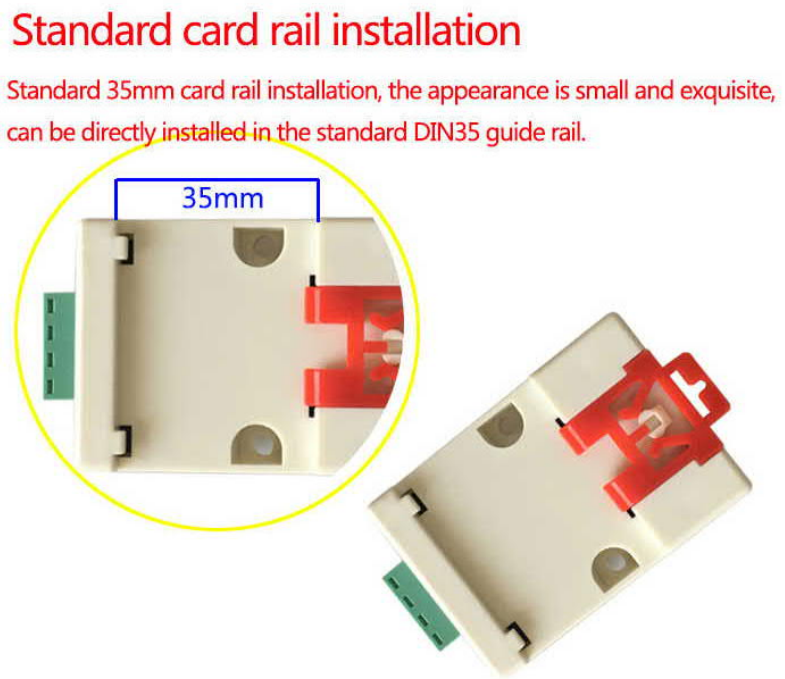
Transmetteur de température et d'humidité capteur SHT20 Modbus RS485

Description du produit:

Le produit adopte une puce de qualité industrielle, des capteurs de température et d'humidité SHT20 de haute précision, assurent aux produits une bonne fiabilité, une haute précision et l'échangeabilité.

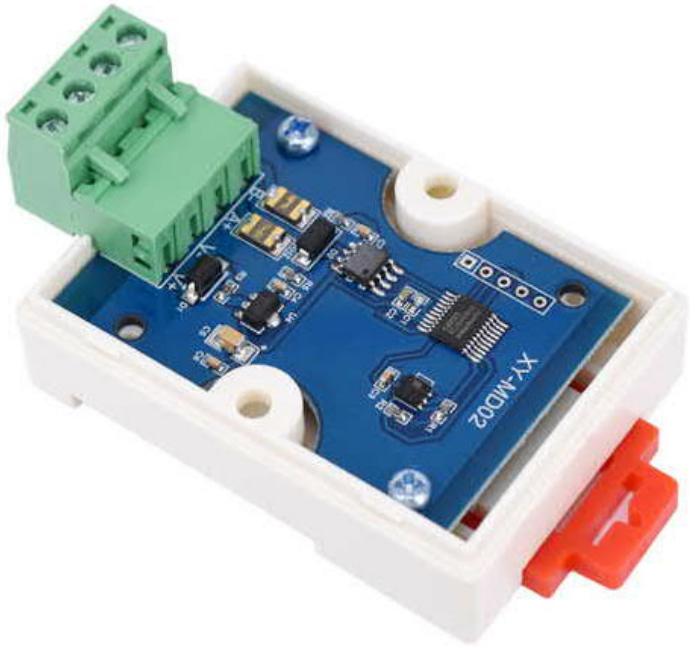
Adopter l'interface matérielle RS485 (avec la conception de protection contre la foudre), la couche de protocole compatible avec le protocole industriel standard Modbus Rtu.

Ce produit intégrant le protocole MODBUS avec l'ordinaire, les utilisateurs peuvent choisir les protocoles de communication, accord commun avec fonction de téléchargement automatique(Connectez l'outil de mode d'interface série RS485 en produisant automatiquement la température et l'humidité).



Weight : 41g

Commodity coding	XY-MD02	Temperature precision	±0.5°C (25°C)
Product name	Temperature and humidity transmitte	Humidity precision	±3%RH
DC power supply	DC 5-30V	Temperature range	-40°C~+60°C
Output signal	RS485 signal	Humidity range	0%RH~80%RH
Communication protocol	Modbus-RTU protocol and Custom general protocol	Temperature resolution	0.1°C
Mailing address	1~247 can be set, by default 1	Humidity resolution	0.1%RH
Baud rate	Can be set, by default 9600 8 bit data, 1 bit stop, no check.	Equipment power consumption	≤0.2W



How to connect devices, teach how to use Arduino Temperature and Humidity Sensor XY-MD02 SHT20 Temperature and Humidity

1. *Connect devices as below*

Arduino UNO R3 -> RS485 module

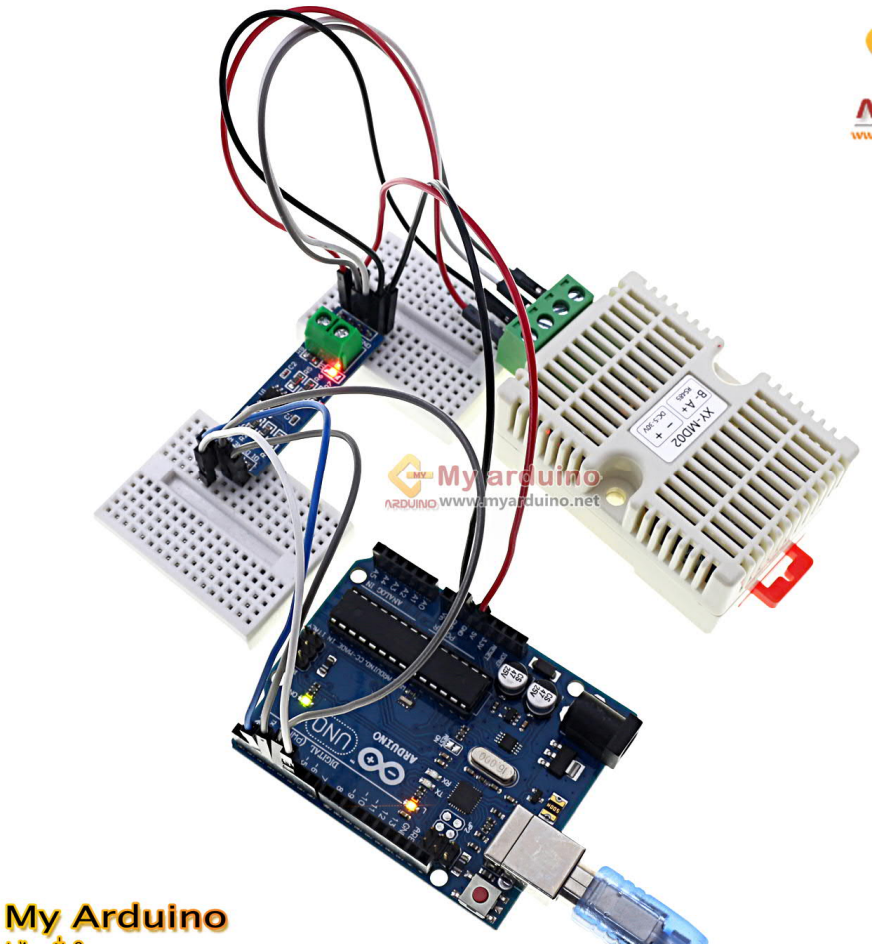
- 5 V - > VCC
- GND - > GND
- 2 - > R0
- 3 - > DI
- 4 - > DE
- 5 - > RE

