TANSAM

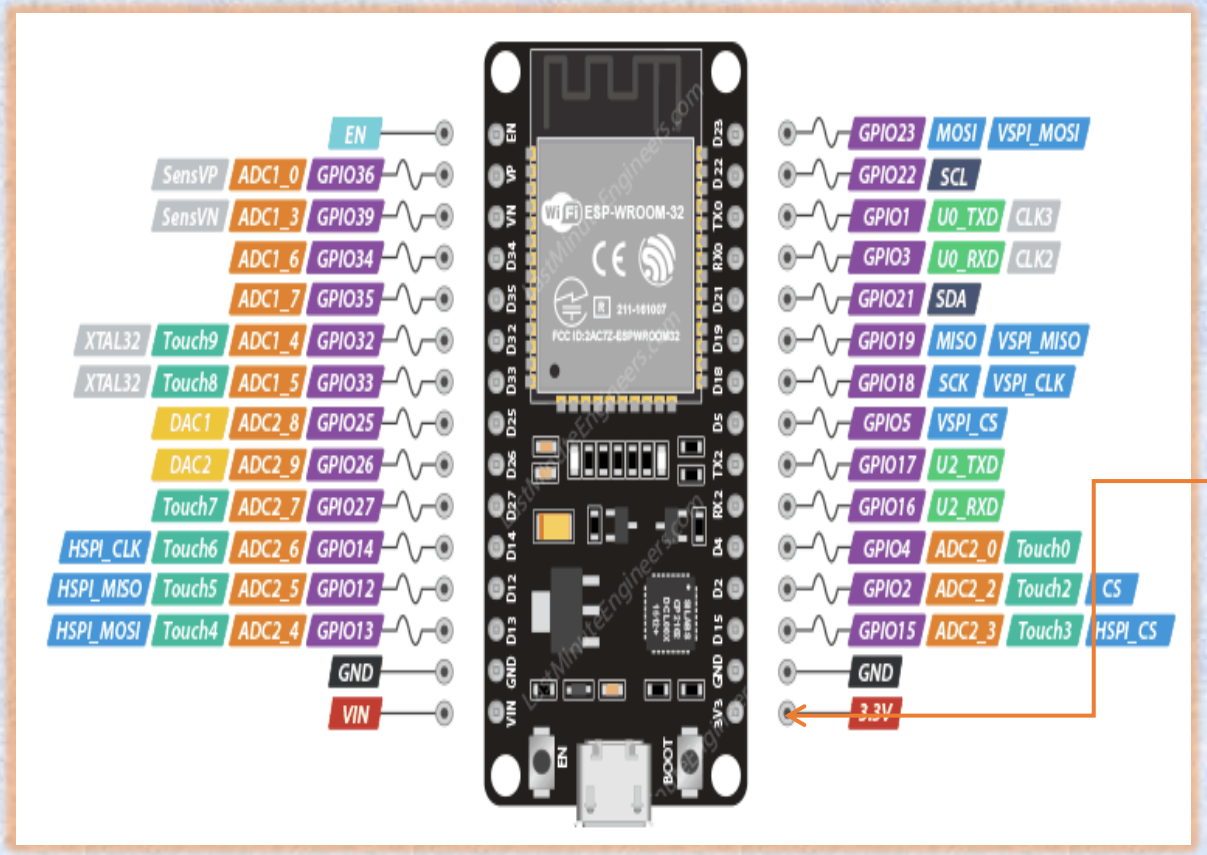
Powered by SIEMENS

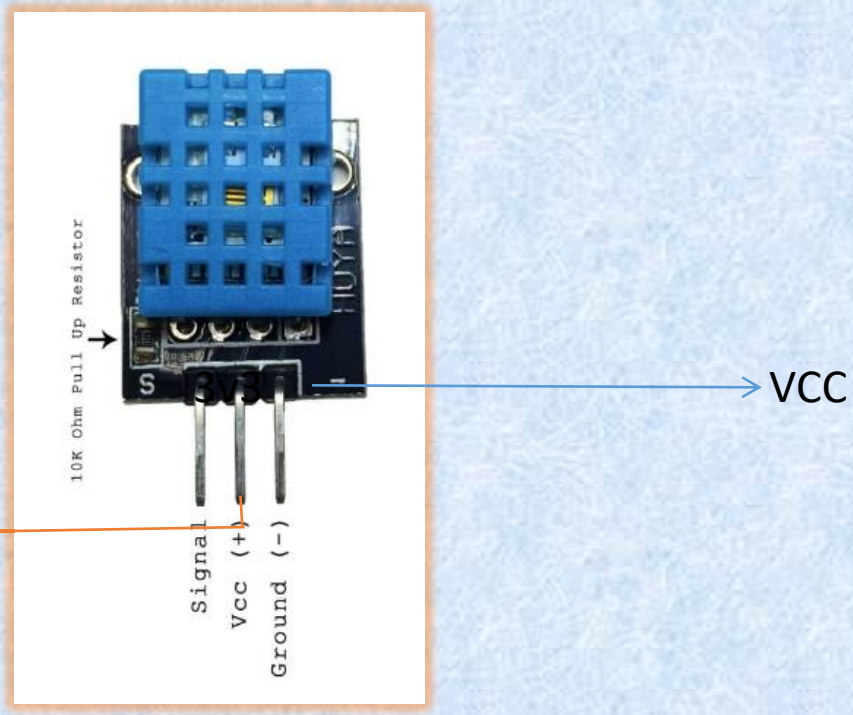
Crafting a Temperature and Humidity Monitoring System

LIST OF COMPONENTS:

