Για να λειτουργήσει το συγκεκριμένο sketch (sketch_feb15c), θα πρέπει στο IDE του Arduino να είναι εγκατεστημένες οι βιβλιοθήκες:

Adafruit_Unified_Sensor, και
DHT_sensor_library

```
#include "DHT.h"
#define DHTPIN 8
#define DHTTYPE DHT11
DHT dht(DHTPIN, DHTTYPE);

void setup()
  {
    Serial.begin(9600);
    dht.begin();
  }

void loop()
  {
    delay(2000);
    float h = dht.readHumidity();
    float t = dht.readTemperature();
    if (isnan(t) || isnan(h))
      {
        Serial.println("Failed to read from DHT");
      }
    else
      {
        Serial.print("Humidity=");
        Serial.print(h);
        Serial.print("% ");
        Serial.print("Temp=");
        Serial.print(t);
        Serial.println(" *C");
      }
  }
```

Η εντολή: **isnan(x)** σημαίνει: **is not number** και λαμβάνει την λογική τιμή true εάν το όρισμά (**x**) της δεν είναι έγκυρος αριθμός (undefined or non-representable values for floating-point elements, such as the square root of negative numbers or the result of 0/0), διαφορετικά λαμβάνει την τιμή false.

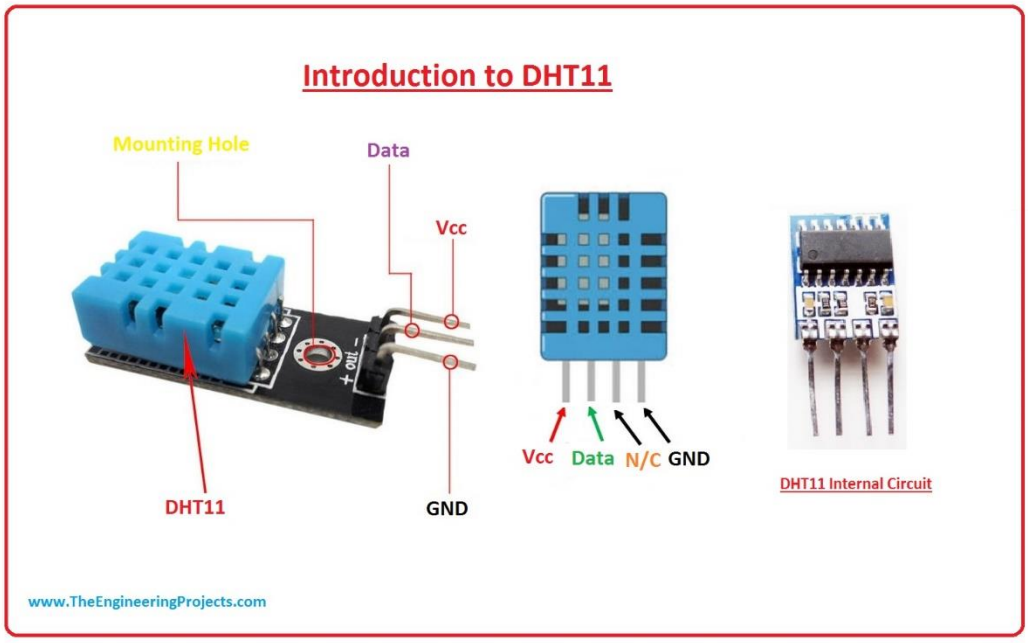
Σε αυτό τον σύνδεσμό θα βρείτε λεπτομέρεστερη περιγραφή του παραπάνω προγραμματιστικού παραδείγματος:

https://www.c-sharpcorner.com/UploadFile/167ad2/arduino-read-temperature-from-dht11-module/