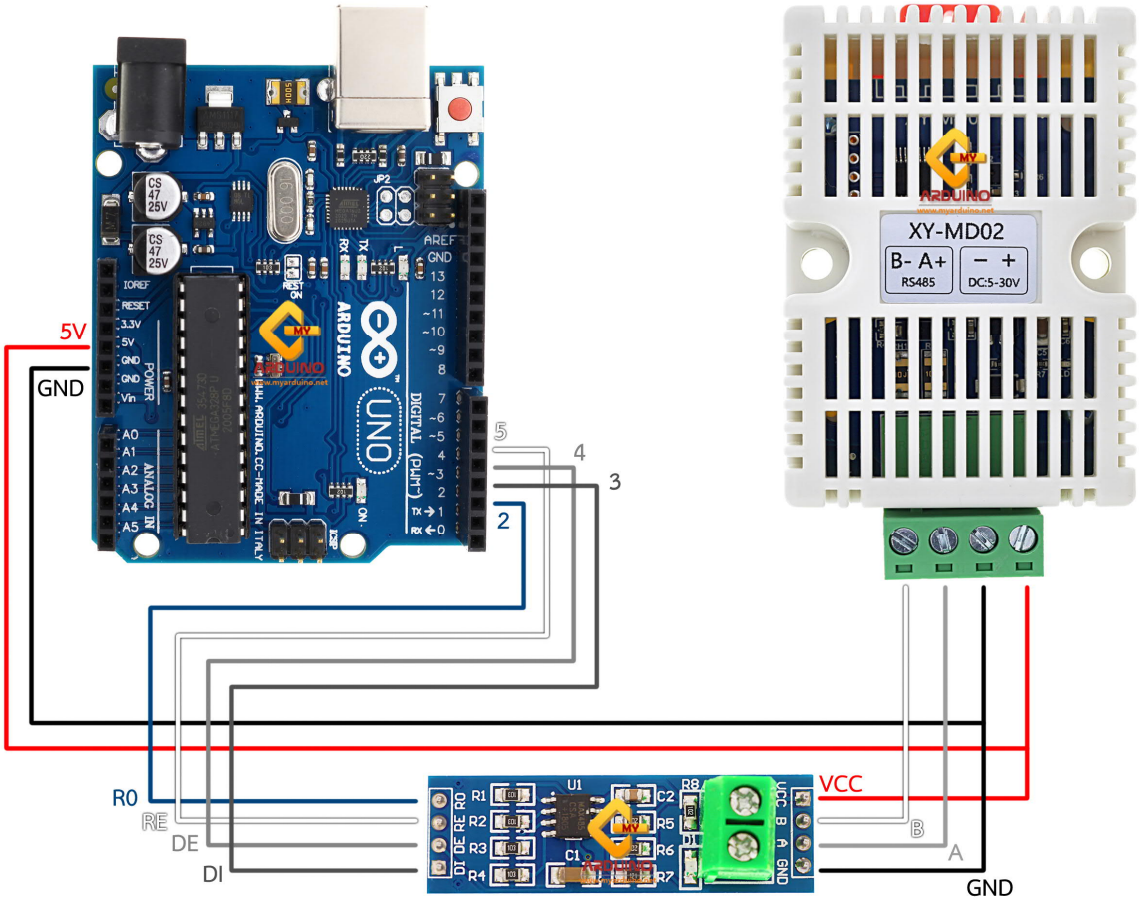
Arduino UNO R3 - > XY-MD02

- 5 V - > (+)
- GND - > (-)

RS485 module -> XY-MD02

- VCC - > (+)
- GND -> (-)
- B - > B-
- A - > A+

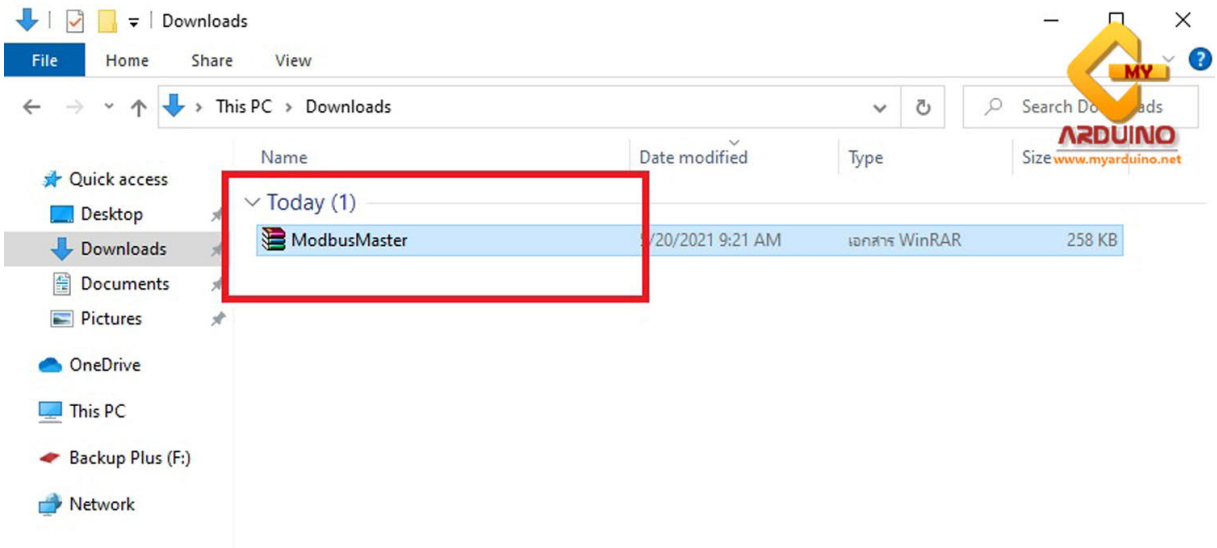




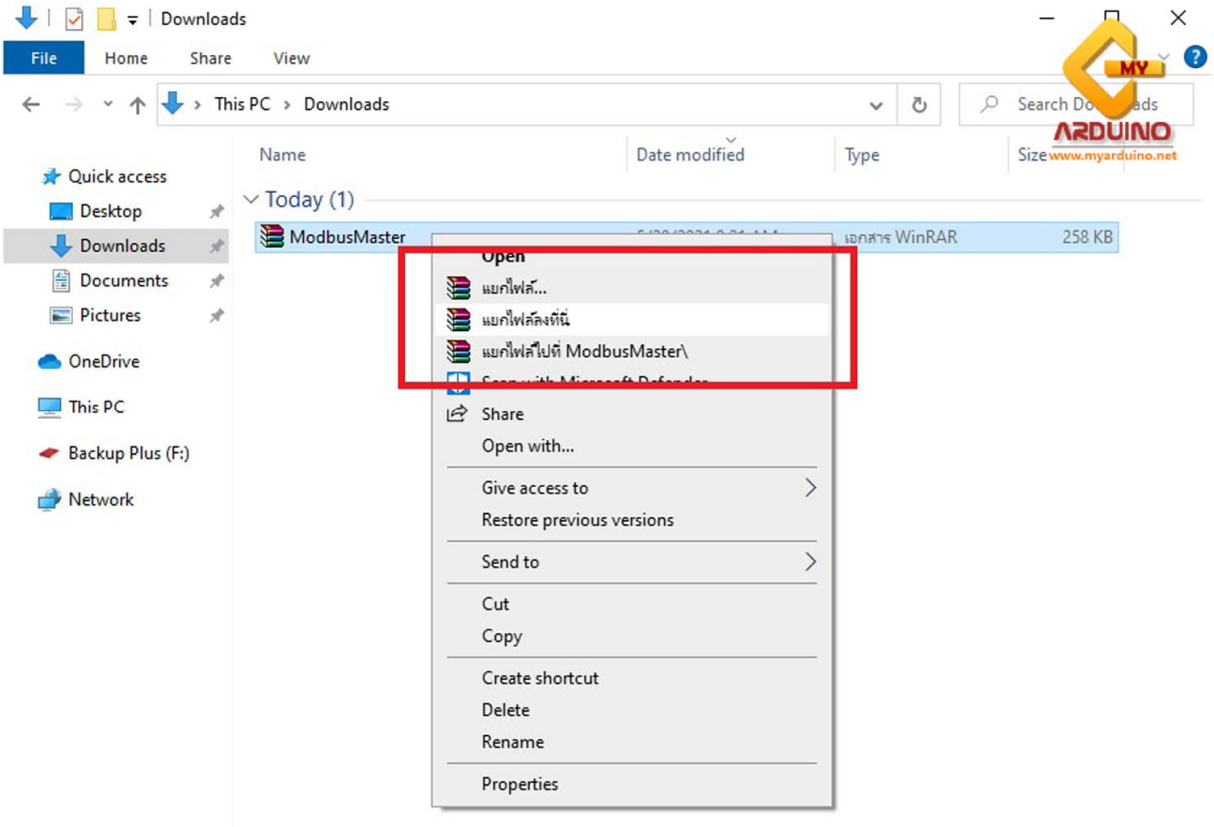
2. *Once the device is connected successfully Please download the* Library *from the link below.*