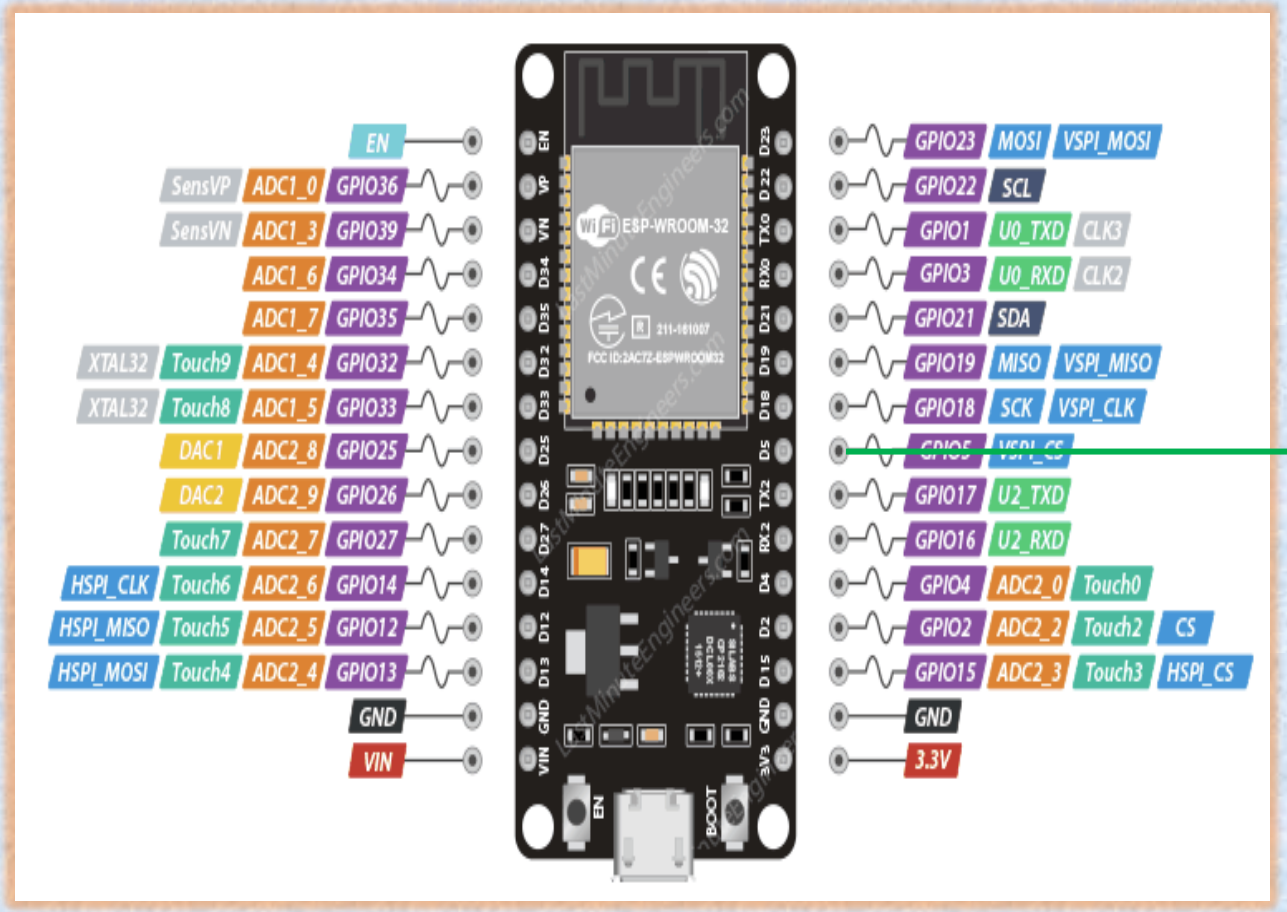
1. **ESP32 MICROCONTROLLER**
2. **DHT11**
3. **LCD DISPLAY 16X2 I2C**
4. **JUMPER WIRES**
5. **BREAD BOARD**

