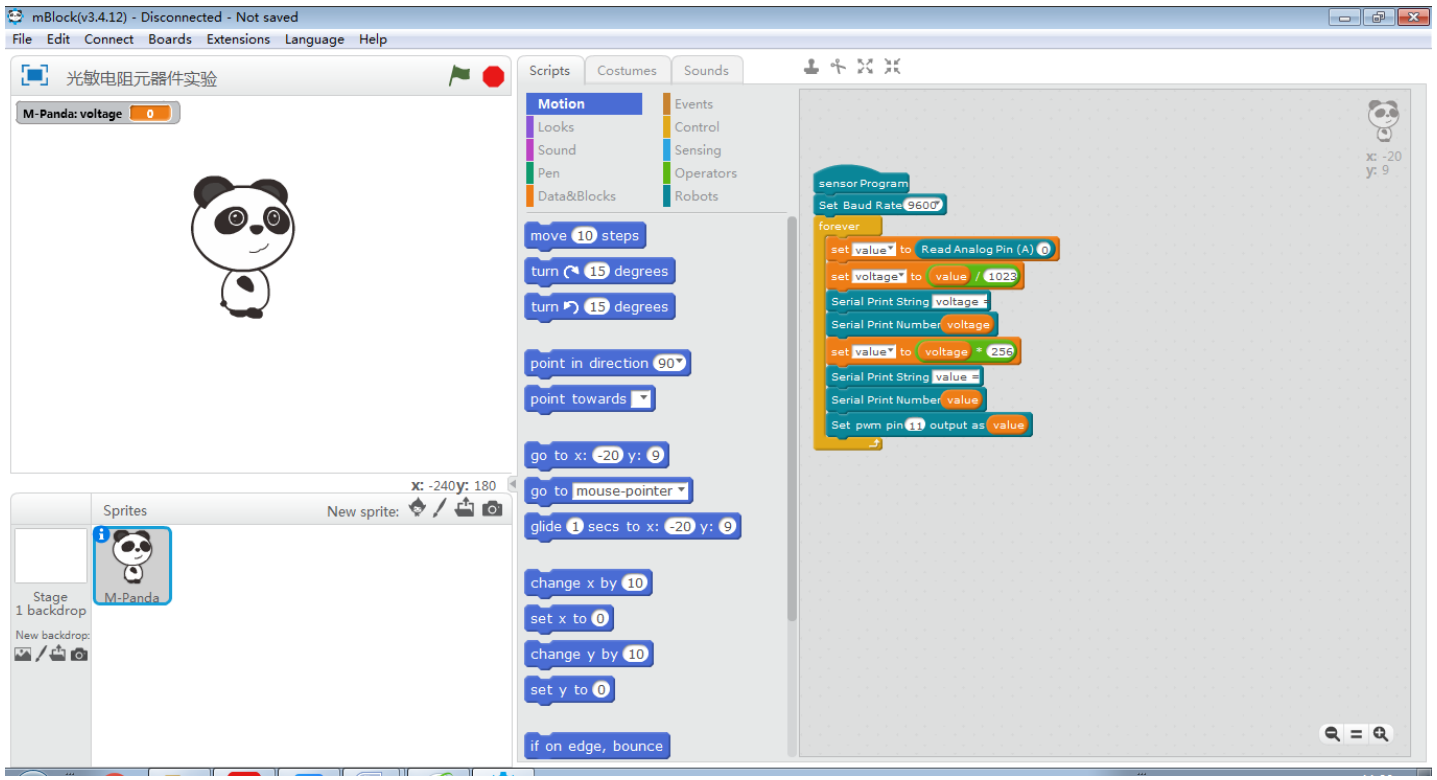
The program written by Mblock is show in the following figure:



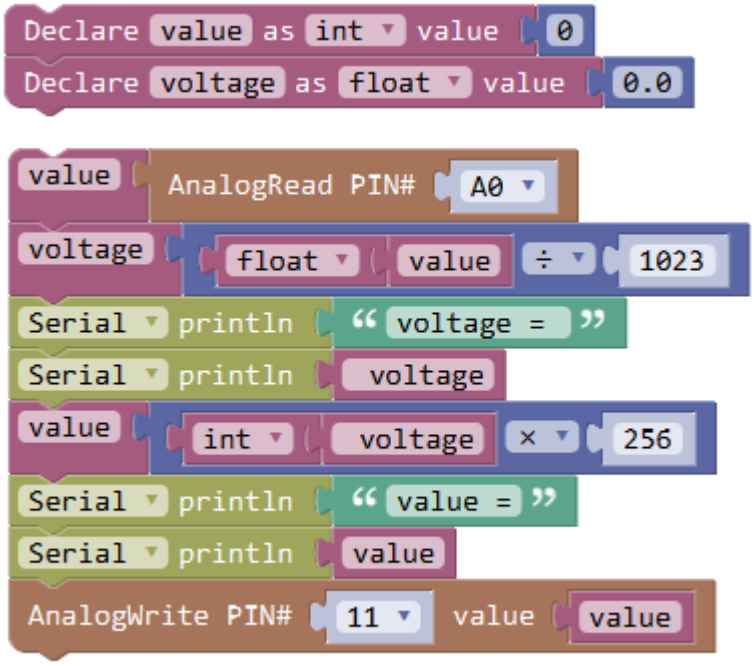
You can also use Mblock to open a finished program ,which is a .Sb2 file. Here's how too

open it :





Mixly programming program



MagicBlock programming program

setup
Creater global variable type Init variable name value
Creater global variable type Float variable name voltage
Pin 11 Mode Output
Serial Serial Baud Rate 9600
loop
Set variable value Value AnalogRead A0
Set variable voltage Value Type Conversion float Get variable Value value / 1023
Serial Serial Print String(newlines) voltage
Serial Serial Print Get variable Value voltage
Set variable value Value Type Conversion int Get variable Value voltage * 256
Serial Serial Print String(newlines) value
Serial Serial Print Get variable Value value
AnalogWrite 11 Get variable Value value
Wait 1000 Millisecond