



```
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
  delay(2);
}
```