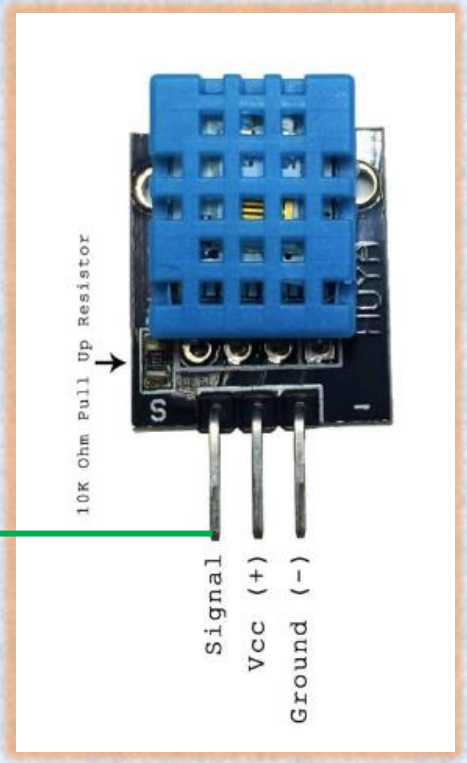
Circuit Diagram:-



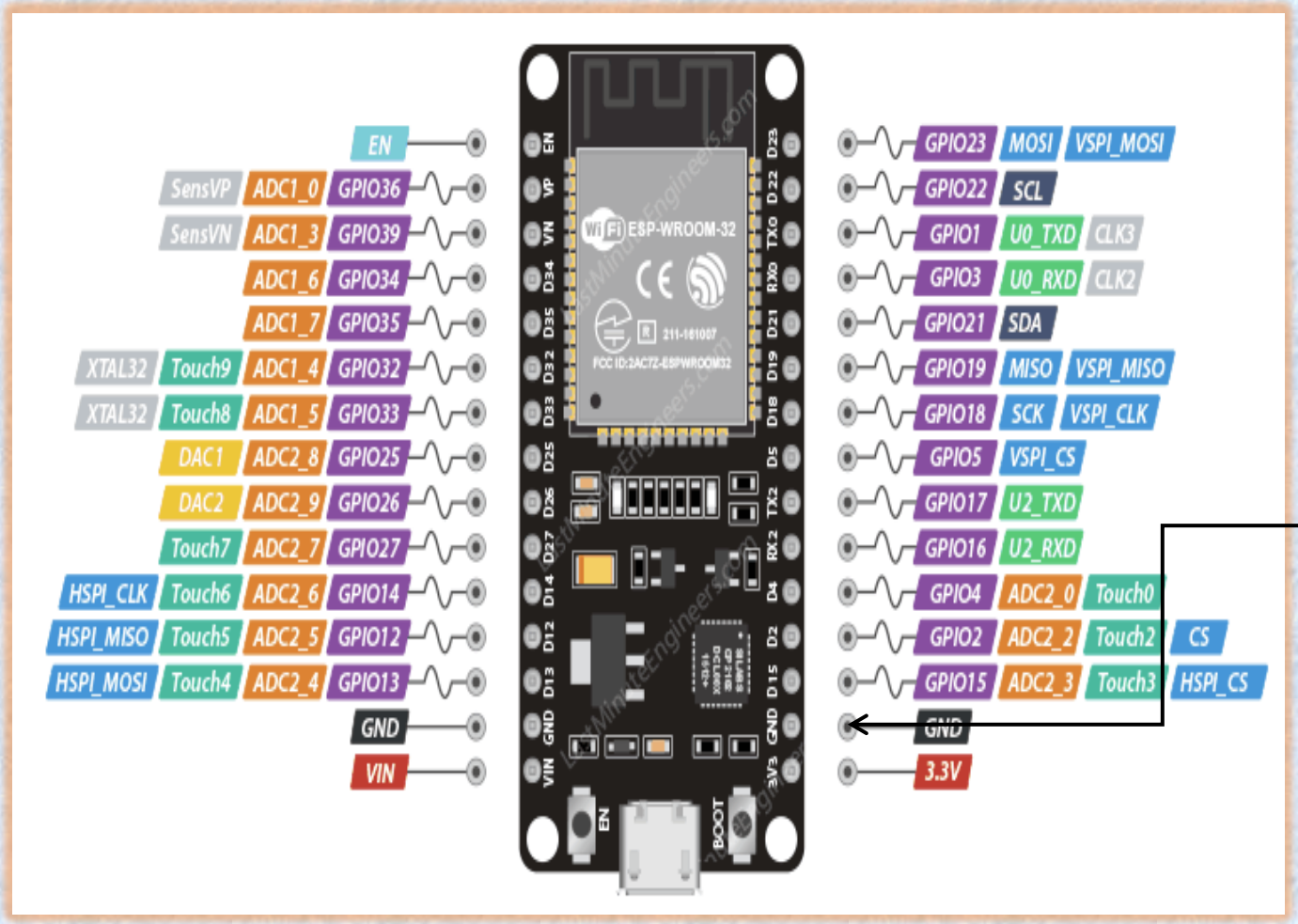


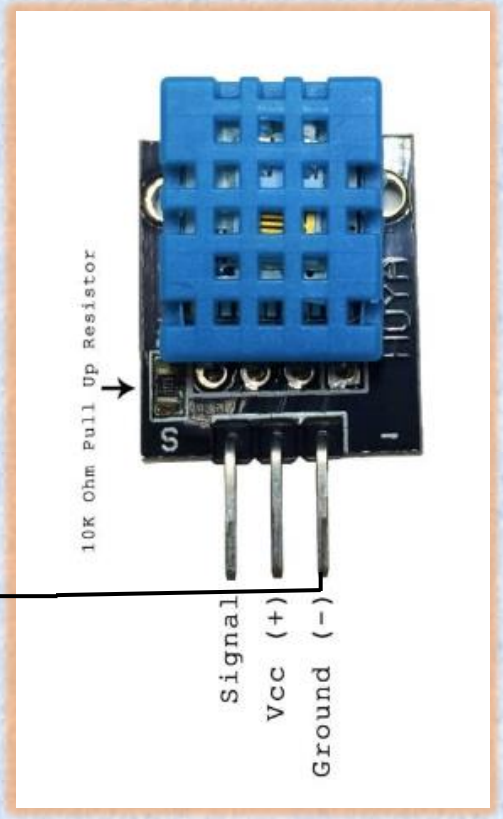
VCC



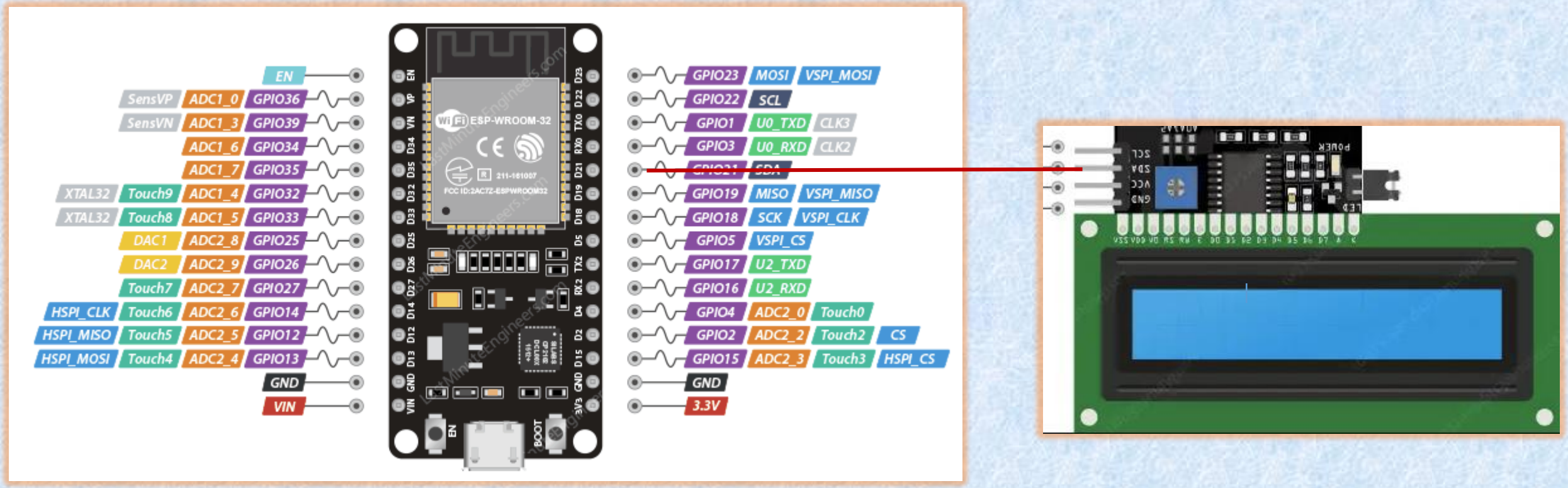


D5------->Signal (or) Data

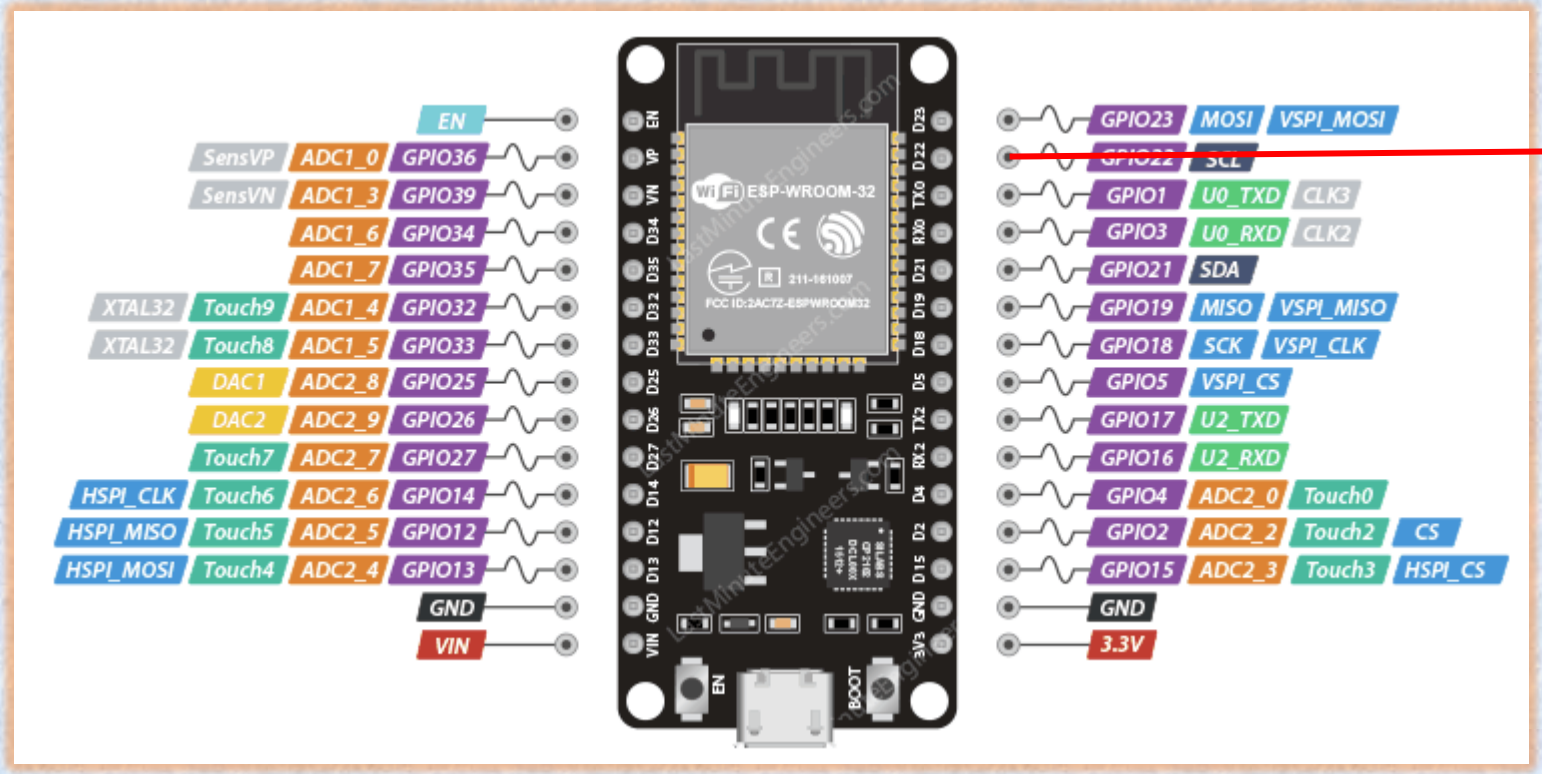

EN
SensVP ADC1_0 GPIO36
SensVN ADC1_3 GPIO39
ADC1_6 GPIO34
ADC1_7 GPIO35
XTAL32 Touch9 ADC1_4 GPIO32
XTAL32 Touch8 ADC1_5 GPIO33
DAC1 ADC2_8 GPIO25
DAC2 ADC2_9 GPIO26
Touch7 ADC2_7 GPIO27
