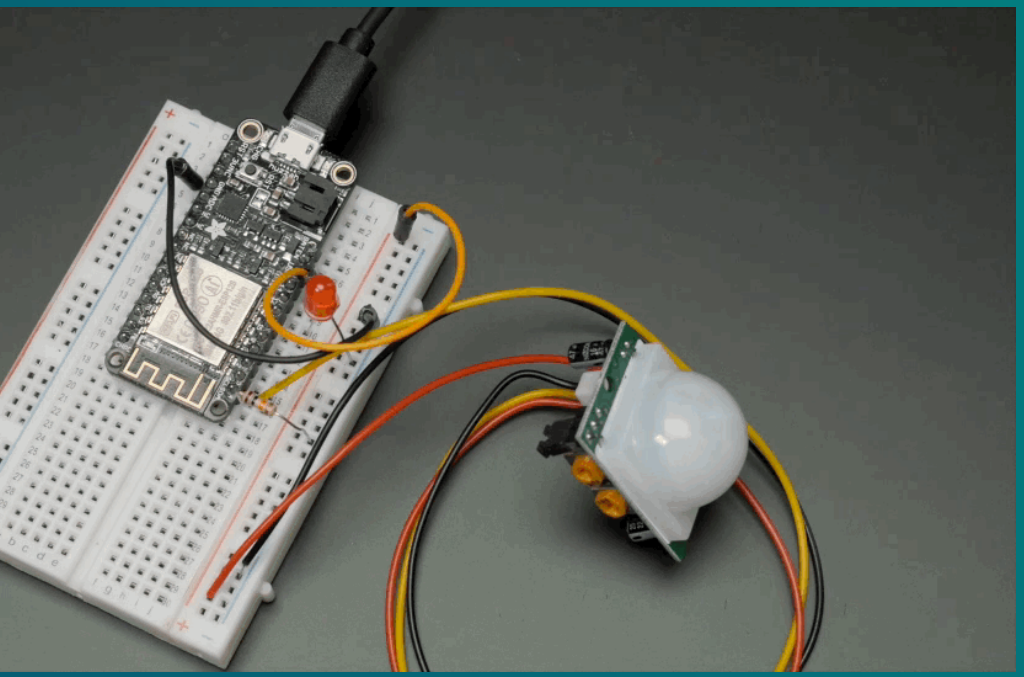
Internet Of Things



Play With Sensors

Sense all around you

Purwadhika
Startup and Coding School

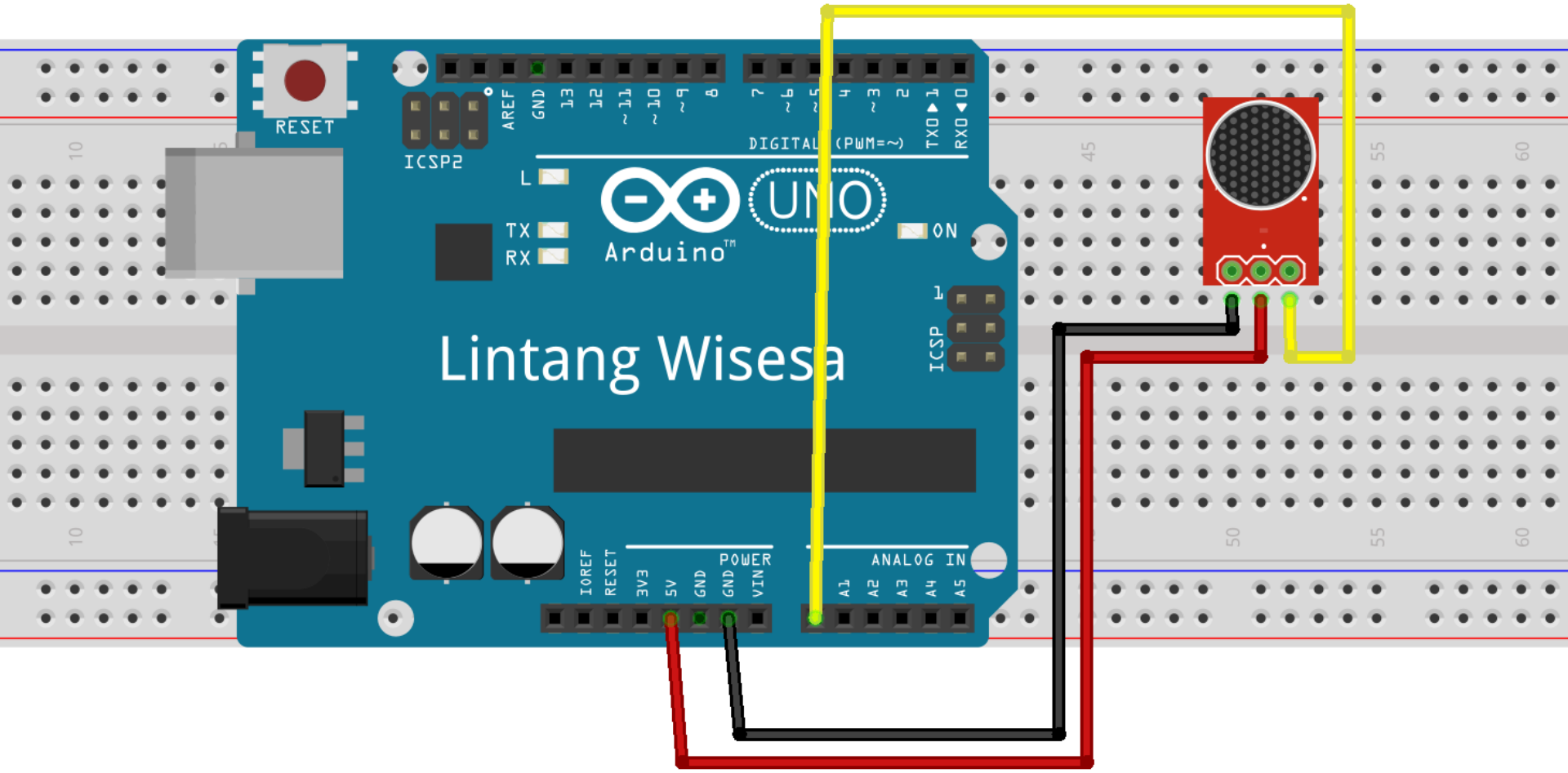
Sensor

A sensor is a device that detects & responds to some type of input from the physical environment.

The specific input could be light, heat, motion, moisture, pressure, or another environmental phenomena.

The output is generally a signal that is converted to human-readable display at the sensor location or transmitted electronically over a network for reading or further processing.

