



**TANSAM**

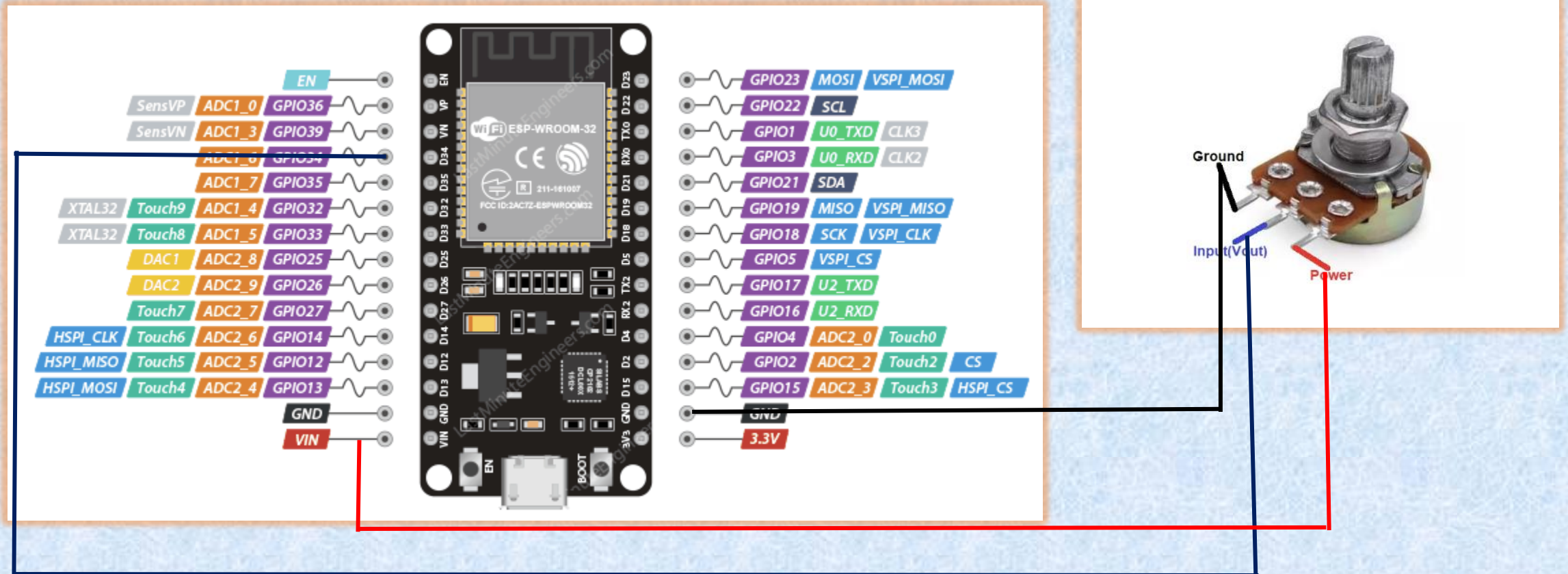
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# Unveiling Analog Input Reading Magic

