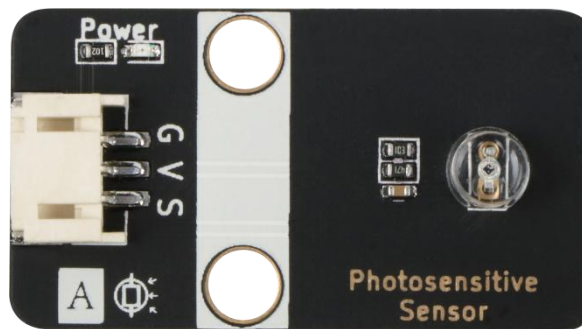


Self Made Street Lamp for Photosensitive Sensor Module

Experiment

Module Introduction

Photoresistor is a special resistor made of semiconductor materials such as cadmium sulfide or cadmium selenide. The stronger the illumination, the lower the resistance value. With the increase of illumination intensity, the resistance value decreases rapidly, and the bright resistance value can be less than $1K \Omega$. Photosensitive resistance is very sensitive to light. When there is no light, it is in a high resistance state. The dark resistance can reach $1.5M \Omega$. With the development of science and technology, photosensitive resistance will be widely used. It can also be widely used in various light control circuits, such as controlling and adjusting light. Photosensitive resistance is the most sensitive to environmental light, and is generally used to detect the brightness of the surrounding environment.



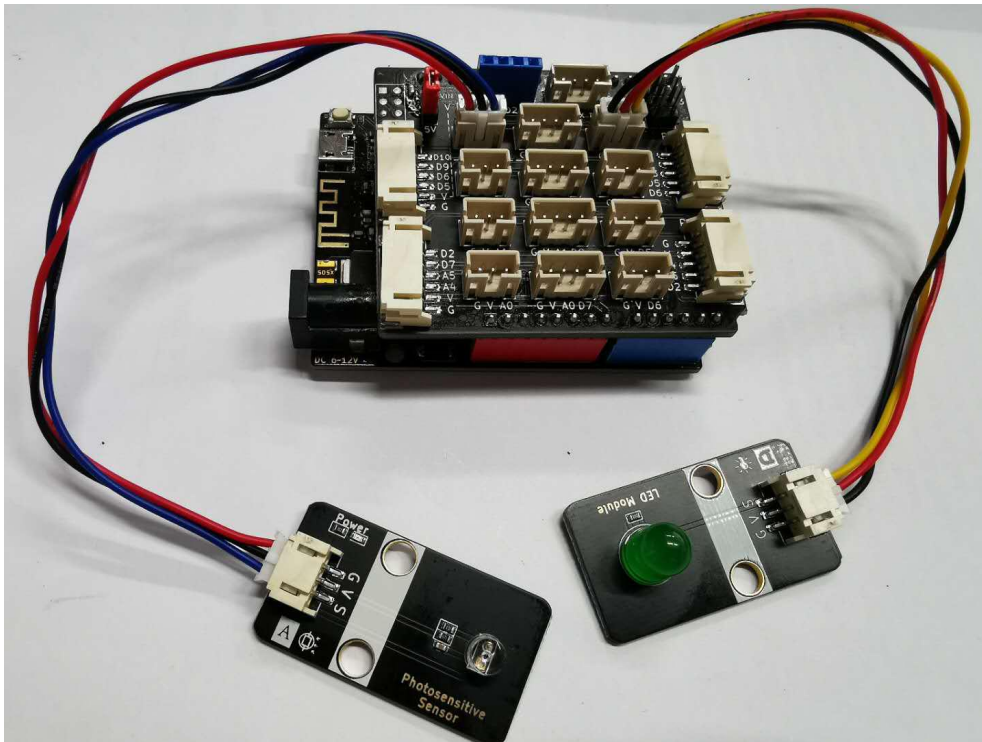
Purpose of the Experiment

Learn how to use photosensitive sensor, understand its working purpose; be able to make street lamp.

Device List

- BLE-UNO Main Board: 1
- Expansion Board of PH2.0 Sensor Board: 1
- USB Data Wire: 1
- Photosensitive Sensor Module: 1
- 3PIN Wire Jumper: 2
- LED Light Module: 1