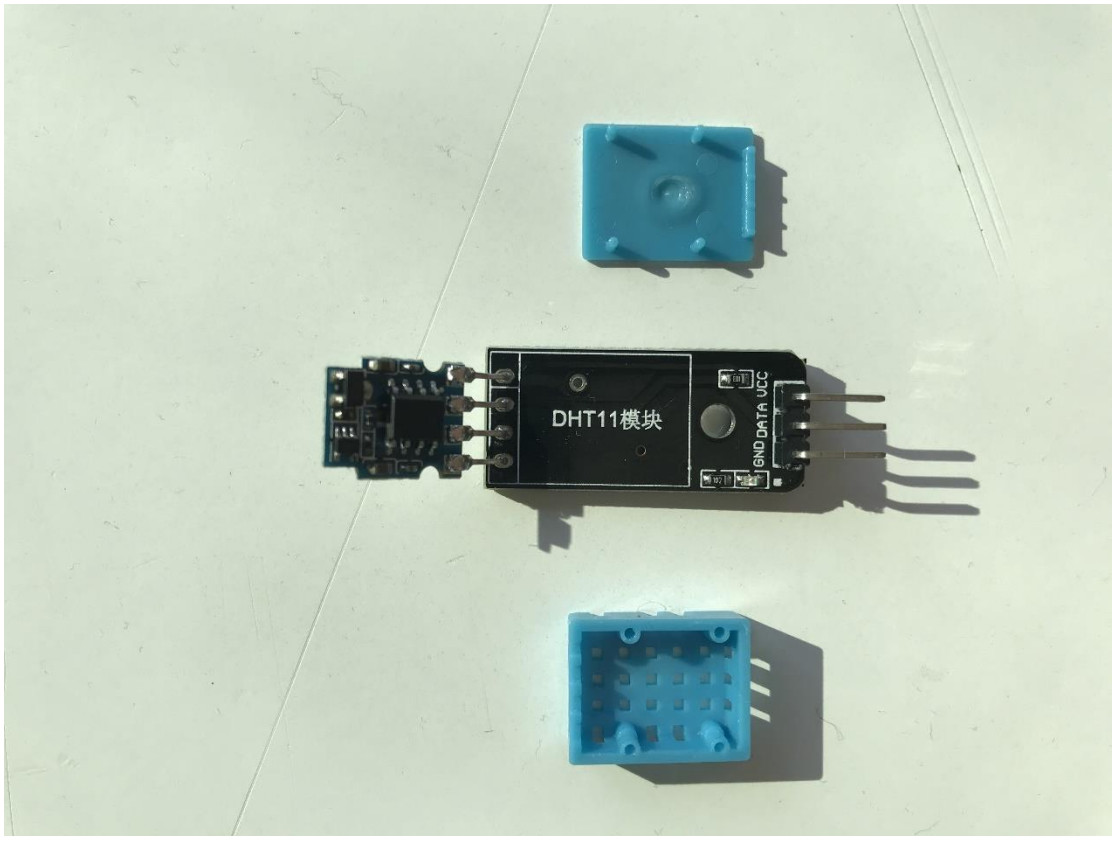
Ακολουθήθηκε το κείμενο του wiki:
https://www.geeetech.com/wiki/index.php/Electric_thermometer_by_using_DHT11_sensor_module
όπου έγινε τροποποίηση στον κώδικα ώστε να μην εμφανίζει τα αποτελέσματα στο LCD αλλά στο Serial Monitor.

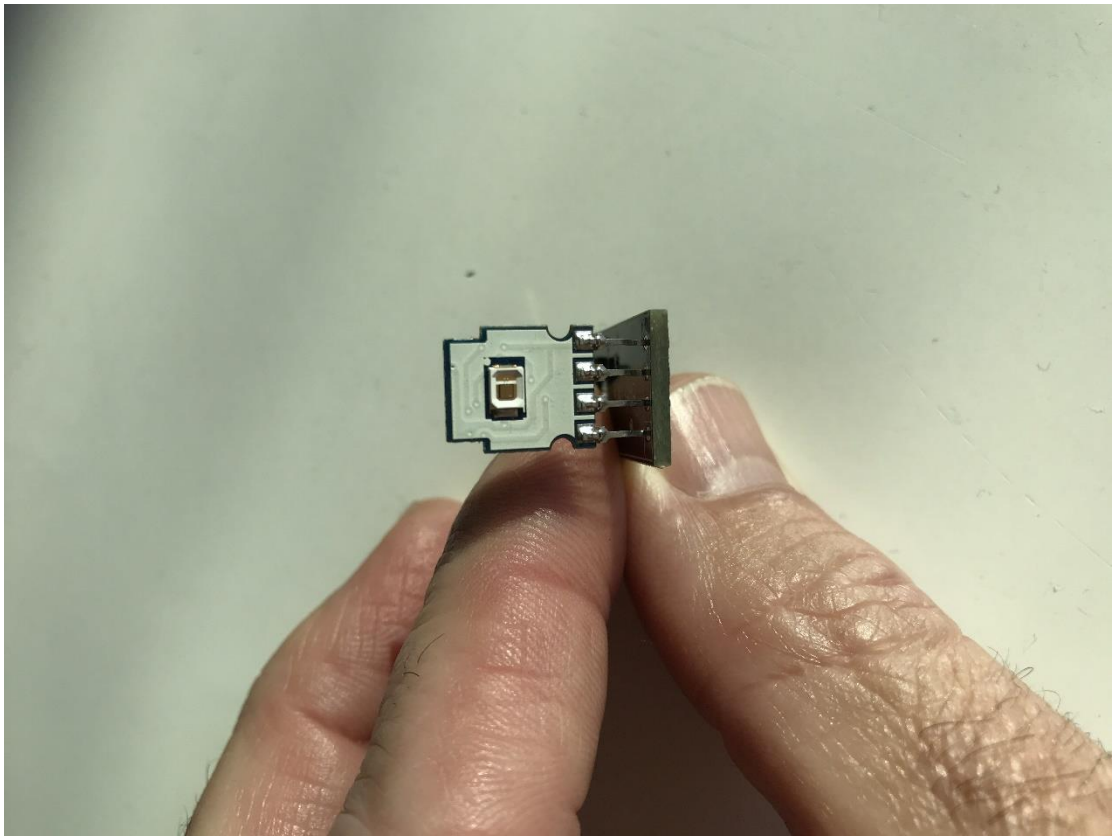
Βλέπε και το σχετικό video: https://youtu.be/CKajs7_S7DQ