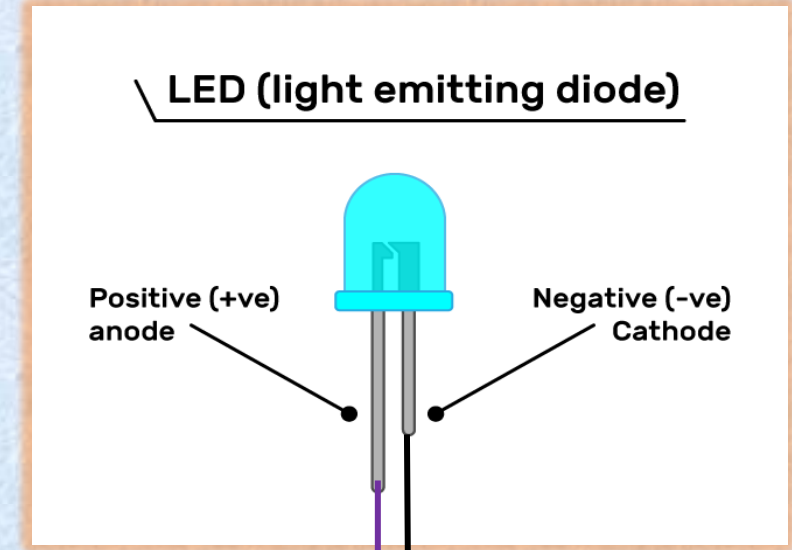
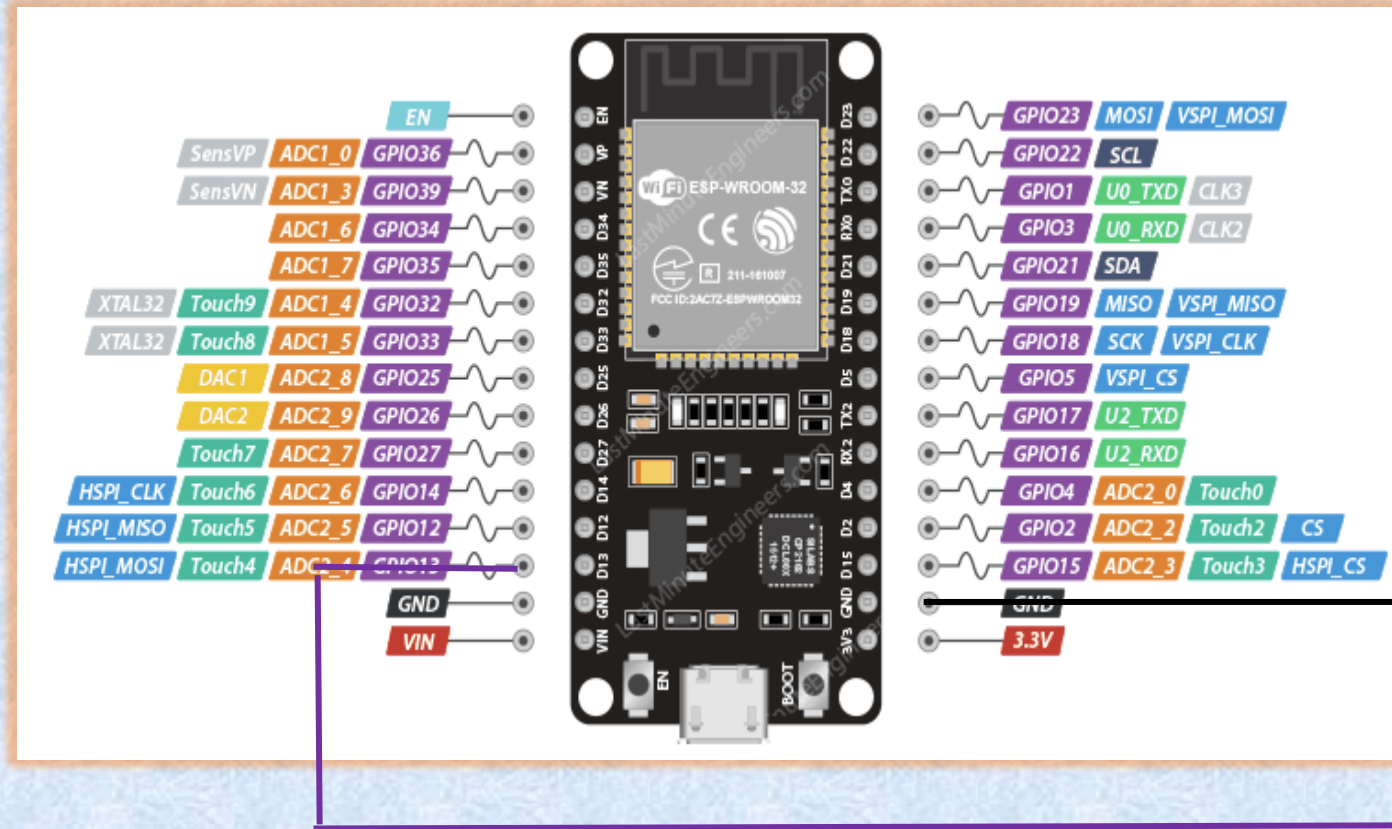
# LIST OF COMPONENTS:

1. ESP32 MICROCONTROLLER
2. POTENTIOMETER
3. BREAD BOARD
4. LED
5. JUMPER WIRES

# CIRCUIT DAIGRAM:



CONNECT GND-GND  
VOUT-D34  
VCC-VIN



CONNECT ANODE-D13  
CATHODE-GND

# CODE:

```
#define LED_PIN 13
#define POT_PIN 34

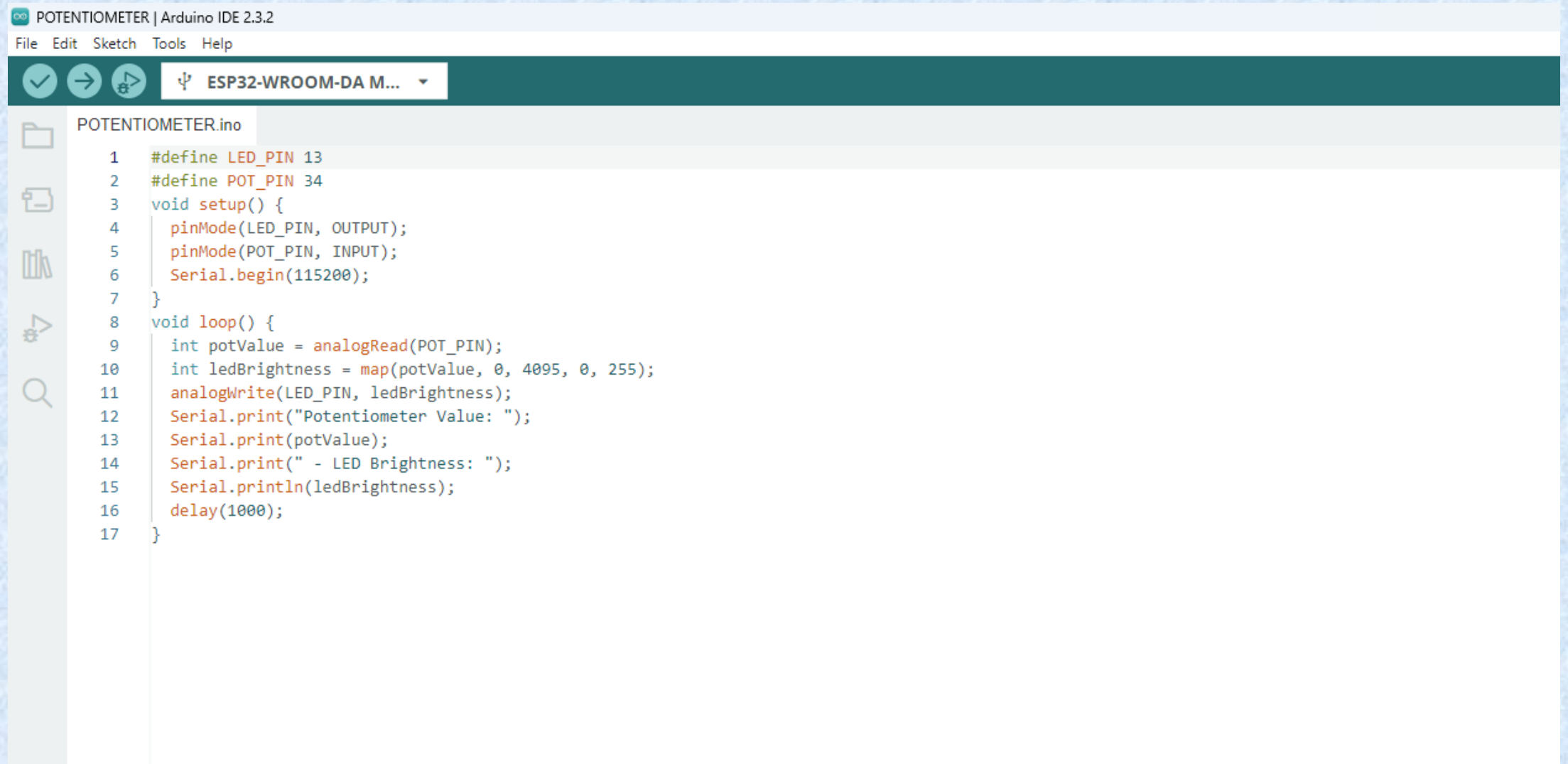
void setup() {
    pinMode(LED_PIN, OUTPUT);
    pinMode(POT_PIN, INPUT);
    Serial.begin(115200);
}

void loop() {
    int potValue = analogRead(POT_PIN);
    int ledBrightness = map(potValue, 0, 4095, 0, 255);
    analogWrite(LED_PIN, ledBrightness);
    Serial.print("Potentiometer Value: ");
    Serial.print(potValue);
    Serial.print(" - LED Brightness: ");
    Serial.println(ledBrightness);
    delay(1000);
}
```