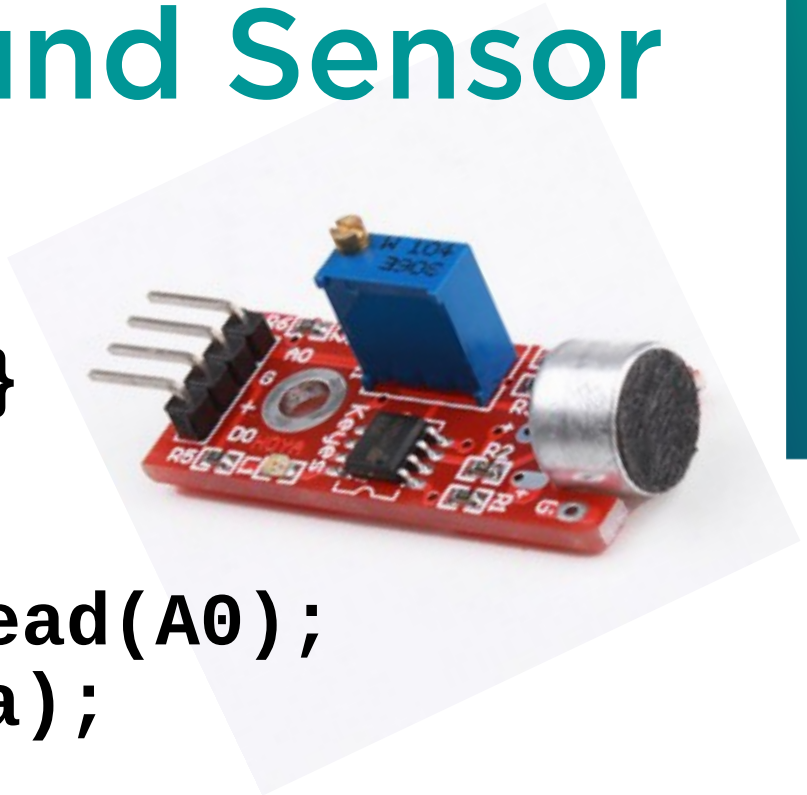
Sound Sensor



fritz

Purwadhika
Startup and Coding School

Sound Sensor

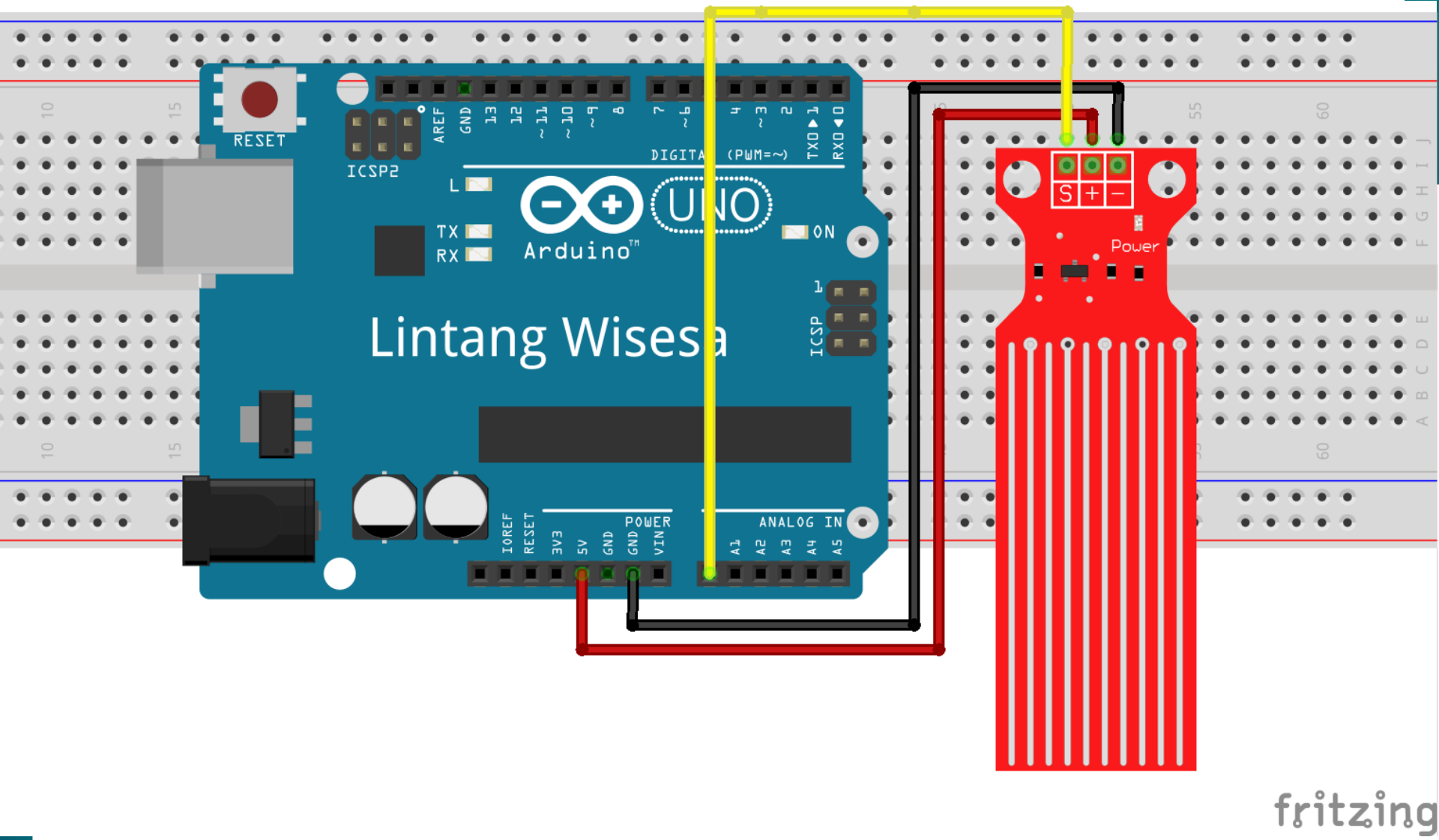


```
void setup() {
  Serial.begin(9600);}

void loop() {
  int suara = analogRead(A0);
  Serial.println(suara);
  delay(100);}
```

// VCC+ - 5V // GND – GND // A0 – A0