Κάποια παρόμοια άρθρα:
https://www.c-sharpcorner.com/UploadFile/167ad2/arduino-read-temperature-from-dht11-module/
https://pimylifeup.com/arduino-humidity-sensor-dht22/
https://technobyte.org/interfacing-arduino-dht11-temperature-humidity-sensor/



Η εσωτερική δομή του DHT11 που έχουμε στη κατοχή μας φαίνεται παρακάτω:





sketch without need of DHT.h libray (not checked, yet)

```
int gate=11;
volatile unsigned long duration=0;
unsigned char i[5];
unsigned int j[40];
unsigned char value=0;
unsigned answer=0;
int z=0;
int b=1;

void setup()
   {
      Serial.begin(9600);
   }

void loop()
   {
      delay(1000);
      while(1) //1st while
         {
            delay(1000);
            pinMode(gate,OUTPUT);
            digitalWrite(gate,LOW);
            delay(20);
            digitalWrite(gate,HIGH);
            pinMode(gate,INPUT_PULLUP);//by default it will become
                                       high due to internal pull up
            // delayMicroseconds(40);
            duration=pulseIn(gate, LOW);
            if(duration <= 84 && duration >= 72) //1st if
               {
                  while(1) //2nd while
                  {
                     duration=pulseIn(gate, HIGH);
                     if(duration <= 26 && duration >= 20)
                        {
                           value=0;
                        }
                     else if(duration <= 74 && duration >= 65)
                              {
                                 value=1;
                              }
                           else if(z==40)
                              {
                                 break;
                              }
                     i[z/8]|=value<<(7- (z%8));
                     j[z]=value;
                     z++;
                  } //end of 2nd while
               } //end of 1st if
            answer=i[0]+i[1]+i[2]+i[3];
            if(answer==i[4] && answer!=0)
               {
                  Serial.print("Temp = ");
                  Serial.print(i[2]);
                  Serial.print("C");
                  Serial.print("  &  ");
                  Serial.print("Humidity = ");
```

```
                Serial.print(i[0]);
                Serial.println("%");
              }
            z=0;
            i[0]=i[1]=i[2]=i[3]=i[4]=0;
        } //end of 1st while
}
```

Τι σημαίνει αυτή η εντολή; **pulseIn**
https://www.arduino.cc/reference/en/language/functions/advanced-io/pulsein/
https://roboticsbackend.com/arduino-pulsein-function/

Κάποια σχόλια σχετικά με τη δήλωση της βιβλιοθήκης DHT.h:

Change [#include "DHT.h"] to [#include <DHT.h>], my thought

jkadofo commented on 17 Dec 2019 •

Hello friends,
I am trying out this "DHT Sensor Library", and started off by using the "DHTtester" example.

The issue is related to this line of code:

DHT-sensor-library/examples/DHTtester/DHTtester.ino
Line 8 in 428e115

#include "DHT.h"

TL;DR:
I think the `#include` directive here must be used with angle brackets (<>) rather than double quotes ("") to reduce the chance of surprises. If this is deemed unnecessary, kindly explain to me. Thanks.
Details:
Upon a quick inspection of the "DHTtester" example code, I noticed the library was included as:
```
#include "DHT.h"
```

That is, the `DHT.h` was **included as a source file** from current sketch directory rather than using angle brackets (<>) to **include it as a standard header file** as in:
```
#include <DHT.h>
```

Both versions compile fine for me (even when I have my sketch folder in another location). However I think the angle bracket version would be a better option as that would prevent any surprises, for example if the user somehow had another "DHT.h" file in their working sketch folder.

Furthermore, the other example which is "DHT_Unified_Sensor" uses angle brackets to include the `DHT.h` and other dependencies, as shown below:

DHT-sensor-library/examples/DHT_Unified_Sensor/DHT_Unified_Sensor.ino
Line 11 in 428e115

#include <DHT.h>

In conclusion, I think we should use angle brackets for "DHTtester" example. If this is however deemed unnecessary, I would be glad to get an explanation for that so I can learn from it.
Thanks for your hardwork and efforts to put together this library and many others.
Cheers.