HSPI_CLK Touch6 ADC2_6 GPIO14
HSPI_MISO Touch5 ADC2_5 GPIO12
HSPI_MOSI Touch4 ADC2_4 GPIO13
GND
VIN
ESP-WROOM-32
GPIO23 MOSI VSPI_MOSI
GPIO22 SCL
GPIO1 U0_TXD CLK3
GPIO3 U0_RXD CLK2
GPIO21 SDA
GPIO19 MISO VSPI_MISO
GPIO18 SCK VSPI_CLK
GPIO5 VSPI_CS
GPIO17 U2_TXD
GPIO16 U2_RXD
GPIO4 ADC2_0 Touch0
GPIO2 ADC2_2 Touch2 CS
GPIO15 ADC2_3 Touch3 HSPI_CS
GND
3.3V
EN
BOOT

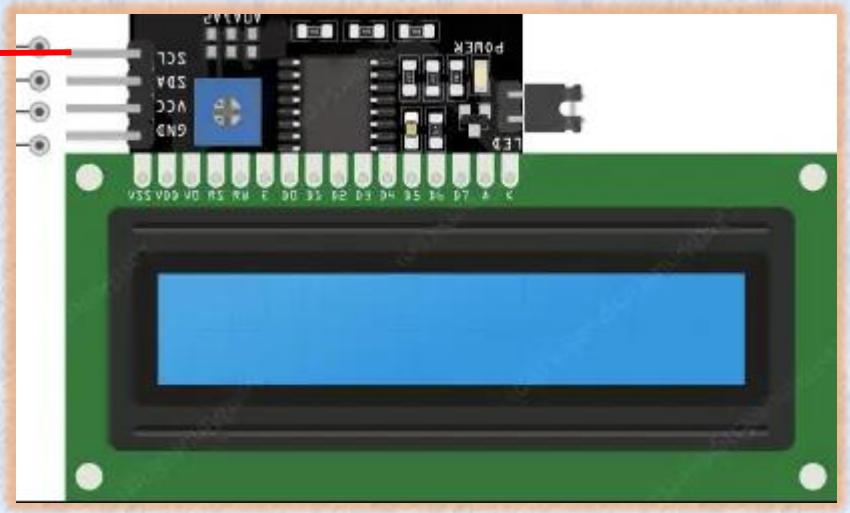

10K Ohm Pull Up Resistor
Signal
Vcc (+)
Ground (-)