Purwadhika
Startup and Coding School

Water Level Sensor



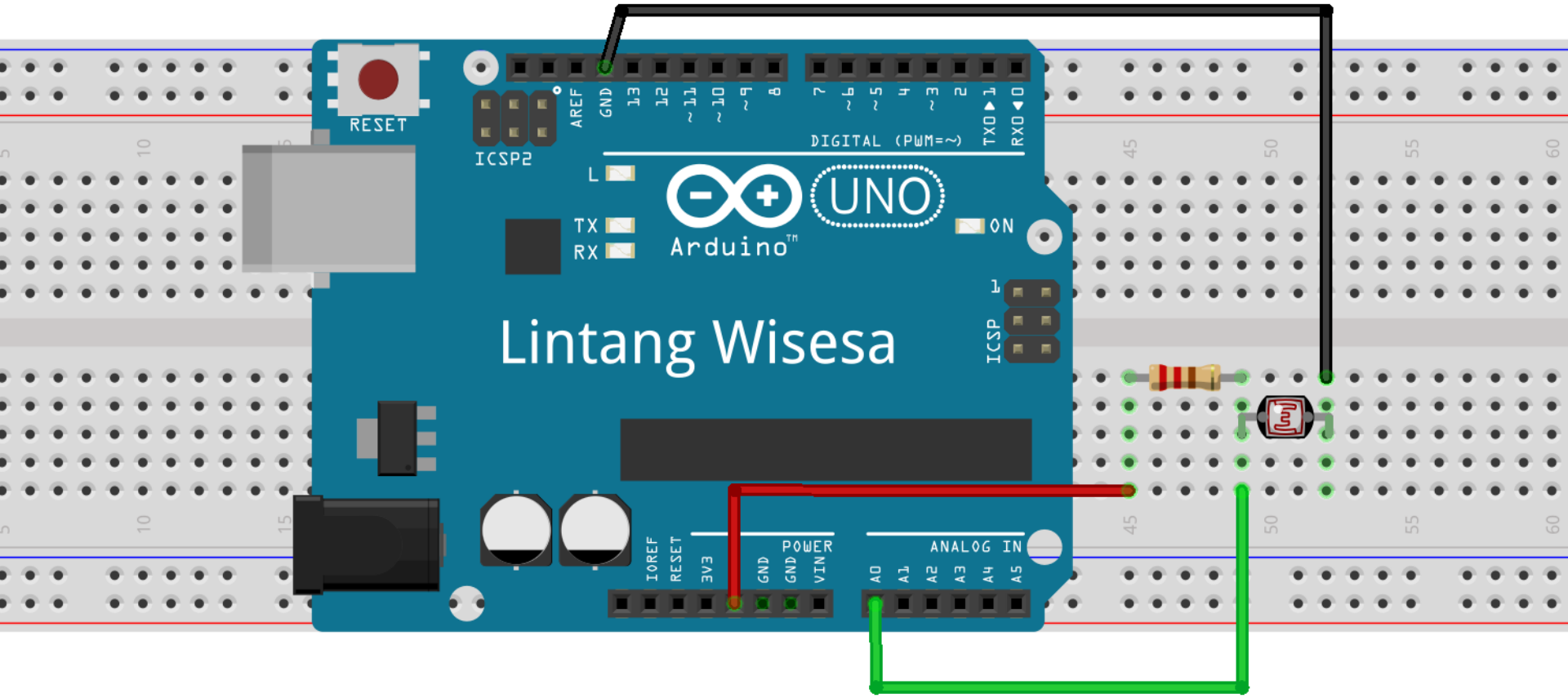
Water Level Sensor

```
void setup() {
  Serial.begin(9600);}

void loop() {
  int air = analogRead(A0);
  Serial.println(air);
  delay(100);}
```

```
// VCC+ - 5V // GND – GND // A0 – A0
```