Load Library

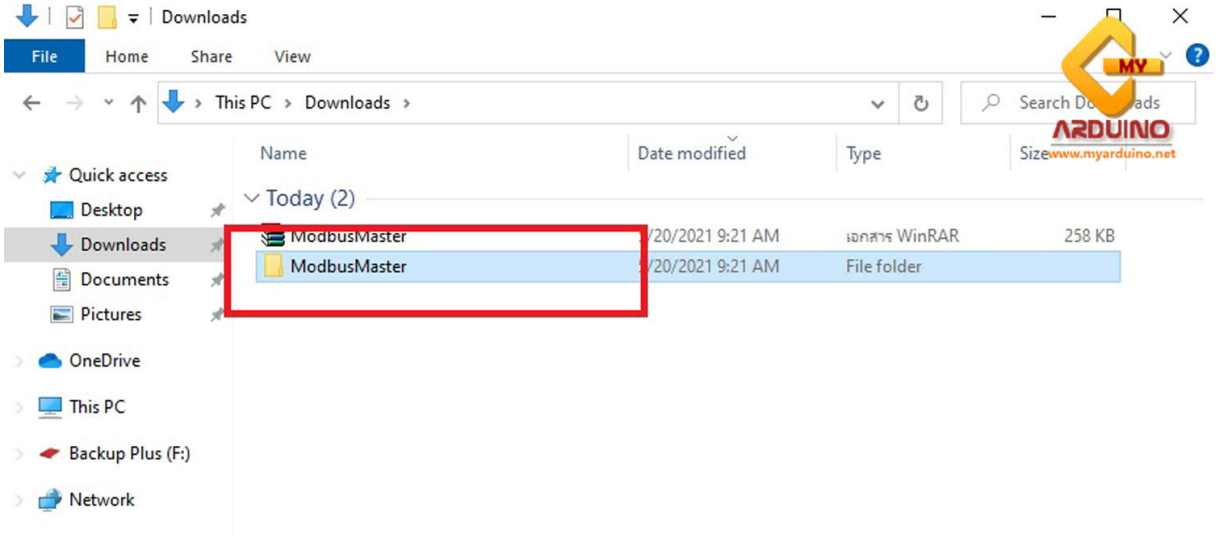
- *https://www.mediafire.com/file/lhri5xnrzwmia81/ModbusMaster.rar/file*

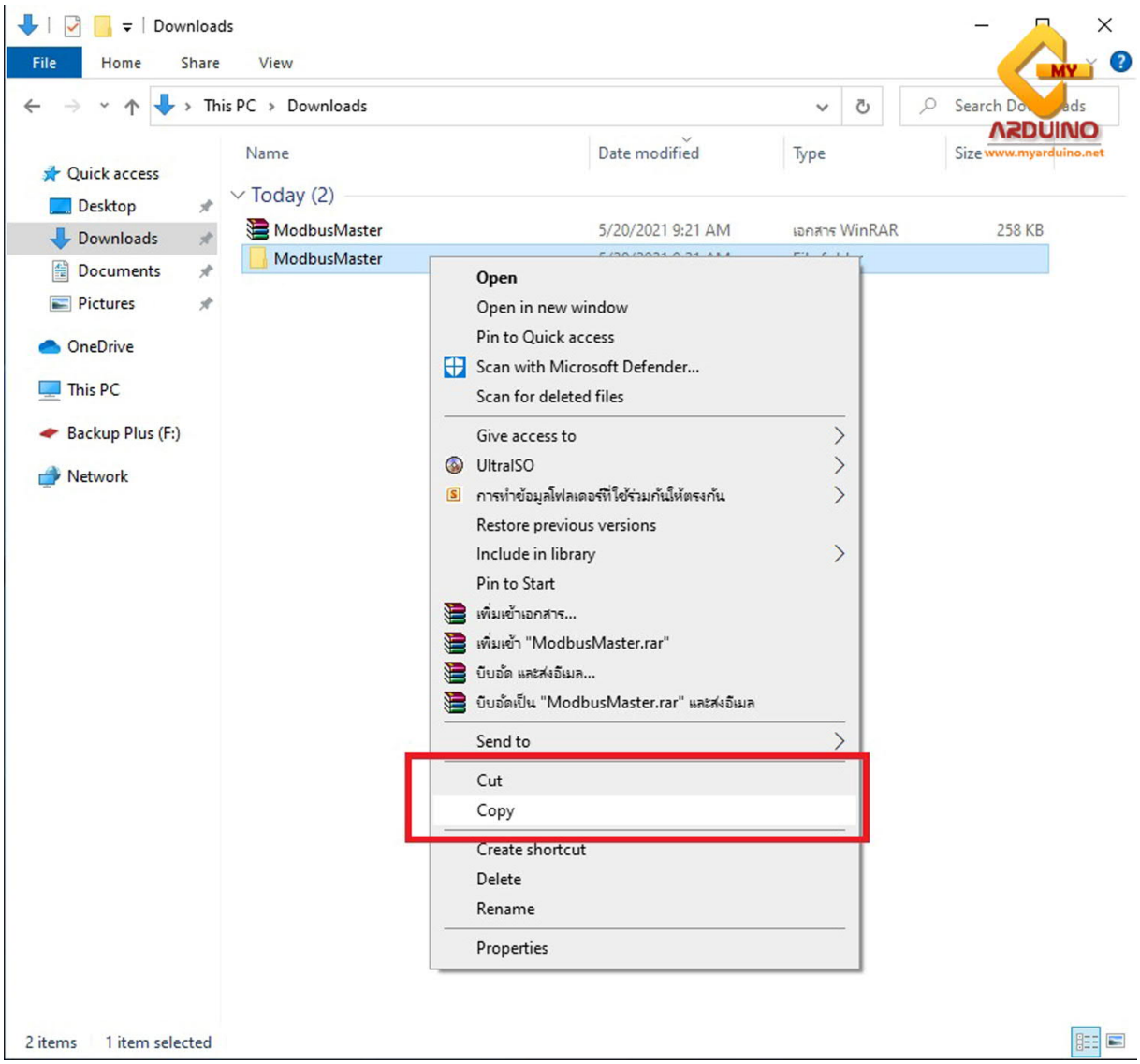


3. Extract the files. For extracting files, it is necessary to have WinRAR or WinZip installed on your computer.



4. After extracting the files, copy the folder into the libraries *folder* of the Arduino IDE *program.* Example Location : This PC > Document > Arduino > libralies.