## STEP 1:

### Copy code paste in Arduino new Sketch



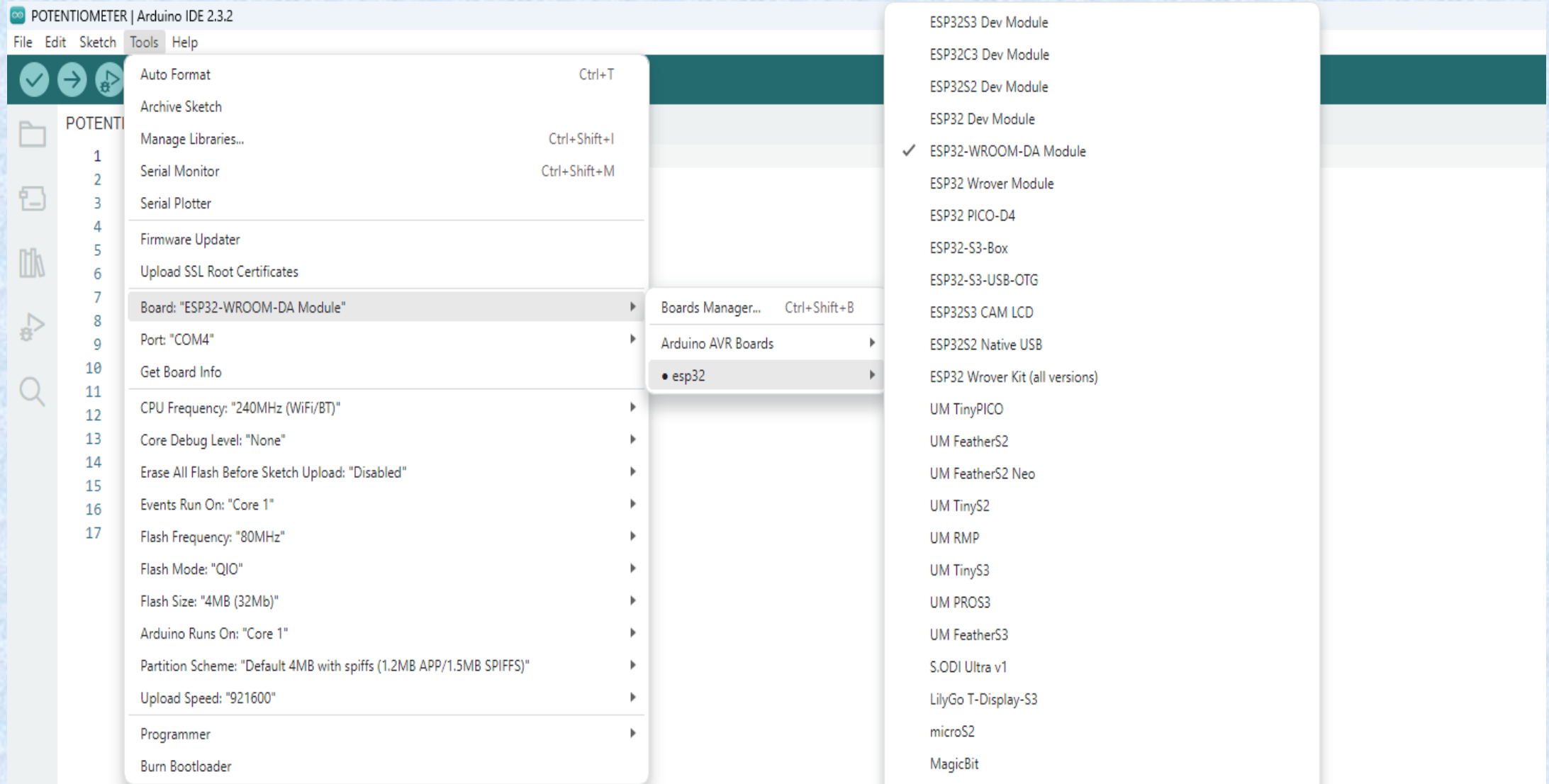
```
POTENTIOMETER | Arduino IDE 2.3.2
File Edit Sketch Tools Help

ESP32-WROOM-DA M...

POTENTIOMETER.ino
1  #define LED_PIN 13
2  #define POT_PIN 34
3  void setup() {
4      pinMode(LED_PIN, OUTPUT);
5      pinMode(POT_PIN, INPUT);
6      Serial.begin(115200);
7  }
8  void loop() {
9      int potValue = analogRead(POT_PIN);
10     int ledBrightness = map(potValue, 0, 4095, 0, 255);
11     analogWrite(LED_PIN, ledBrightness);
12     Serial.print("Potentiometer Value: ");
13     Serial.print(potValue);
14     Serial.print(" - LED Brightness: ");
15     Serial.println(ledBrightness);
16     delay(1000);
17 }
```