Purwadhika
Startup and Coding School

LDR pull up Light Dependent Resistor



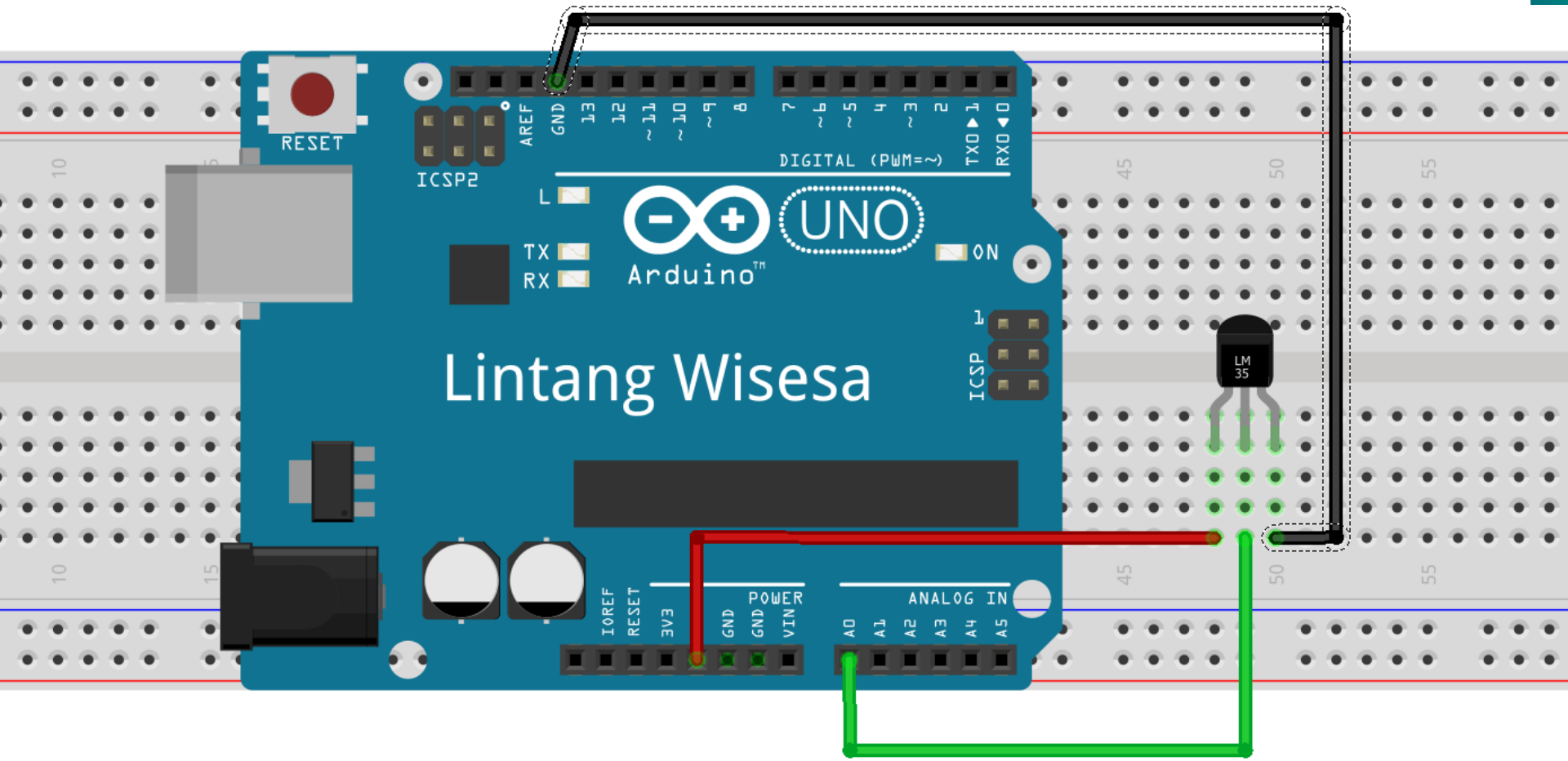
Purwadhika
Startup and Coding School

LDR Light Dependent Resistor

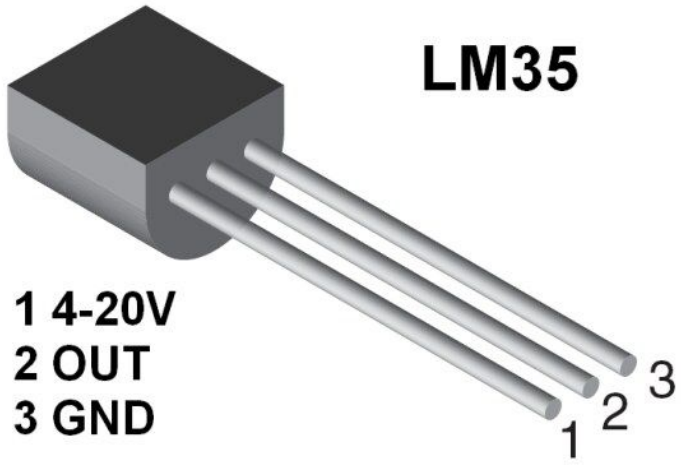
```
void setup() {
  Serial.begin(9600);}

void loop() {
  int sinar = analogRead(A0);
  Serial.println(sinar);
  delay(100);}
```

