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Analog input, analog output, serial output

Reads an analog input pin, maps the result to a range from 0 to 255

and uses the result to set the pulsewidth modulation (PWM) of an output pin.

Also prints the results to the serial monitor.

The circuit:

\* potentiometer connected to analog pin 0.

Center pin of the potentiometer goes to the analog pin.

side pins of the potentiometer go to +5V and ground

\* LED connected from digital pin 9 to ground

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This example code is in the public domain.

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// These constants won't change. They're used to give names

// to the pins used:

const int analogInPin = A0; // Analog input pin that the potentiometer is attached to

const int analogOutPin = 9; // Analog output pin that the LED is attached to

int sensorValue = 0; // value read from the pot

int outputValue = 0; // value output to the PWM (analog out)

void setup() {

// initialize serial communications at 9600 bps:

Serial.begin(9600);

}

void loop() {

// read the analog in value:

sensorValue = analogRead(analogInPin);

// map it to the range of the analog out:

outputValue = map(sensorValue, 0, 1023, 0, 255);

// change the analog out value:

analogWrite(analogOutPin, outputValue);

// print the results to the serial monitor:

Serial.print("sensor = ");

Serial.print(sensorValue);

Serial.print("\t output = ");

Serial.println(outputValue);

// wait 2 milliseconds before the next loop

// for the analog-to-digital converter to settle

// after the last reading:

delay(2);

}