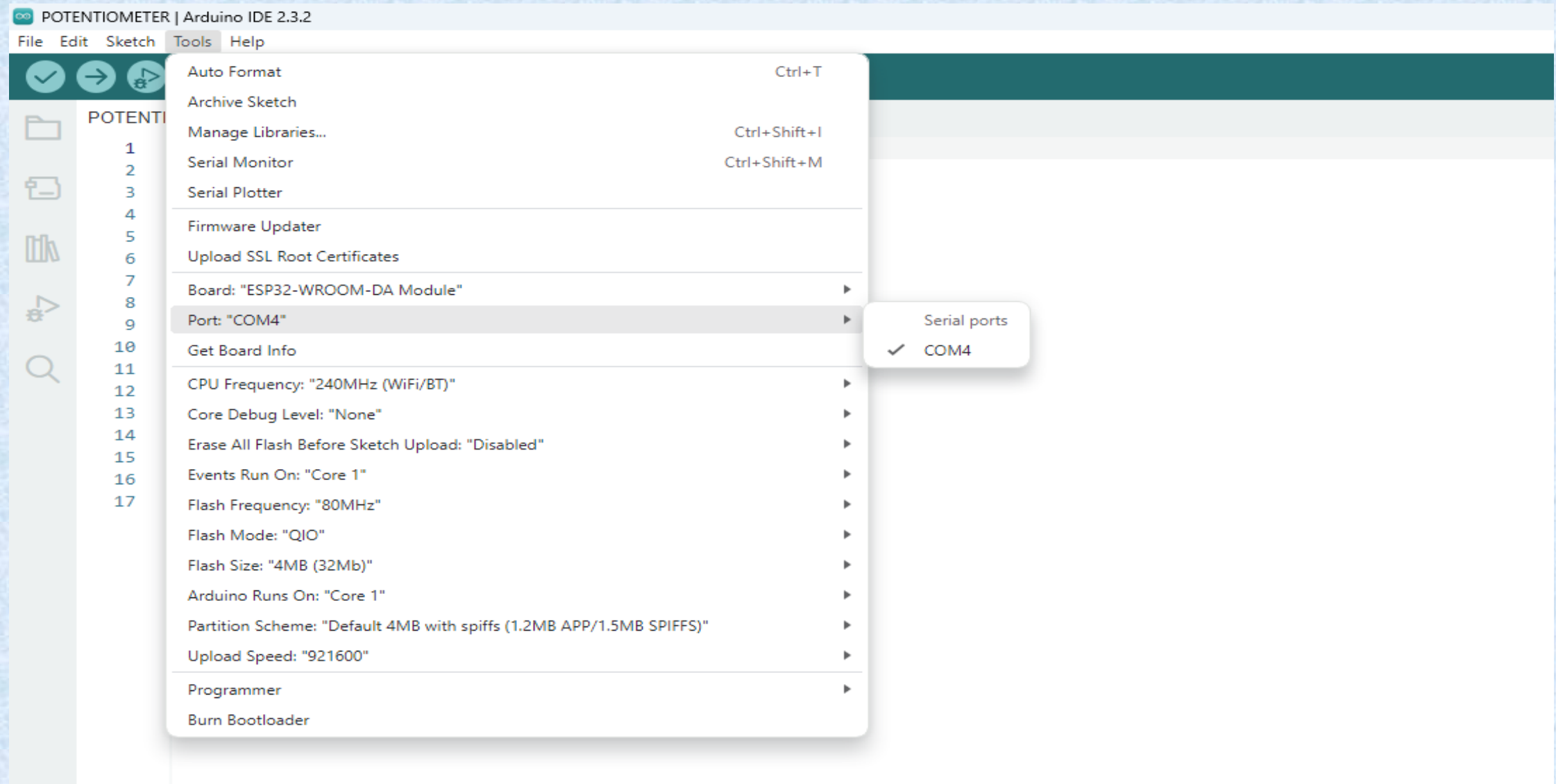
## STEP 2:

**Board---->esp32---->esp32-wroom-DA module**



## STEP 3:

Tools---->port---->select your com







ESP32-WROOM-DA M...



POTENTIOMETER.ino



```
1  #define LED_PIN 13
2  #define POT_PIN 34
3  void setup() {
4      pinMode(LED_PIN, OUTPUT);
5      pinMode(POT_PIN, INPUT);
6      Serial.begin(115200);
7  }
8  void loop() {
9      int potValue = analogRead(POT_PIN);
10     int ledBrightness = map(potValue, 0, 4095, 0, 255);
11     analogWrite(LED_PIN, ledBrightness);
12     Serial.print("Potentiometer Value: ");
13     Serial.print(potValue);
14     Serial.print(" - LED Brightness: ");
15     Serial.println(ledBrightness);
16     delay(1000);
17 }
```

board name  
automatically  
change to  
dark



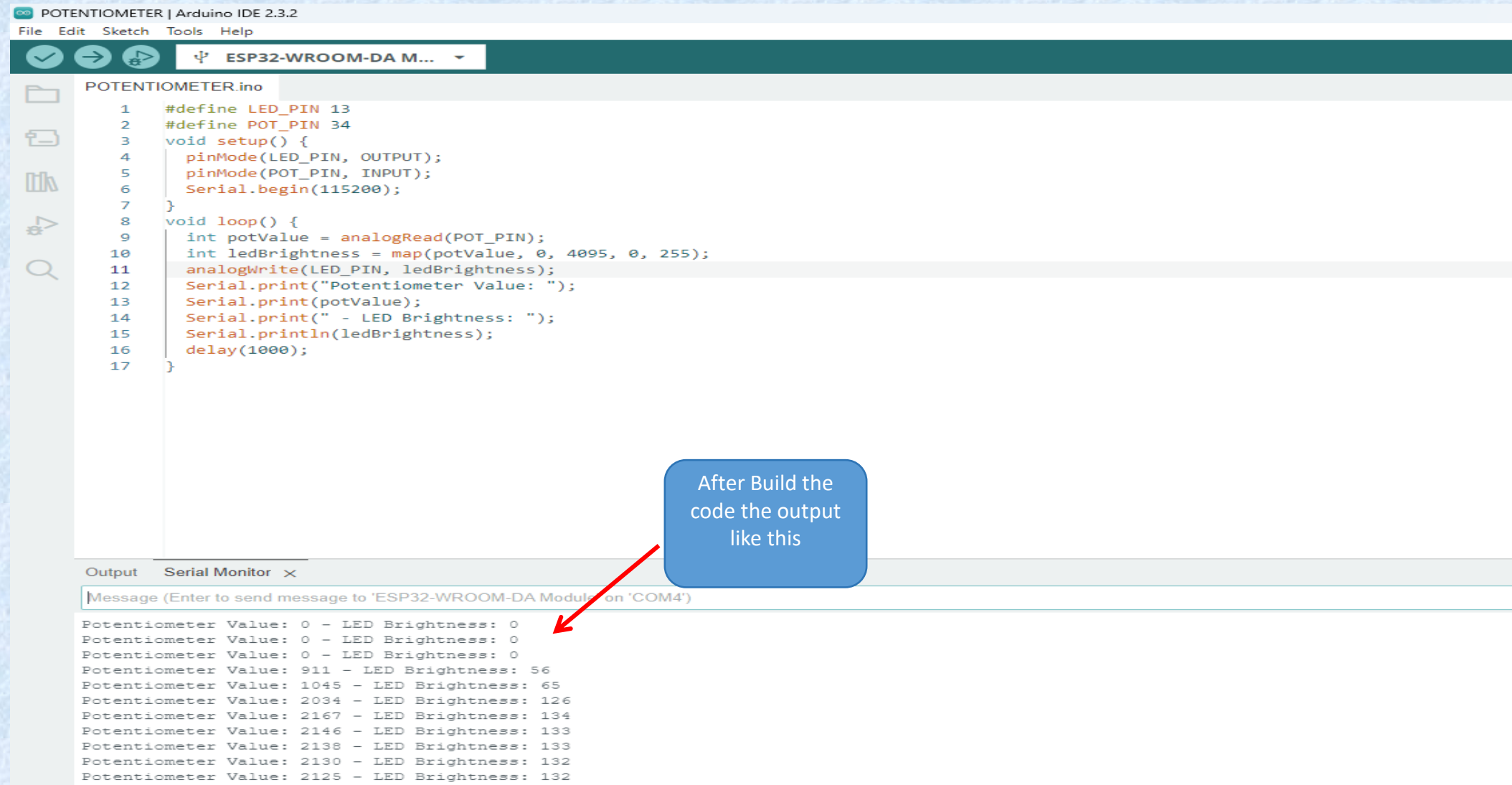
1. Compile  
the code

Compilation  
build the  
code to  
board

```
1  #define LED_PIN 13
2  #define POT_PIN A0
3
4  void setup() {
5    pinMode(LED_PIN, OUTPUT);
6    pinMode(POT_PIN, INPUT);
7    Serial.begin(115200);
8
9    void loop() {
10     int potValue = analogRead(POT_PIN);
11     int ledBrightness = map(potValue, 0, 4095, 0, 255);
12     analogWrite(LED_PIN, ledBrightness);
13     Serial.print("Potentiometer Value: ");
14     Serial.print(potValue);
15     Serial.print(" - LED Brightness: ");
16     Serial.println(ledBrightness);
17     delay(1000);
18   }
```

## OUTPUT:

When we upload the code the LED will adjusted using the potentiometer and we can see the potentiometer and the LED brightness value