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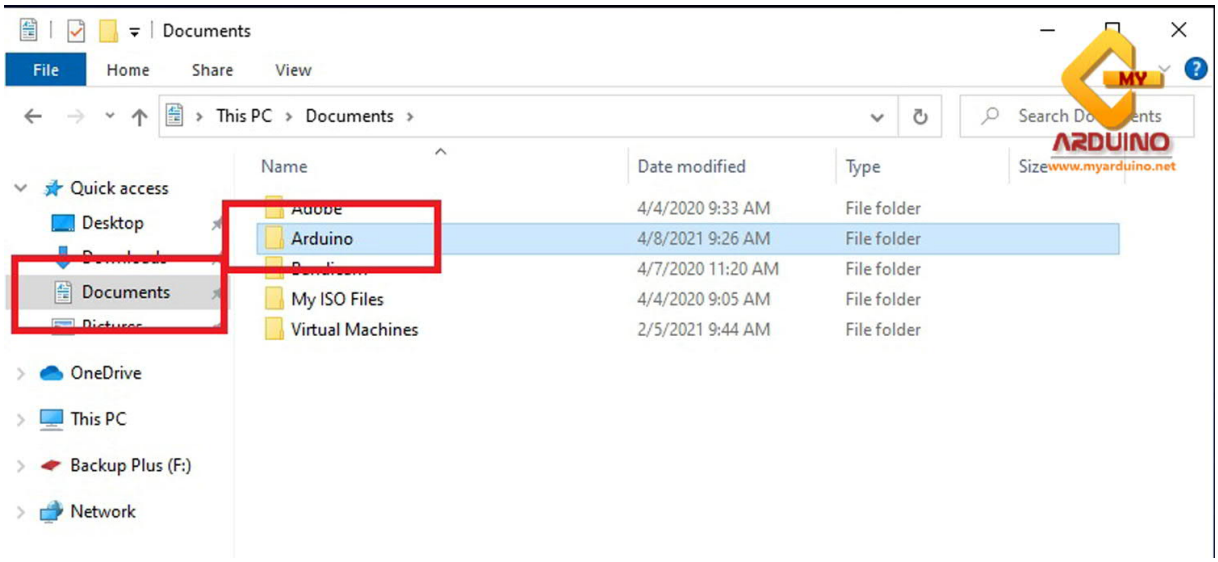
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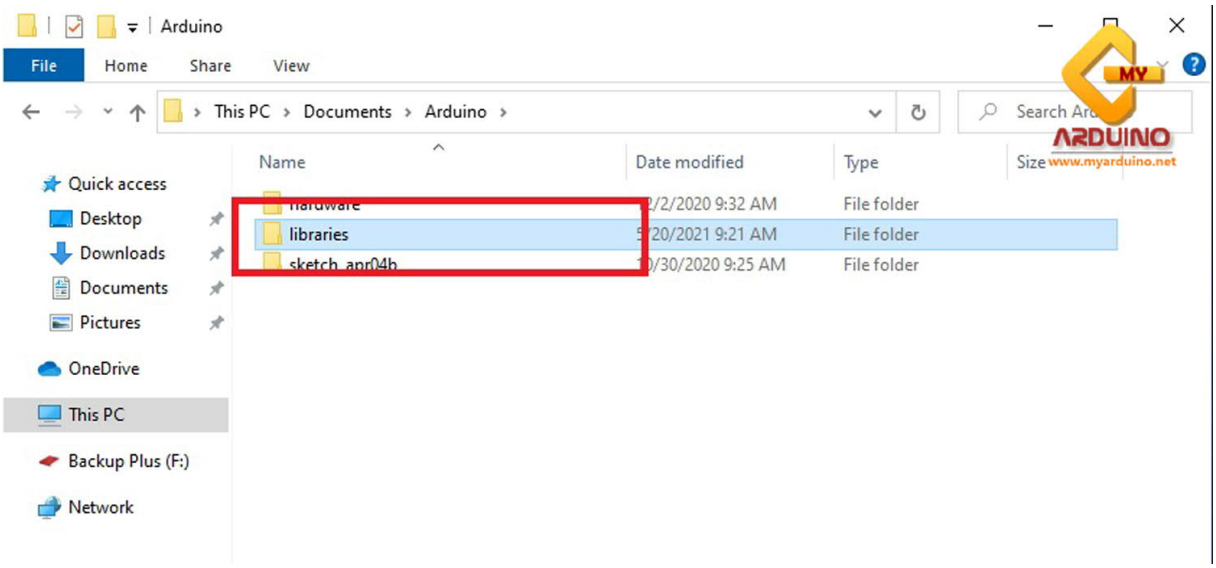
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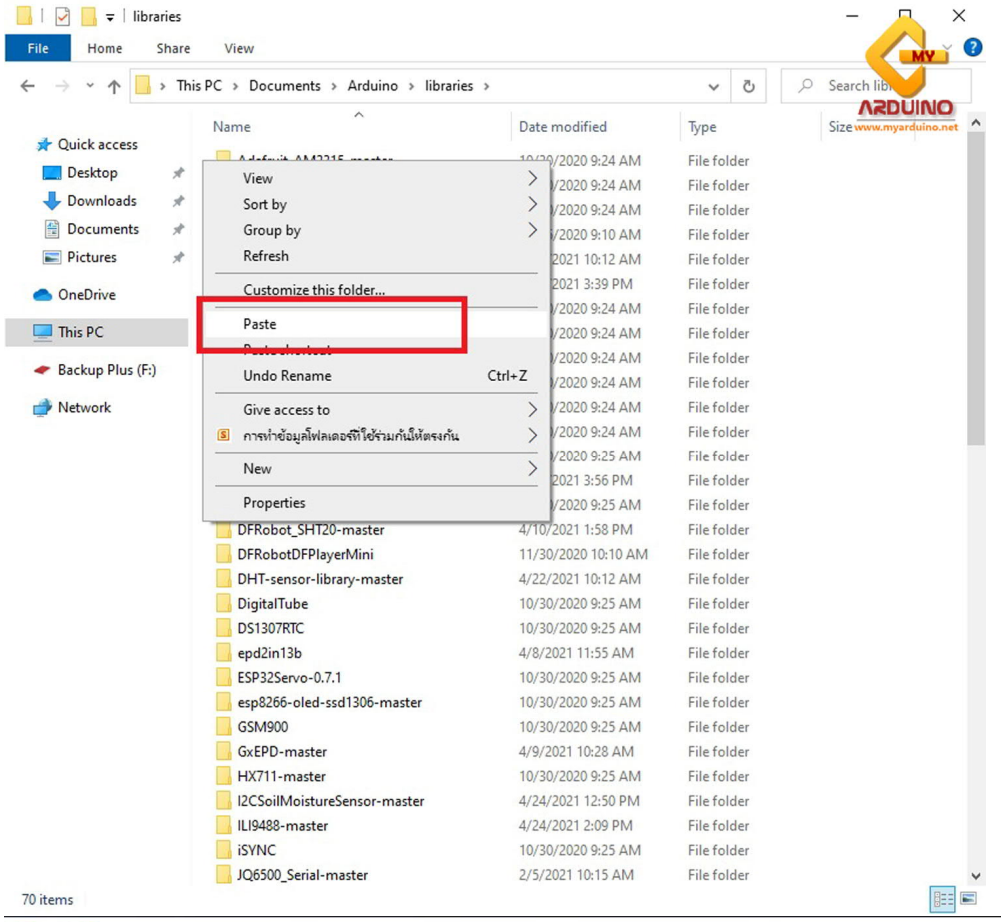
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esp8266-oled-ssd1306-master
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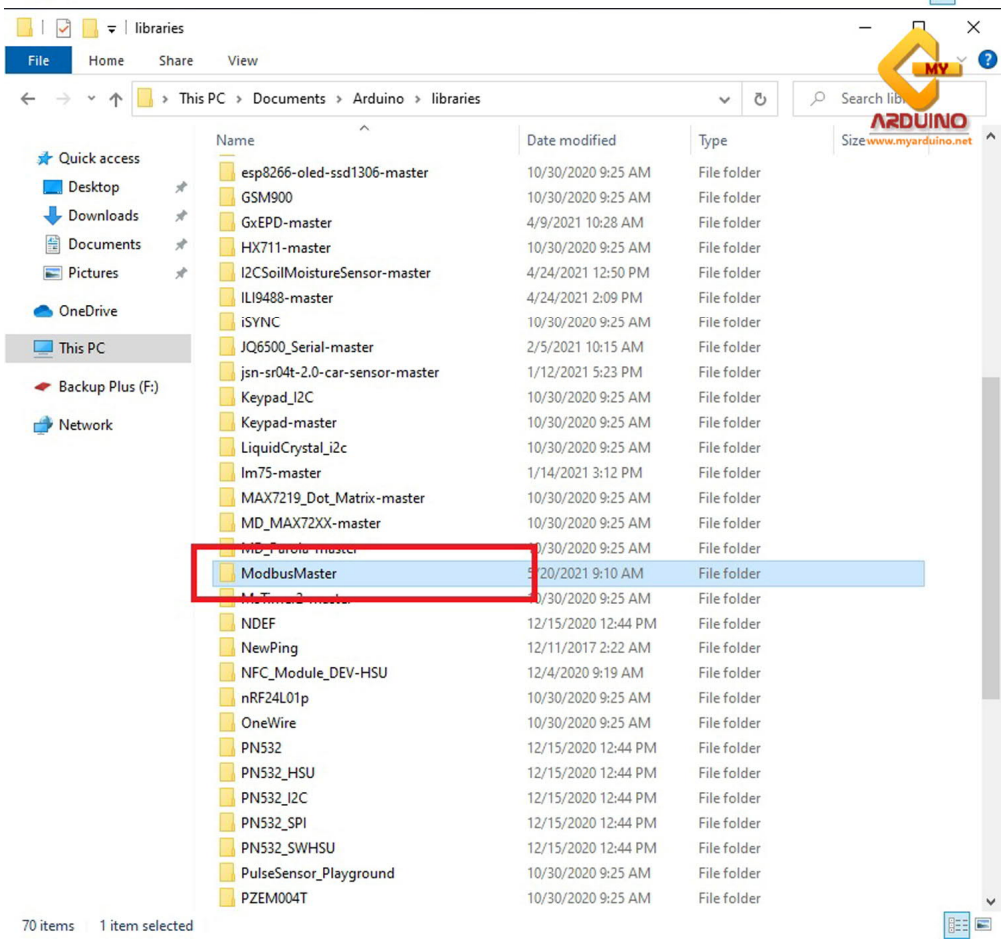
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iSYNC
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Keypad-master
LiquidCrystal_i2c
lm75-master
MAX7219_Dot_Matrix-master
MD_MAX72XX-master
ModbusMaster
NDEF
NewPing
NFC_Module_DEV-HSU
nRF24L01p
OneWire
PN532
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PN532_I2C
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PN532_SWHSU
PulseSensor_Playground
PZEM004T
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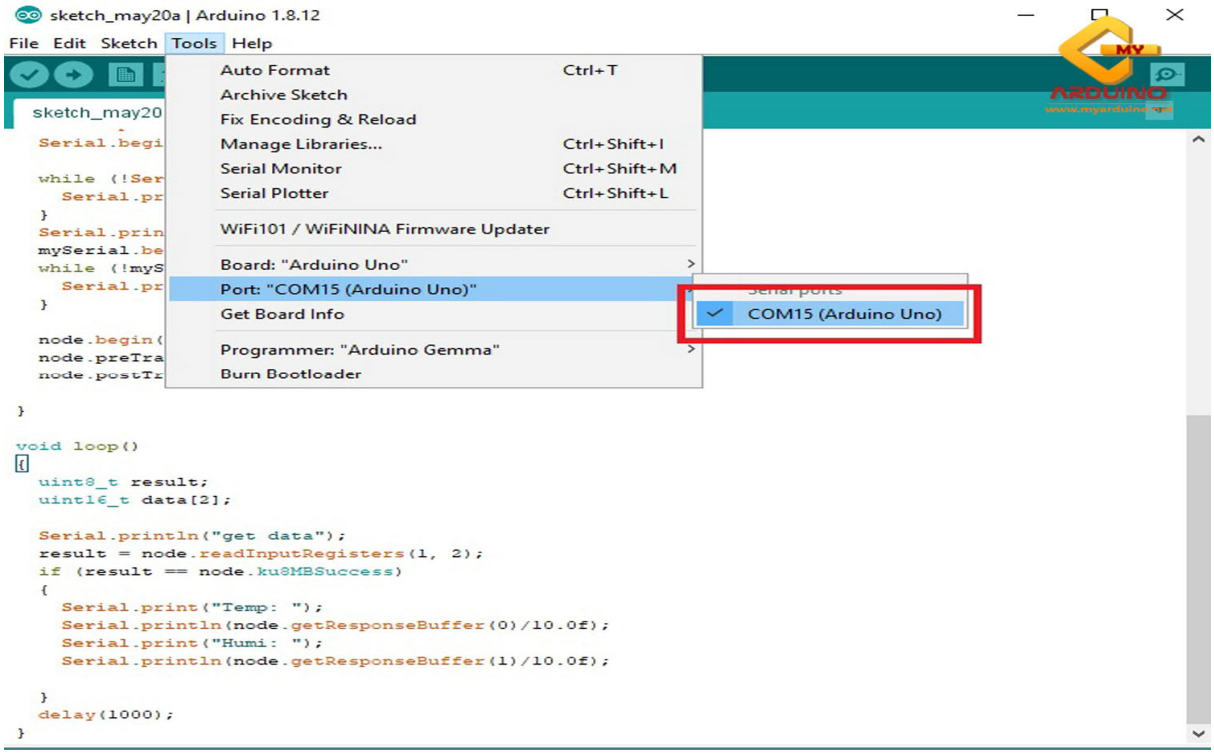
6. Then copy the sample code below and paste it into the Arduino IDE *program.*