Purwadhika
Startup and Coding School

LM35 Temperature Sensor



Purwadhika
Startup and Coding School

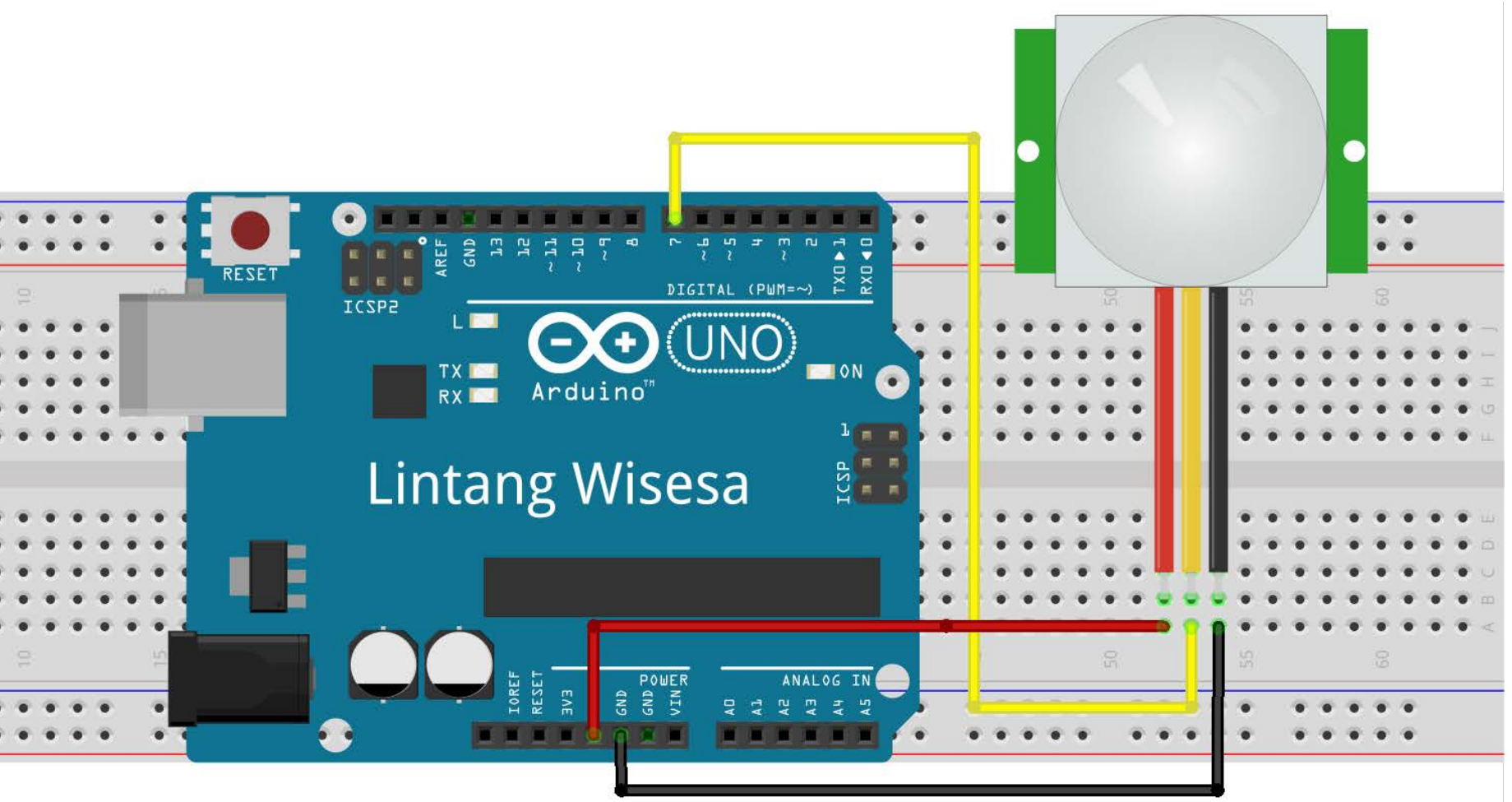


LM35
Temperature Sensor

```
void setup() {
  Serial.begin(9600);}

void loop() {
  float suhu = analogRead(A0);
  Serial.print(suhu * 0.4882812);
  Serial.println(" *Celcius");
  delay(100);}
```