GND-------->GND

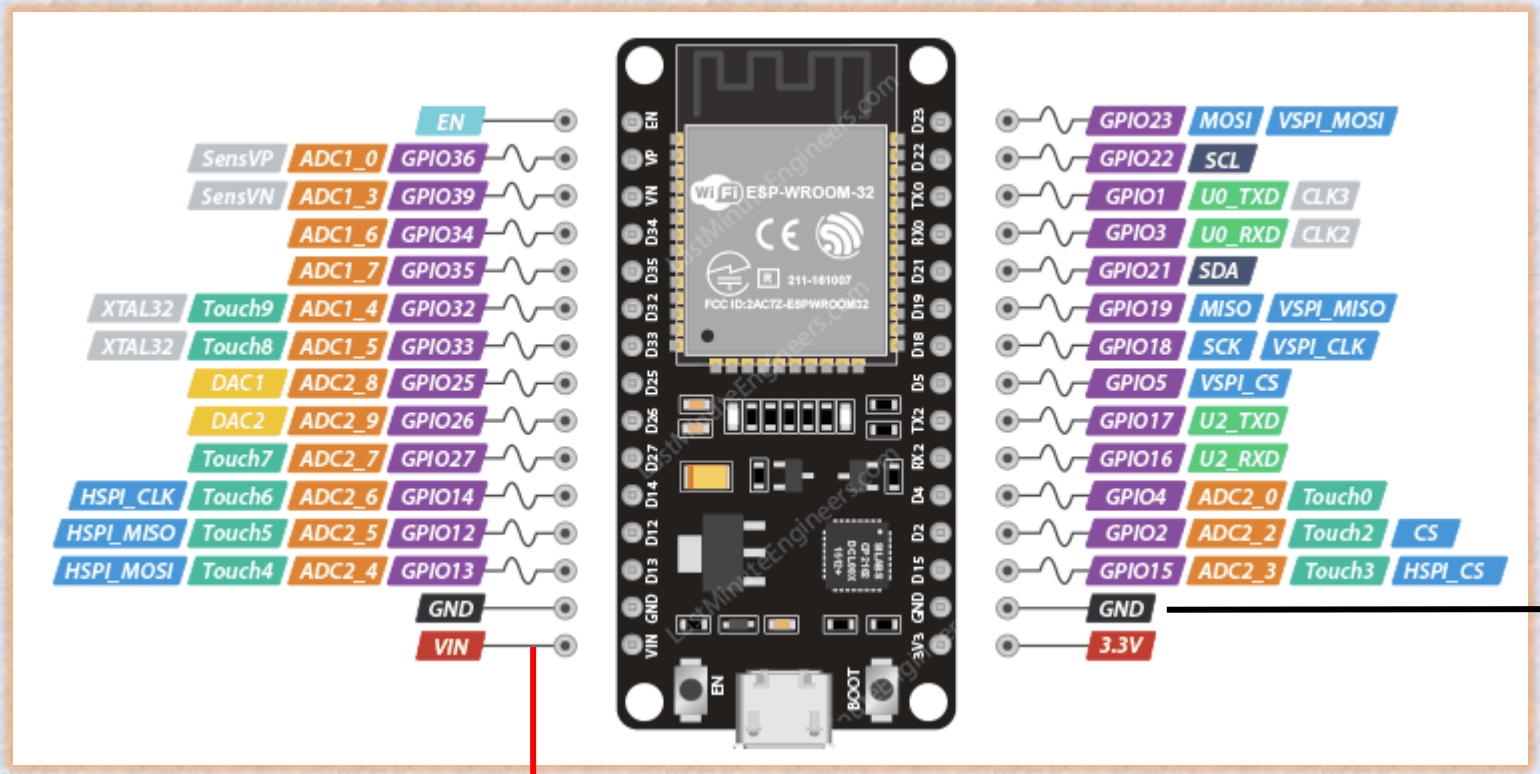


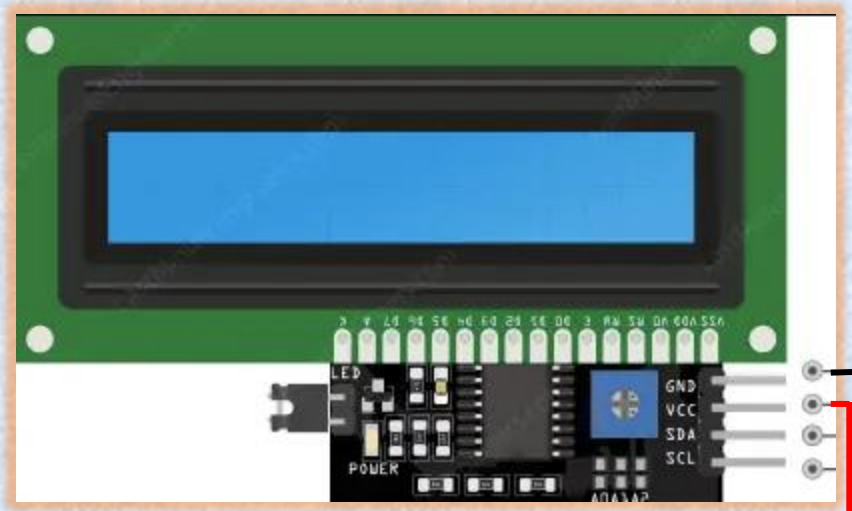
CONNECT SDA-D21





CONNECT SCL-D22





CONNECT VCC=VIN
CONNECT GND-GND

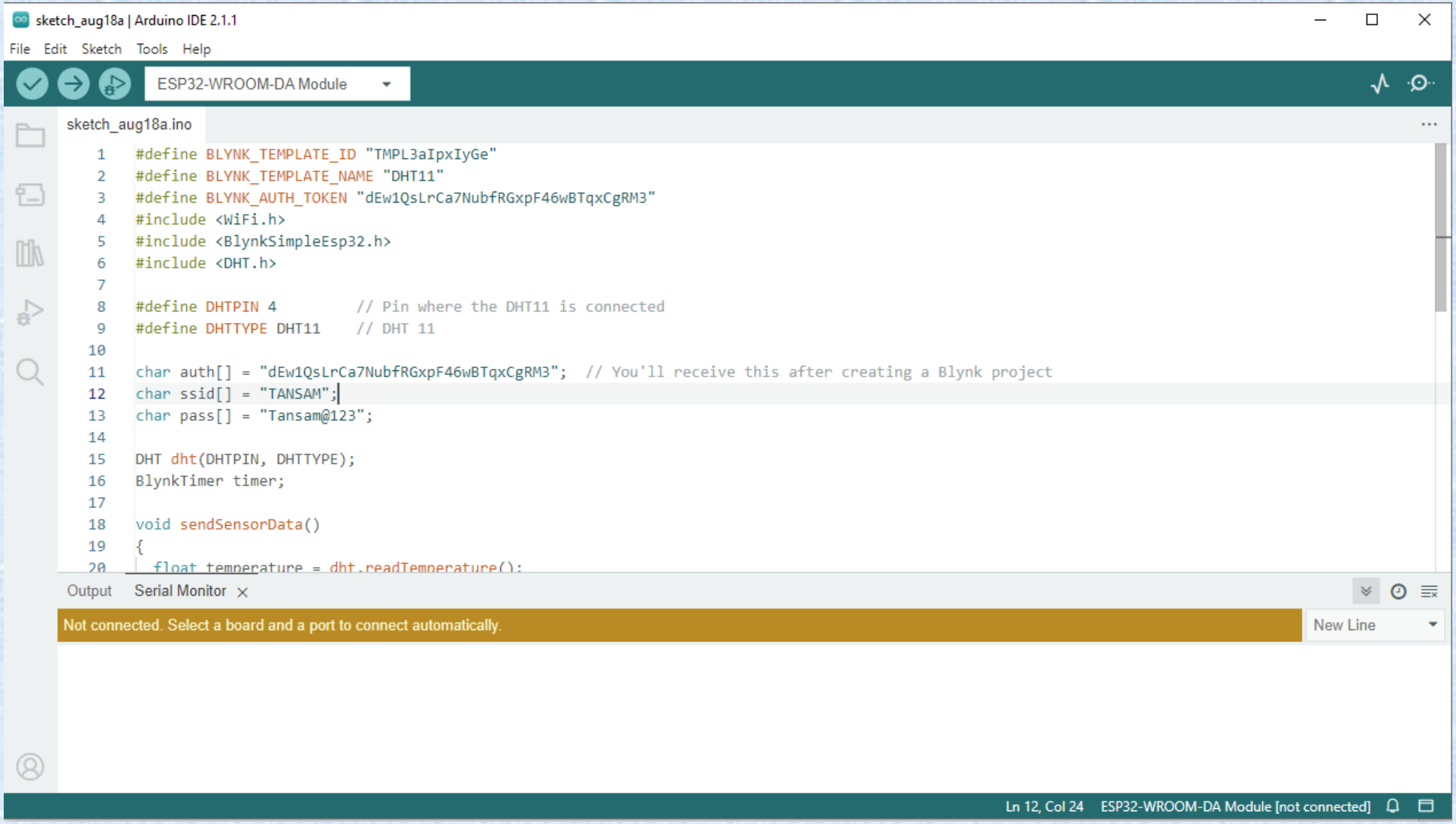
CONTINUE

CODE:

```
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
#include <DHT.h>

#define DHTPIN 5
#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);
LiquidCrystal_I2C lcd(0x27, 16, 2);

void setup() {
  Serial.begin(115200);
  dht.begin();
  lcd.init();
  lcd.backlight();
  lcd.setCursor(0, 0);
  lcd.print("Temperature:");
  lcd.setCursor(0, 1);
  lcd.print("Humidity:");
}
void loop() {
  delay(2000);
  float temperature = dht.readTemperature();
  float humidity = dht.readHumidity();
  Serial.print("Temperature: ");
  Serial.print(temperature);
  Serial.println(" °C");
  Serial.print("Humidity: ");
  Serial.print(humidity);
  Serial.println(" %");
  lcd.setCursor(13, 0);
  lcd.print("    ");
  lcd.setCursor(13, 0);
  lcd.print(temperature);
  lcd.setCursor(11, 1);
  lcd.print("    ");
  lcd.setCursor(11, 1);
  lcd.print(humidity);
}
```