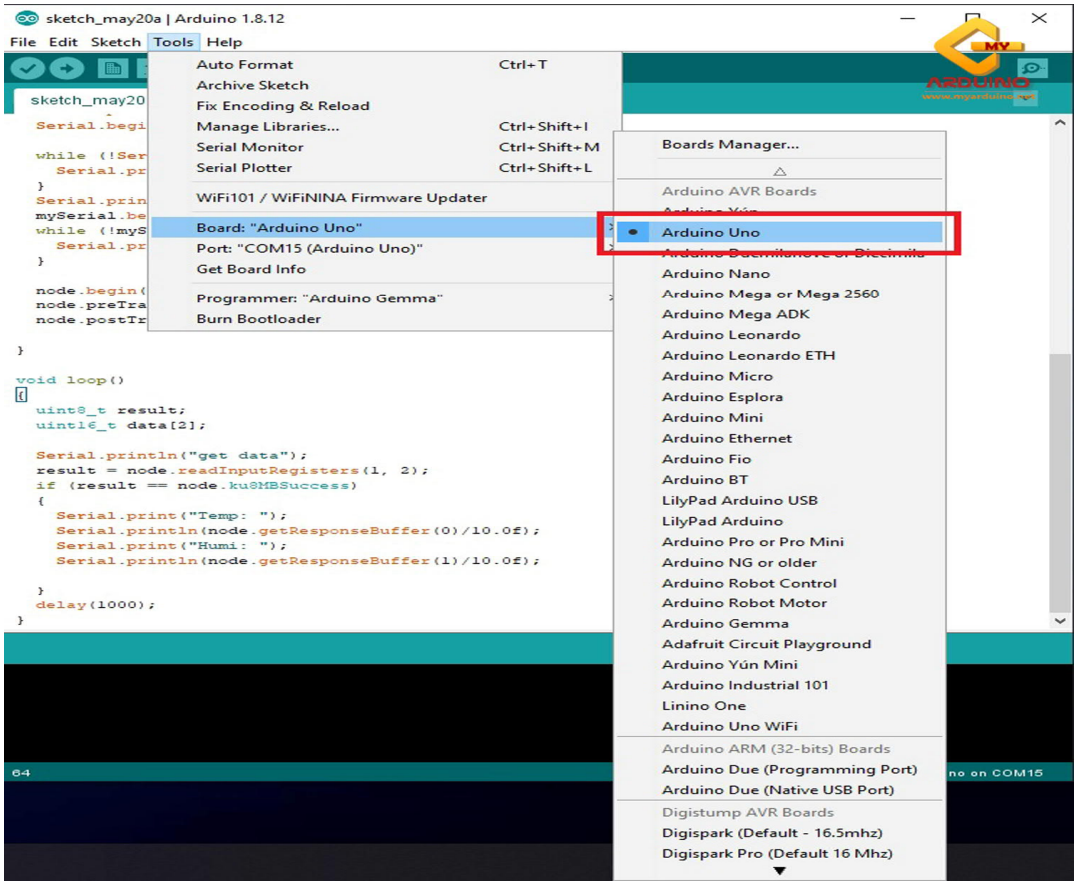
```
#include
<SoftwareSerial.h>
#include <ModbusMaster.h>

SoftwareSerial mySerial(2, 3); // RX, TX

#define MAX485_DE      4
#define MAX485_RE_NEG   5

ModbusMaster node;

void preTransmission()
{
  digitalWrite(MAX485_RE_NEG, 1);
  digitalWrite(MAX485_DE, 1);
}

void postTransmission()
{
  digitalWrite(MAX485_RE_NEG, 0);
  digitalWrite(MAX485_DE, 0);
}

void setup()
{
  pinMode(MAX485_RE_NEG, OUTPUT);
  pinMode(MAX485_DE, OUTPUT);
  // Init in receive mode
  digitalWrite(MAX485_RE_NEG, 0);
  digitalWrite(MAX485_DE, 0);
  Serial.println("start init serial 0");
  Serial.begin(9600);

  while (!Serial) {
    Serial.println("loop for init serial 0");
  }
  Serial.println("start init software serial");
  mySerial.begin(9600);
```

```
  while (!mySerial) {
    Serial.println("loop for init software serial");
  }

  node.begin(1, mySerial);
  node.preTransmission(preTransmission);
  node.postTransmission(postTransmission);


}


void loop()
{
  uint8_t result;
  uint16_t data[2];

  Serial.println("get data");
  result = node.readInputRegisters(1, 2);
  if (result == node.ku8MBSuccess)
  {
    Serial.print("Temp: ");
    Serial.println(node.getResponseBuffer(0)/10.0f);
    Serial.print("Humi: ");
    Serial.println(node.getResponseBuffer(1)/10.0f);
    Serial.println();

  }
  delay(1000);
}
```