Purwadhika
Startup and Coding School

PIR HC-SR501 Passive Infra Red

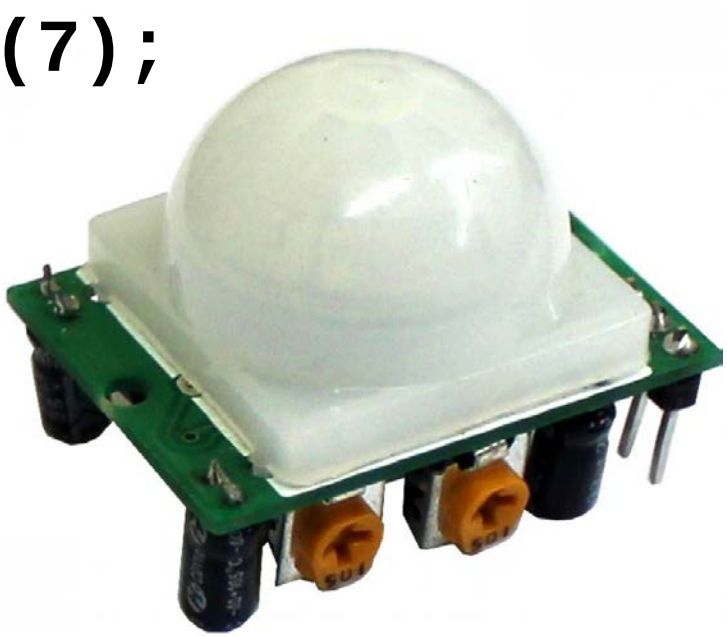


fritzing

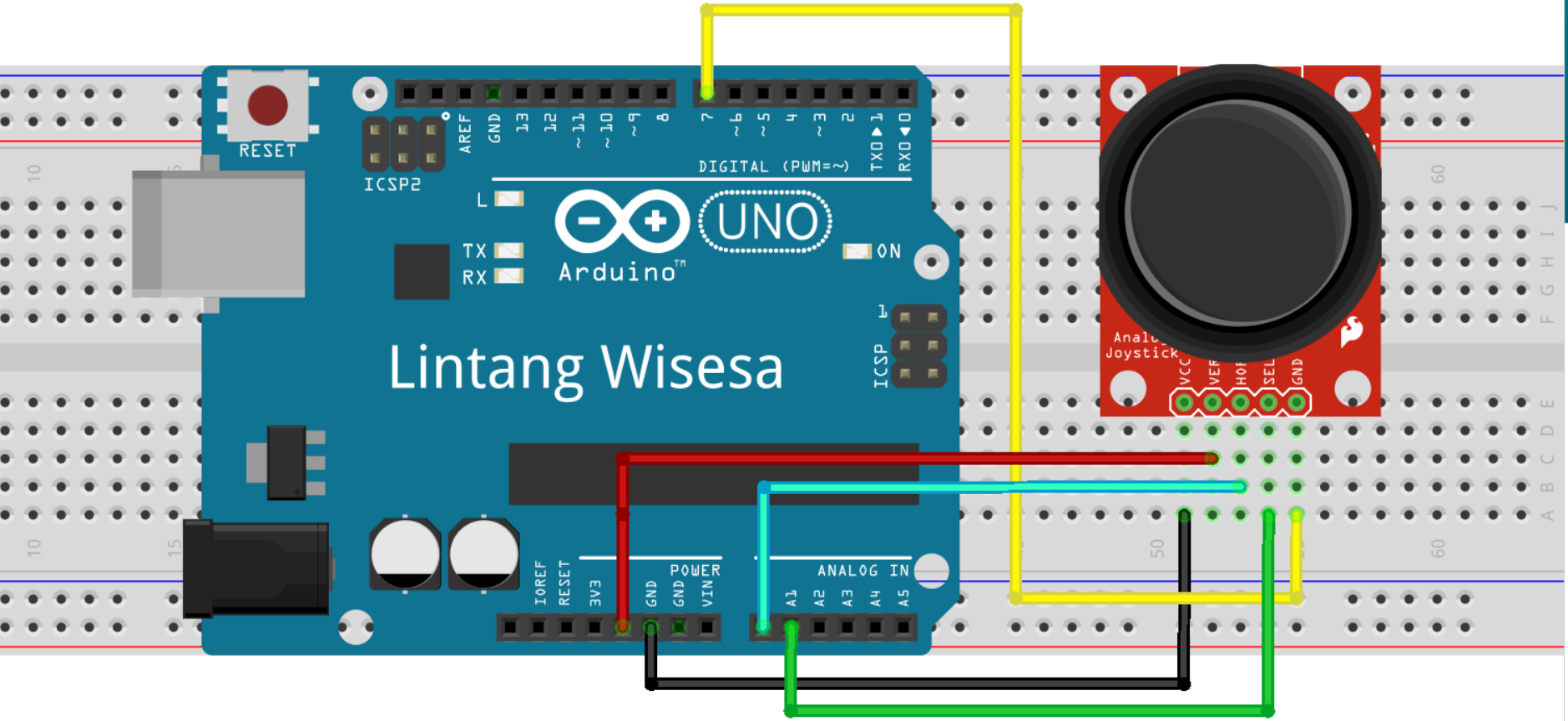
Purwadhika
Startup and Coding School

PIR HC-SR501 Passive Infra Red

```
void setup() {
  Serial.begin(9600);
  pinMode(7, INPUT);}

void loop() {
  int pir = digitalRead(7);
  Serial.println(pir);
  delay(100);}
```