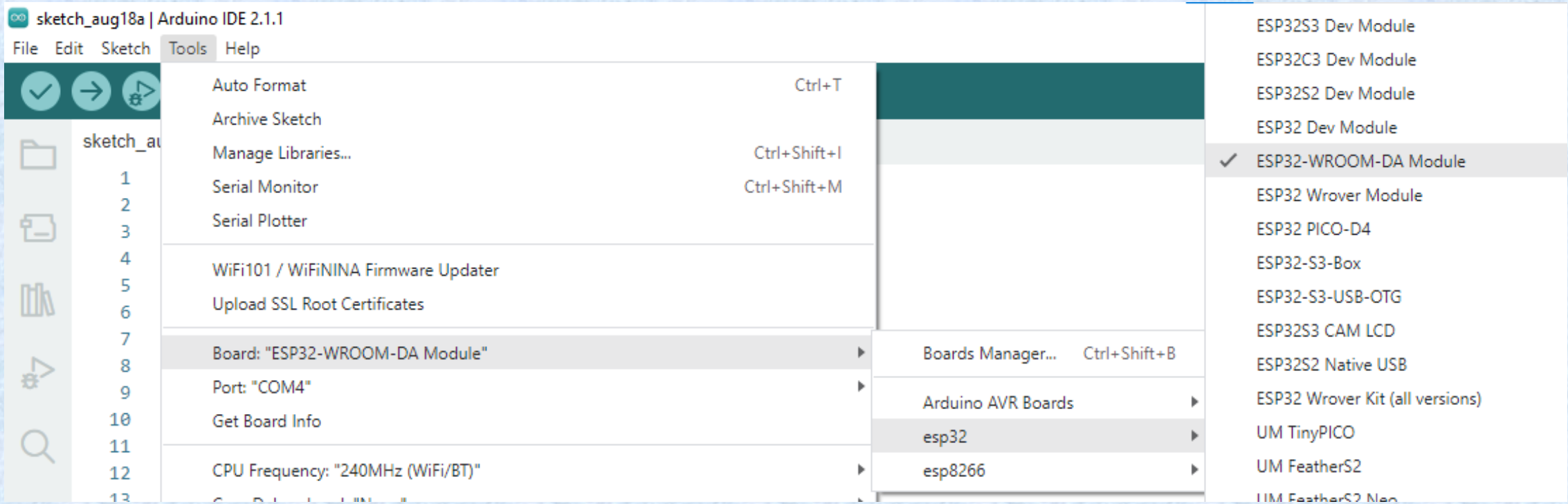
Step-1:-

Copy code paste in Arduino new Sketch



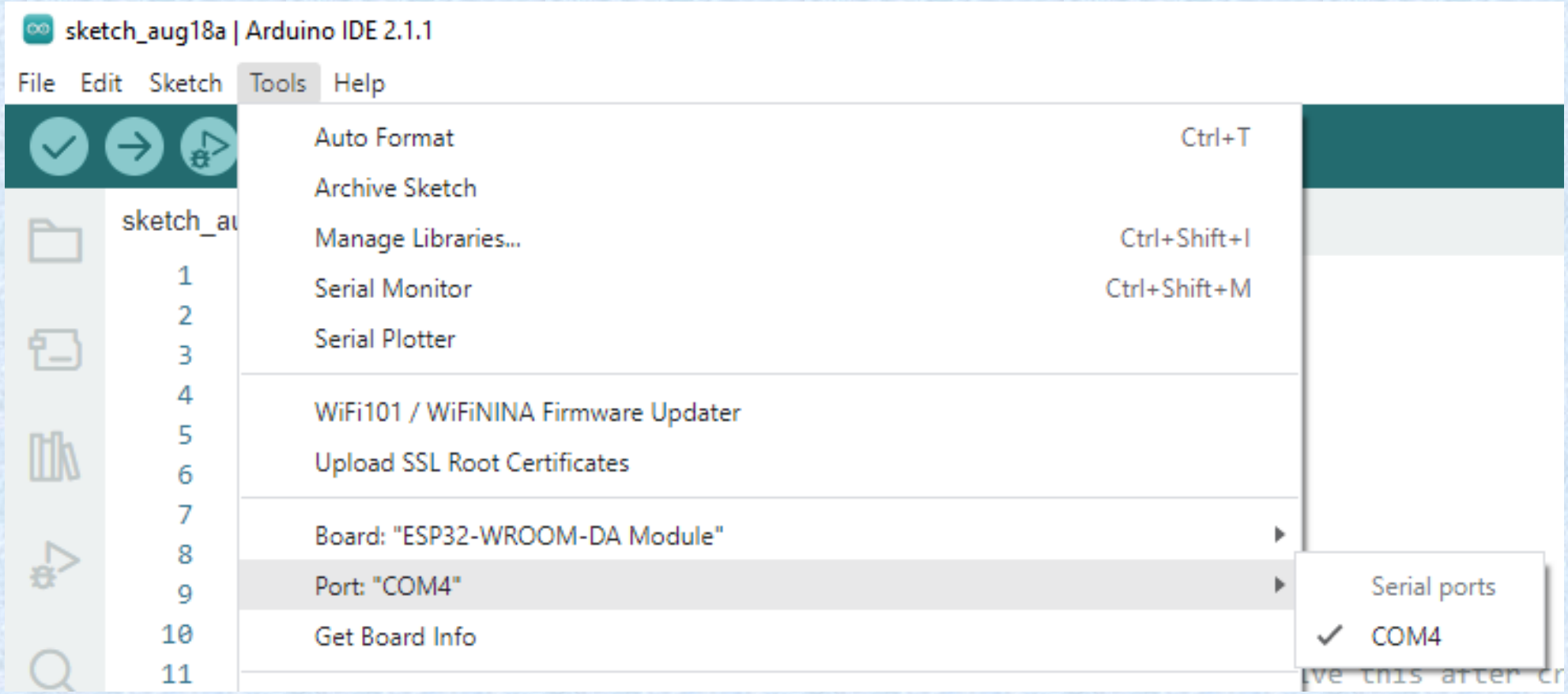
Step-2

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

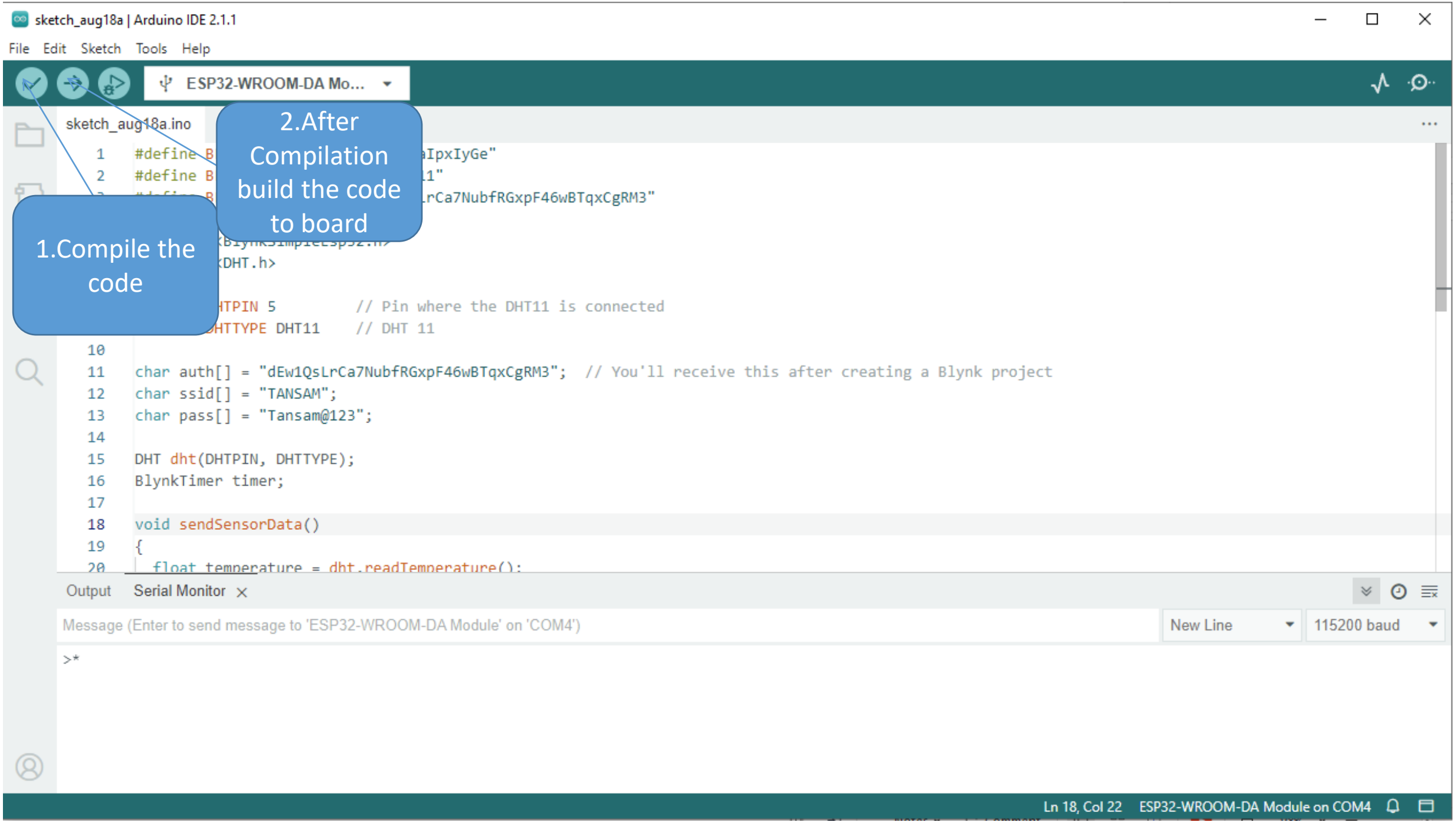


Step-3:-

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




sketch_aug18a | Arduino IDE 2.1.1
File Edit Sketch Tools Help
ESP32-WROOM-DA Mo...
board name automatically change to dark
sketch_aug18a.ino
#define BLYNK_TEMPLATE_ID "TMPL3aIpxIyGe"
#define BLYNK_TEMPLATE_NAME "DHT11"
#define BLYNK_AUTH_TOKEN "dEw1QsLrCa7Nub
#include <WiFi.h>
#include <BlynkSimpleEsp32.h>
#include <DHT.h>
#define DHTPIN 5 // Pin where the DHT11 is connected
#define DHTTYPE DHT11 // DHT 11
char auth[] = "dEw1QsLrCa7NubfRGxpF46wBTqxCgRM3"; // You'll receive this after creating a Blynk project
char ssid[] = "TANSAM";
char pass[] = "Tansa
DHT dht(DHTPIN, DHTT
BlynkTimer timer;
void sendSensorData(
{
float temperature = dht.readTemperature();
variable temperature
Type: float
// In sendSensorData
float temperature = dht.readTemperature()
Output Serial Monitor
Message (Enter to send message to 'ESP32-WROOM-DA Module' on 'COM4')
New Line
115200 baud
>*
Ln 18, Col 22 ESP32-WROOM-DA Module on COM4


sketch_aug18a | Arduino IDE 2.1.1
File Edit Sketch Tools Help
ESP32-WROOM-DA Mo...
sketch_aug18a.ino
2.After Compilation build the code to board
1.Compile the code
#define B aIpxIyGe"
#define B 11"
rCa7NubfRGxpF46wBTqxCgRM3"