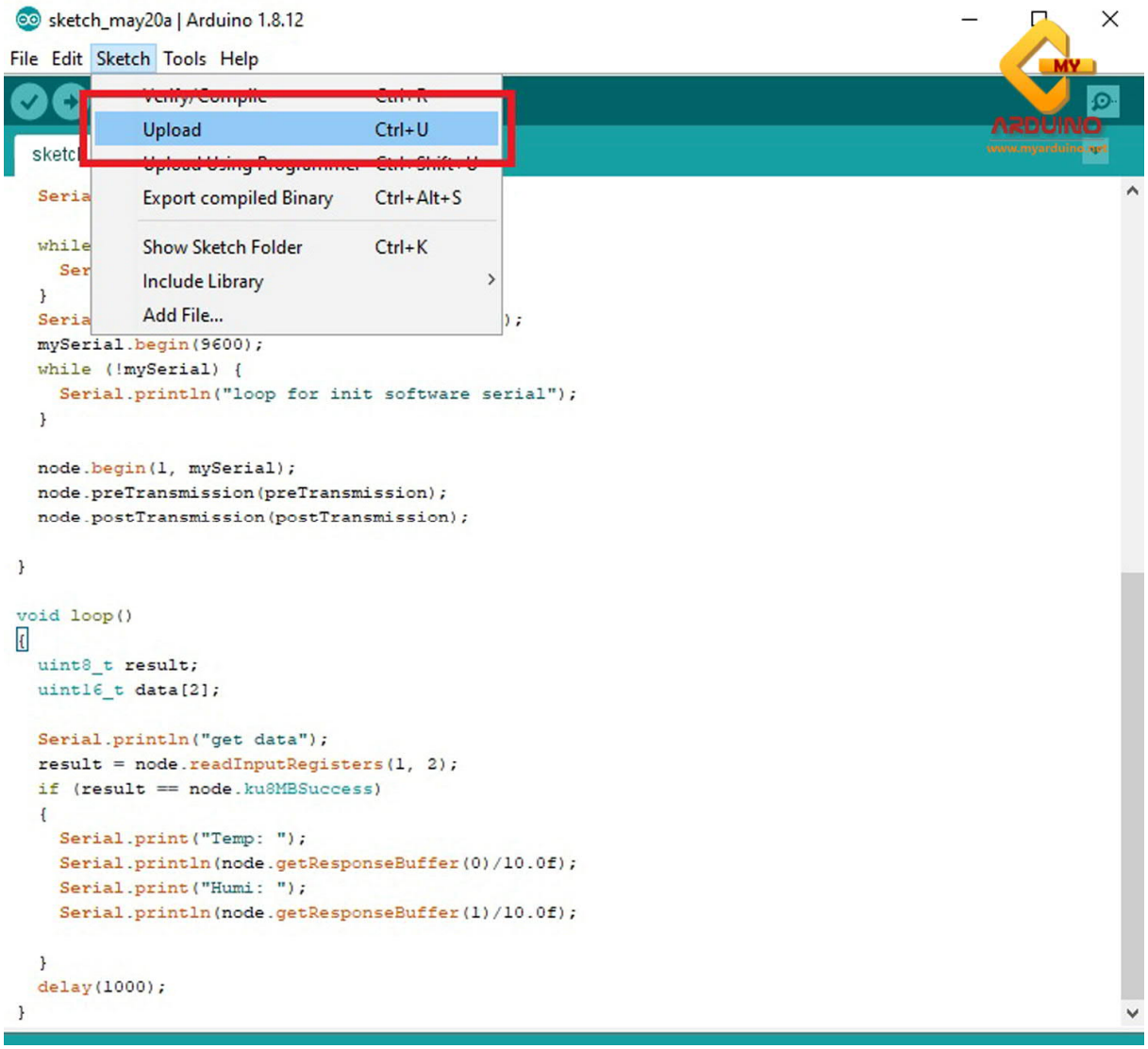
7. *Select the port connected to the board.*



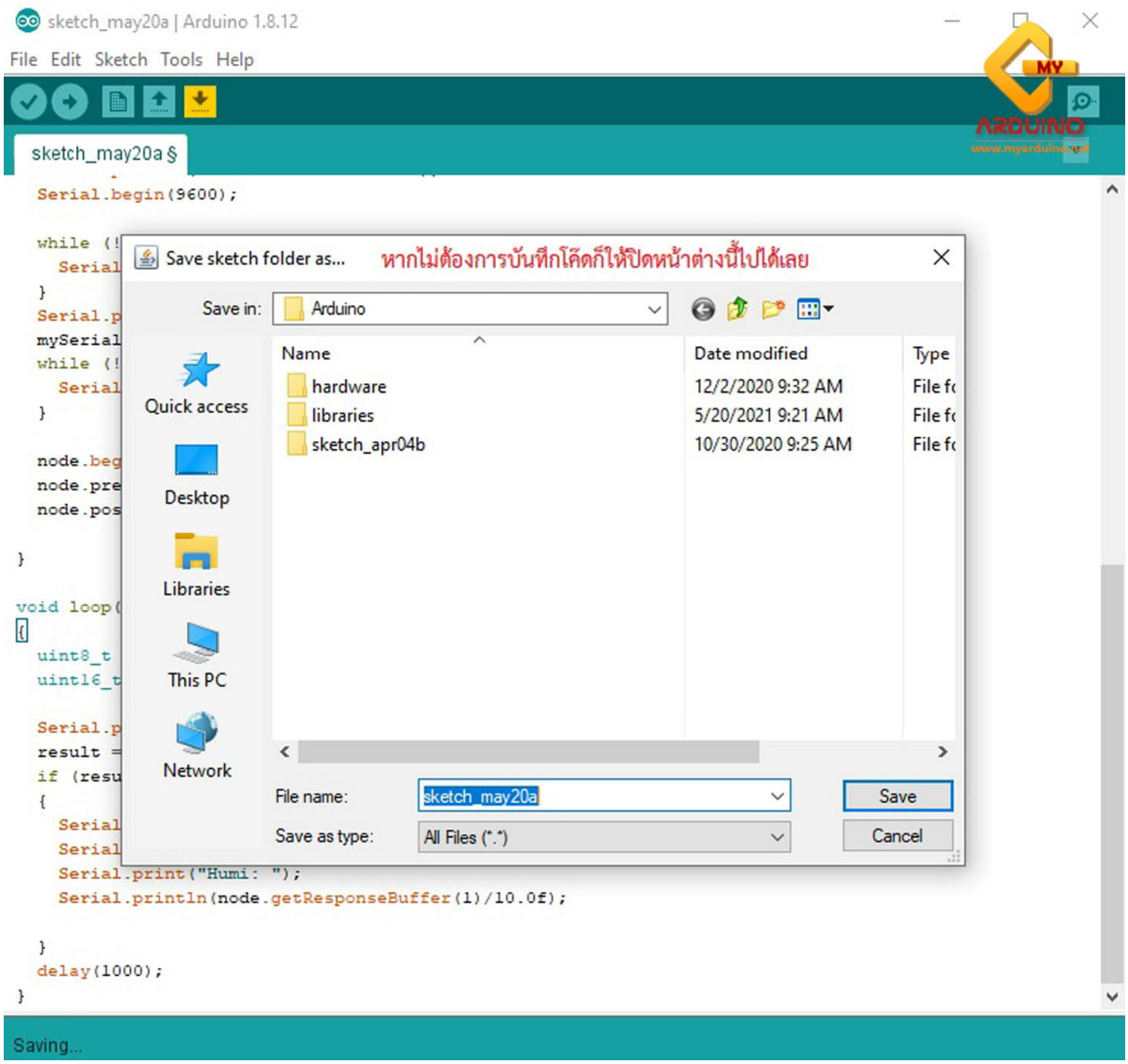
8. *Select the type of board to use.*



9. *Upload the code to the board by selecting the* Upload *menu in the* Sketch *menu bar in the top menu bar.*



10. *When you press the* Upload *button , you can see that the program will pop up a* Save sketch folder as... *window for the user to save the code. If the user does not need to save the code, then close this window.*