Thumbstick

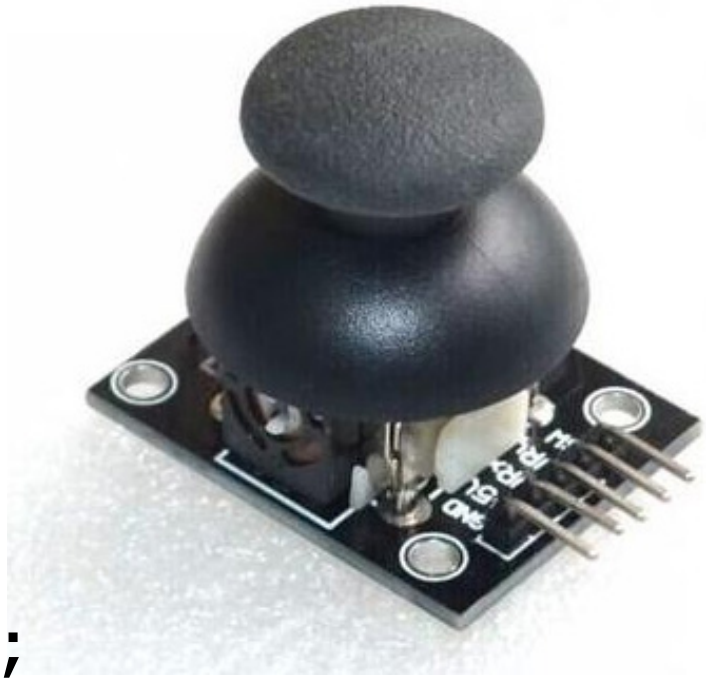


fritzing

Purwadhika
Startup and Coding School

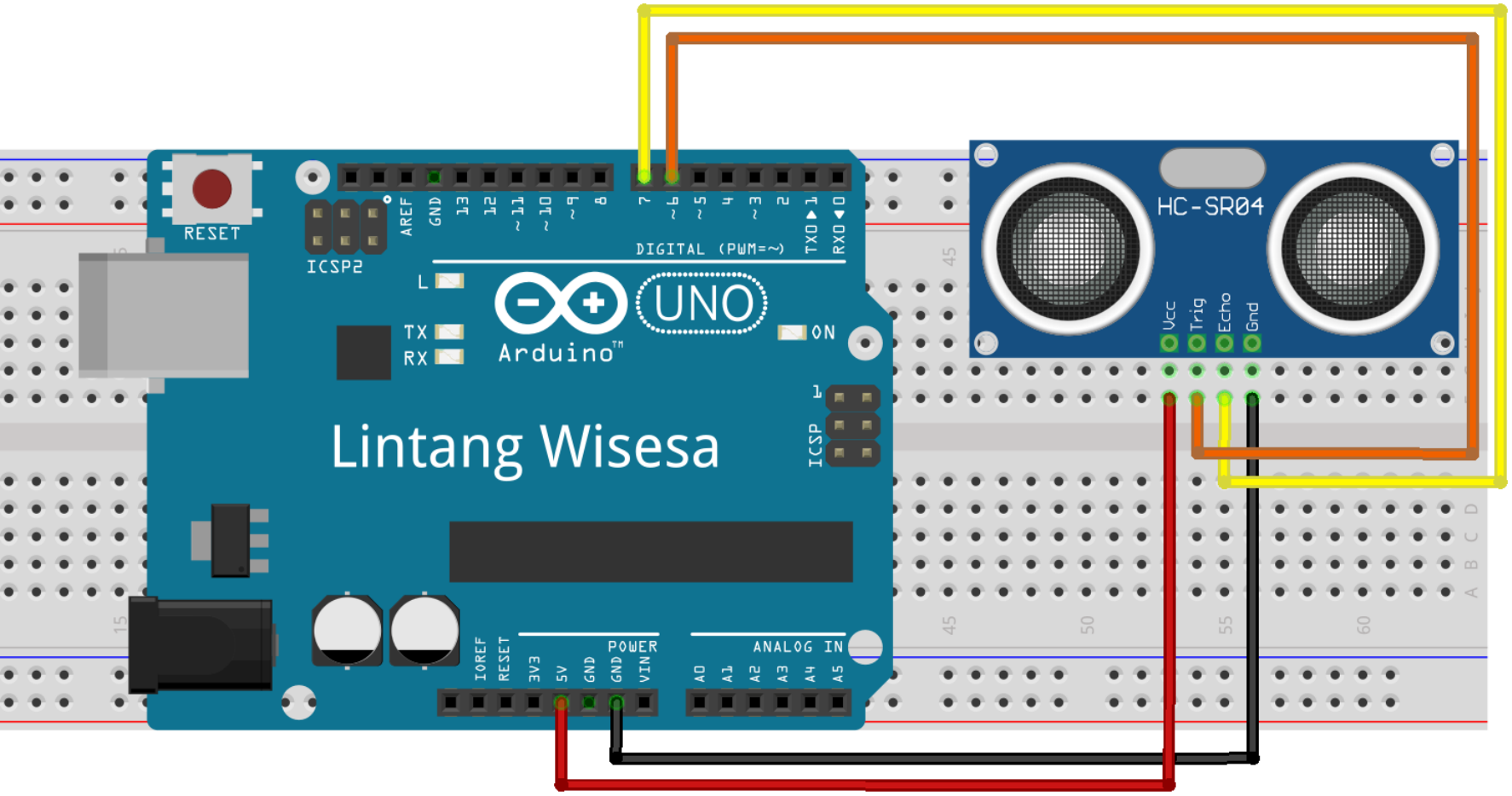
Thumbstick

```
int x = analogRead(A0);
int y = analogRead(A1);
int tombol = digitalRead(7);

void setup() {
  Serial.begin(9600);}

void loop() {
  Serial.print(x);
  Serial.print(“ / ”);
  Serial.print(y);
  Serial.print(“ / ”);
  Serial.println(tombol);
  delay(100);}
```