The screenshot displays the Arduino IDE interface. The top menu bar includes 'File', 'Edit', 'Sketch', 'Tools', and 'Help'. The toolbar shows icons for saving, running, and uploading. The file name 'ESP32-WROOM-DA M...' is visible in the top right. The main editor window shows the code for 'POTENTIOMETER.ino'.

```
1  #define LED_PIN 13
2  #define POT_PIN 34
3  void setup() {
4      pinMode(LED_PIN, OUTPUT);
5      pinMode(POT_PIN, INPUT);
6      Serial.begin(115200);
7  }
8  void loop() {
9      int potValue = analogRead(POT_PIN);
10     int ledBrightness = map(potValue, 0, 4095, 0, 255);
11     analogWrite(LED_PIN, ledBrightness);
12     Serial.print("Potentiometer Value: ");
13     Serial.print(potValue);
14     Serial.print(" - LED Brightness: ");
15     Serial.println(ledBrightness);
16     delay(1000);
17 }
```

Below the code editor, the 'Serial Monitor' tab is active, showing the output of the program. A red arrow points from a blue callout box to the first line of the output.

After Build the code the output like this

```
Message (Enter to send message to 'ESP32-WROOM-DA Module on 'COM4')
Potentiometer Value: 0 - LED Brightness: 0
Potentiometer Value: 0 - LED Brightness: 0
Potentiometer Value: 0 - LED Brightness: 0
Potentiometer Value: 911 - LED Brightness: 56
Potentiometer Value: 1045 - LED Brightness: 65
Potentiometer Value: 2034 - LED Brightness: 126
Potentiometer Value: 2167 - LED Brightness: 134
Potentiometer Value: 2146 - LED Brightness: 133
Potentiometer Value: 2138 - LED Brightness: 133
Potentiometer Value: 2130 - LED Brightness: 132
Potentiometer Value: 2125 - LED Brightness: 132
```