11. *Wait until the program has finished uploading the code to the board.*

M1251_Arduino | Arduino 1.8.12

File Edit Sketch Tools Help

M1251_Arduino

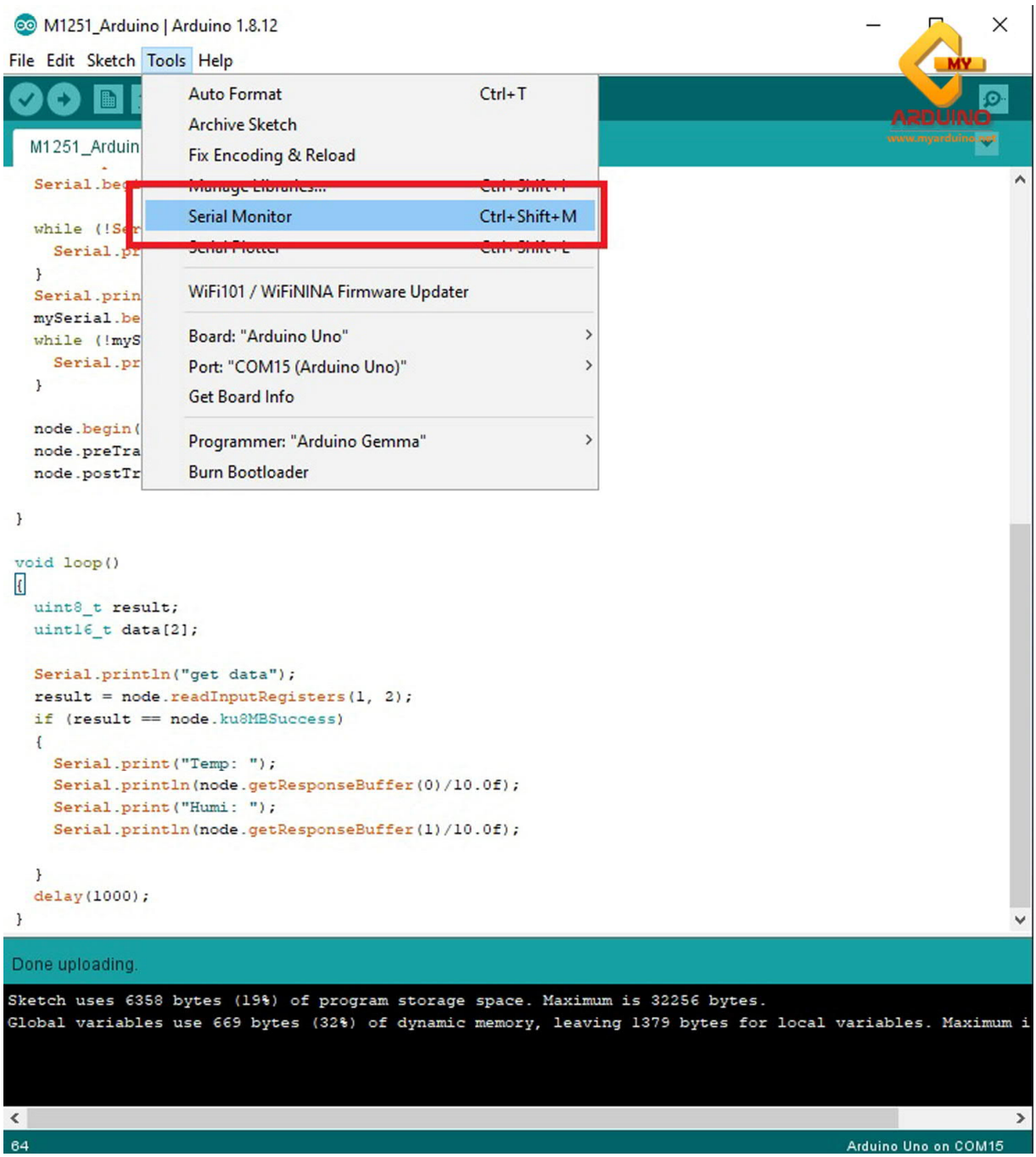
```
  Serial.begin(9600);

  while (!Serial) {
    Serial.println("loop for init serial 0");
  }
  Serial.println("start init software serial");
  mySerial.begin(9600);
  while (!mySerial) {
    Serial.println("loop for init software serial");
  }

  node.begin(1, mySerial);
  node.preTransmission(preTransmission);
  node.postTransmission(postTransmission);

}

void loop()
{
  uint8_t result;
  uint16_t data[2];

  Serial.println("get data");
  result = node.readInputRegisters(1, 2);
  if (result == node.ku8MBSuccess)
  {
    Serial.print("Temp: ");
    Serial.println(node.getResponseBuffer(0)/10.0f);
    Serial.print("Humi: ");
    Serial.println(node.getResponseBuffer(1)/10.0f);

  }
  delay(1000);
}
```

Compiling sketch...

64 Arduino Uno on COM15

12. *When the program has finished uploading the code to the board It will appear a message according to the red frame in the picture.*

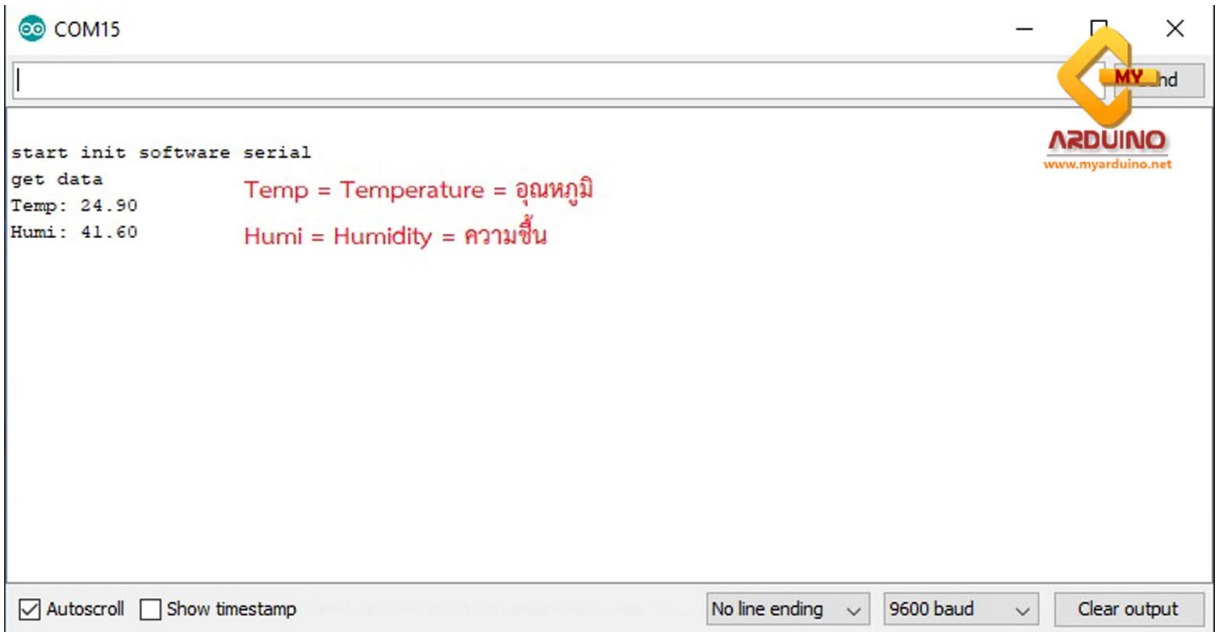
13. *Open the* Serial Monitor *screen* .



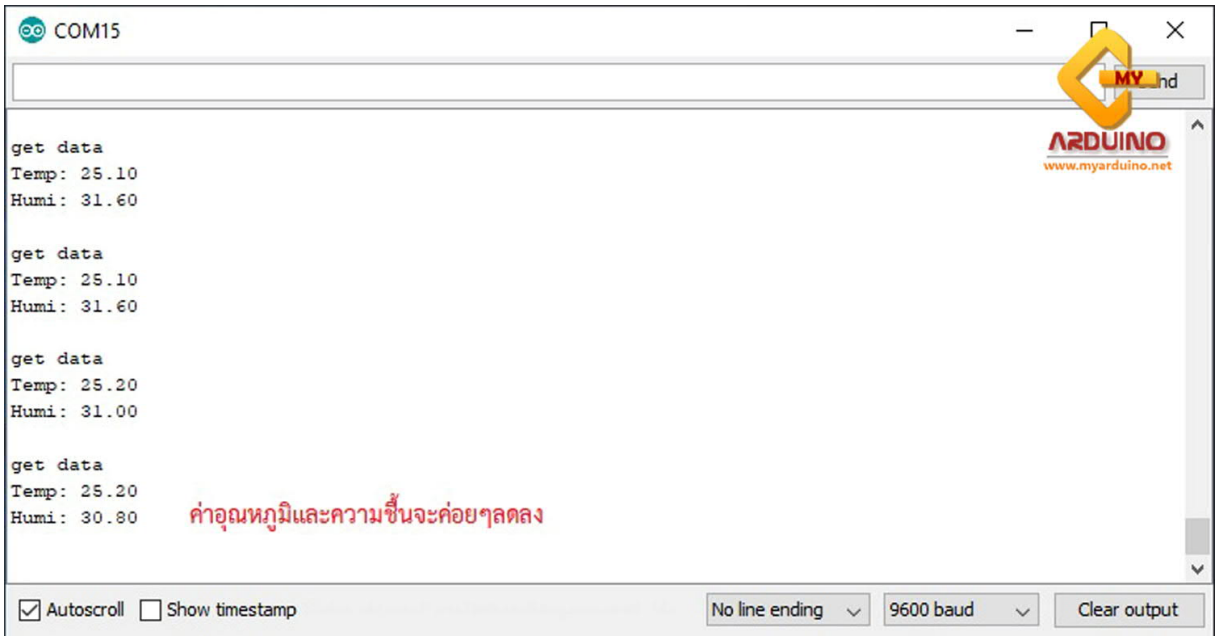
14. *When the* Serial Monitor *screen is opened , it can be seen that the status values are displayed. and will change all the time What appears is*