Purwadhika
Startup and Coding School

Ultrasonic Sensor HC-SR04



fritzing

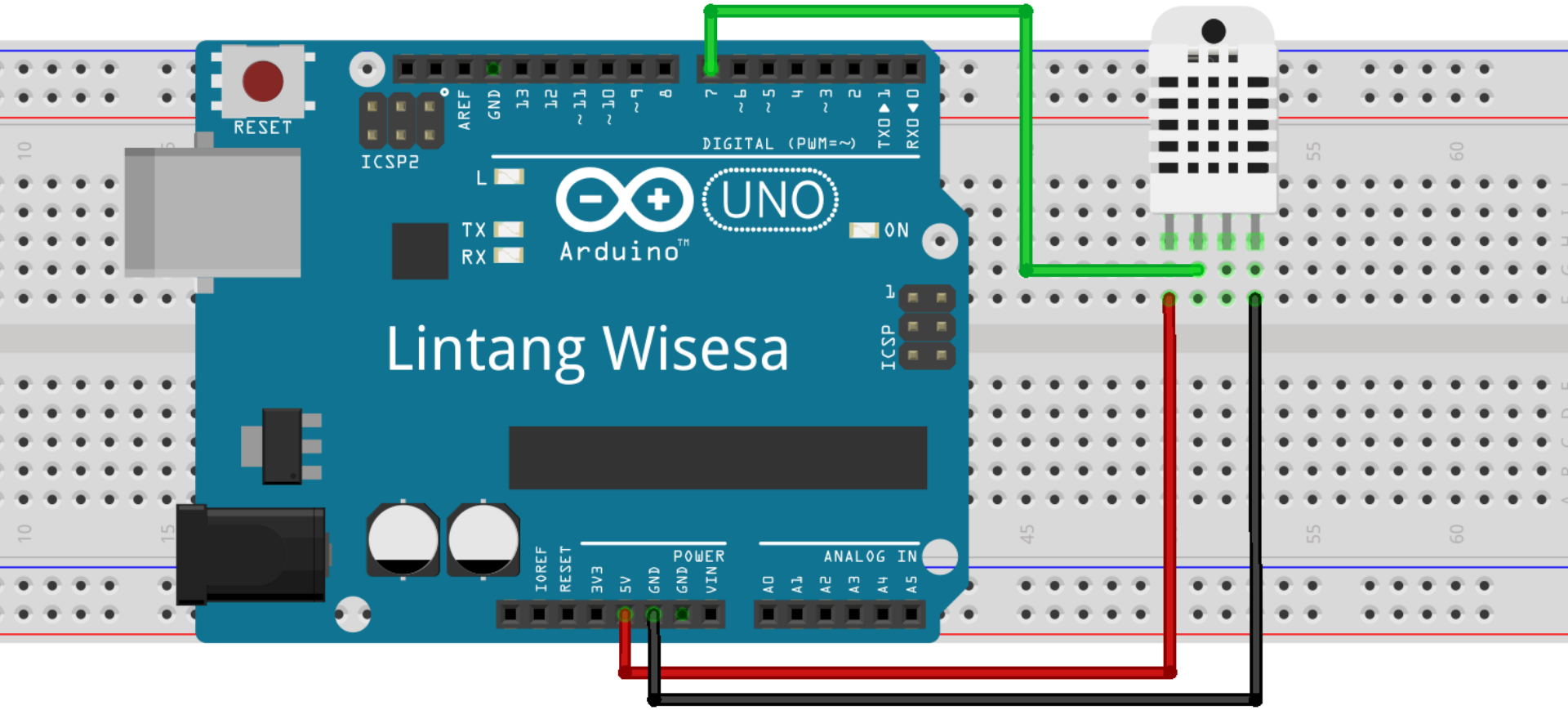
Purwadhika
Startup and Coding School

Ultrasonic Sensor HC-SR04

```
int triggerPin = 6; int echoPin = 7;

void setup() {
  Serial.begin(9600);
  pinMode(triggerPin, OUTPUT);
  pinMode(echoPin, INPUT);}

void loop() {
  int waktu, jarak;
  digitalWrite(triggerPin, HIGH);
  delay(10);
  digitalWrite(triggerPin, LOW);

  waktu = pulseIn(echoPin, HIGH);   //microsecond
  jarak = (waktu/2) / 29.1;         //centimeter
  Serial.print(jarak);
  Serial.println(" cm");
  delay(100);}
```

Purwadhika
Startup and Coding School

DHT11 Temperature & Humidity



fritzing

Purwadhika
Startup and Coding School

DHT11 Temperature & Humidity

```
//panggil DHT library “DHTlib”
#include <dht.h>
dht DHT;
#define DHTpin 7

void setup(){
  Serial.begin(9600);}

void loop(){
  int pin = DHT.read11(DHTpin);
  Serial.print(“ Kelembaban: ");
  Serial.print(DHT.humidity, 1);
  Serial.print(“ / Suhu: ");
  Serial.println(DHT.temperature, 1);
  delay(1000);
}
```

Purwadhika
Startup and Coding School