Physical Wiring Diagram

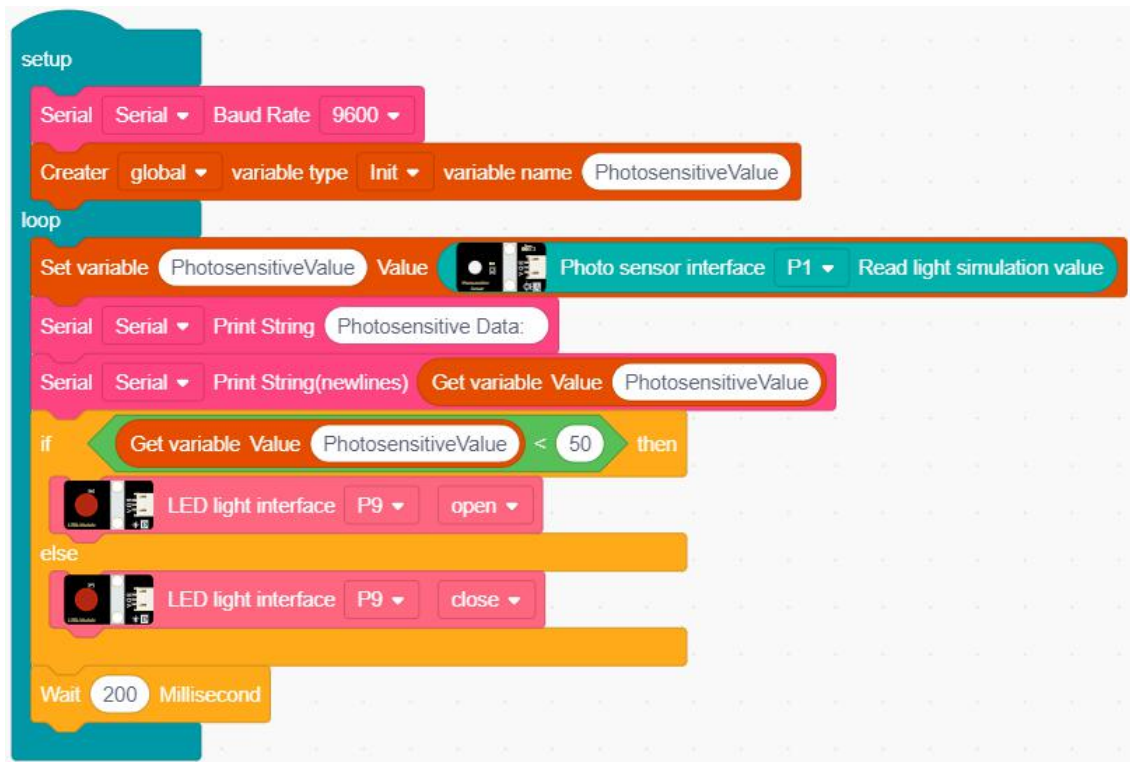


Program Code

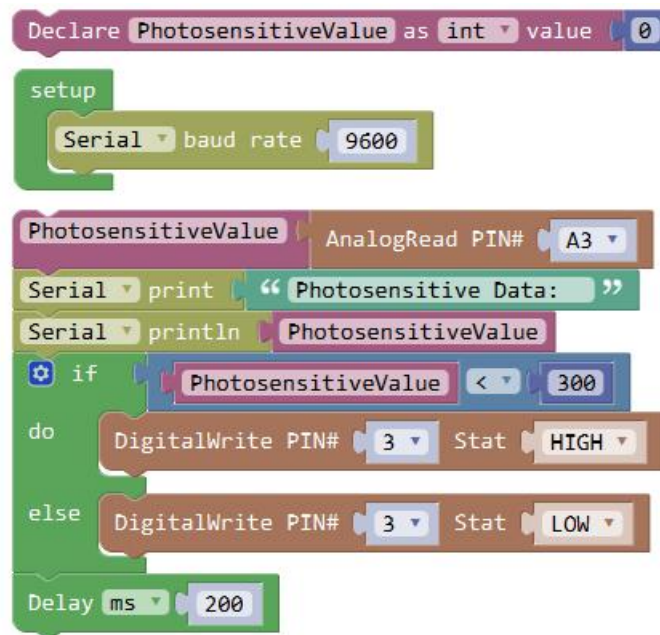
```
#define PhotosensitivePin A3//Define photosensitive sensor module pins
#define LedPin 3//Define LED module pins
int PhotosensitiveValue = 0 ;//Define digital variables and read the photosensitive value
void setup()
{
  Serial.begin(9600);//Set the serial port baud rate
  pinMode(PhotosensitivePin, INPUT);//Set the pin of the photosensitive sensor module as input
  pinMode(LedPin, OUTPUT);//Set LED module pin as output
}
void loop()
{
  PhotosensitiveValue = analogRead(PhotosensitivePin);//Read the photosensitive value
  Serial.print("Photosensitive Data: ");
  Serial.println(PhotosensitiveValue);//Print sensitivity value
  if (PhotosensitiveValue < 50) { //Print sensitivity value
    digitalWrite(LedPin, HIGH);//If the photosensitive value is less than 50, then execute here, the LED pin is high
  }
}
```

```
} else {  
    digitalWrite(LedPin, LOW); //If the photosensitive value is less than 50, execute  
    here, the LED pin is low  
}  
}
```

MagicBlock Program



Mixly Program



Experimental Conclusion

The photosensitive sensor is a photosensitive resistor and a resistor in series to divide the voltage, and the analog value we read is the voltage value out of the partial voltage. When the brightness of the surrounding light is strong, the voltage value read is higher. On the contrary, when the brightness of the surrounding light is low, the voltage value read is lower.