Humidity *is the humidity value*

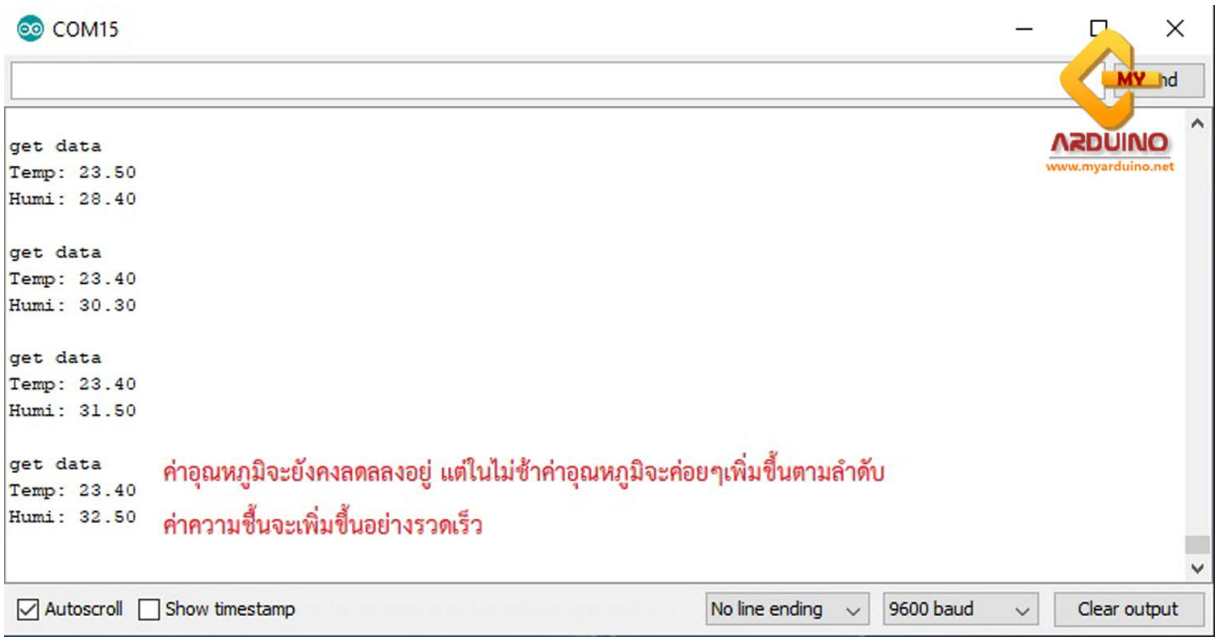
Temperature *is the temperature value.*



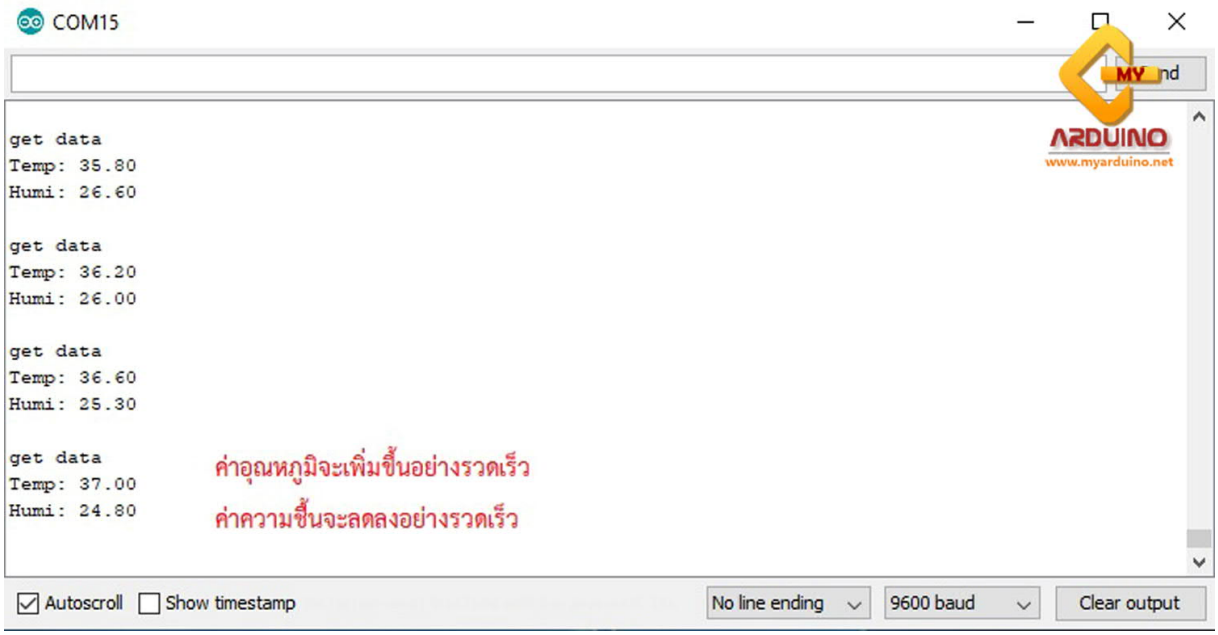
15. *Then put a cold cloth on the temperature and humidity sensor* XY-MD 02, *it can be seen that the temperature and humidity will gradually decrease.*



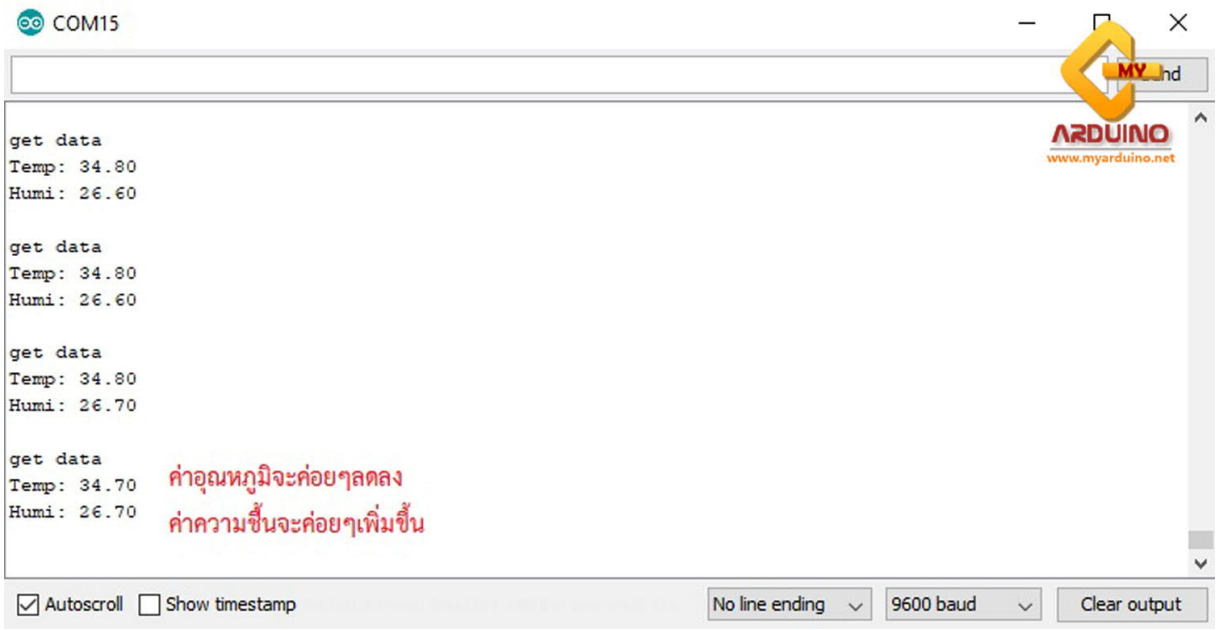
15. *Then remove the cold cloth from the sensor and wait a few minutes. It can be seen that the temperature value will continue to decrease. But soon the temperature value will gradually increase accordingly. and the humidity will increase rapidly.*



15. *Then use a hair dryer to blow hot air to the sensor. It can be seen that the temperature value increases rapidly and the humidity decreases rapidly.*



15. *Then disable the hair dryer and wait a few minutes. It can be seen that the temperature value gradually decreases and the humidity value gradually increases.*


COM15
get data
Temp: 34.80
Humi: 26.60
get data
Temp: 34.80
Humi: 26.60
get data
Temp: 34.80
Humi: 26.70
get data
Temp: 34.70
Humi: 26.70
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Autoscroll
Show timestamp
No line ending
9600 baud
Clear output
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