<DHT.h>
HTPIN 5 // Pin where the DHT11 is connected
DHTTYPE DHT11 // DHT 11
char auth[] = "dEw1QsLrCa7NubfRGxpF46wBTqxCgRM3"; // You'll receive this after creating a Blynk project
char ssid[] = "TANSAM";
char pass[] = "Tansam@123";
DHT dht(DHTPIN, DHTTYPE);
BlynkTimer timer;
void sendSensorData()
{
float temperature = dht.readTemperature();
Output Serial Monitor
Message (Enter to send message to 'ESP32-WROOM-DA Module' on 'COM4')
New Line
115200 baud
>*
Ln 18, Col 22 ESP32-WROOM-DA Module on COM4

sketch_aug18a | Arduino IDE 2.1.1

File Edit Sketch Tools Help

ESP32-WROOM-DA Mo...

sketch_aug18a.ino

```
#include <DHT.h>

#define DHTPIN 5          // Pin where the DHT11 is connected
#define DHTTYPE DHT11     // DHT 11

char auth[] = "dEw1QsLrCa7NubfRGxpF46wBTqxCgRM3";  // You'll receive this after creating a Blynk project
char ssid[] = "TANSAM";
char pass[] = "Tansam@123";

DHT dht(DHTPIN, DHTTYPE);
BlynkTimer timer;

void sendSensorData()
{
  float temperature = dht.readTemperature();
  float humidity = dht.readHumidity();

  if (isnan(temperature) || isnan(humidity))
  {
    Serial.println("Failed to read from D
```

After Build the code the output like this

Output Serial Monitor

Message (Enter to send message to 'ESP32-WROOM-DA Modul

New Line 115200 baud

```
>**Temperature(°C):27.40
Humidity:56.00
Temperature(°C):27.40
Humidity:56.00
Temperature(°C):26.50
Humidity:56.00
```

Ln 18, Col 22 ESP32-WROOM-DA Module on COM4 2