

Week - 5.

Aim: Write a Program to monitor temperature and humidity using Arduino.

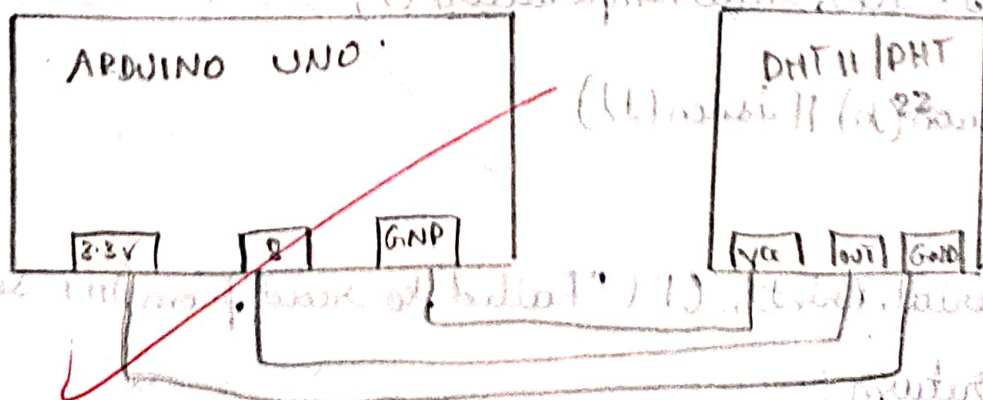
Hardware Requirements:

1. Arduino UNO Board.
2. DHT11 Temperature and Humidity Sensor (3 Pins)
3. Jumper wires.
4. Bread Board.

Procedure:

- Go to tools select Board (Arduino UNO)
- Connect Pin 1 (on left) of the sensor to +5V
- connect Pin 2 of the sensor to whatever your D+TPIN.
- connect Pin 4 (on right) of the sensor to GROUND.
- connect a 10K resistor from Pin 2 (data) to Pin 1 (power) of the sensor.

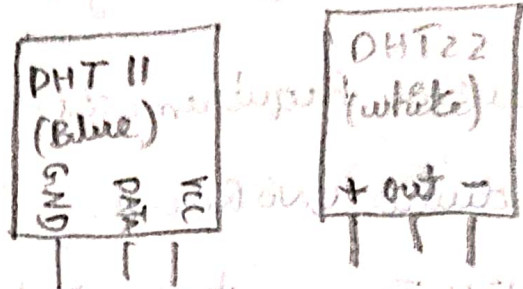
Pin Diagram:



Note: Go to library and click on manage library

→ Search for DHT sensor library

Source code:



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

```
#define DHTPIN 8
```

```
#define DHTTYPE DHT22
```

```
DHT dht (DHTPIN, DHTTYPE);
```

```
void setup () {
```

```
    Serial.begin(9600);
```

```
    Serial.println(F("DHT test!"));
```

```
    dht.begin();
```

```
}
```

```
void loop() {
```

```
    delay(2000);
```

```
    float h = dht.readHumidity();
```

```
    float t = dht.readTemperature();
```

```
    if (isnan(h) || isnan(t))
```

```
{
```

```
        Serial.println(F("Failed to read from DHT sensor!"));
```

```
        return;
```

```
}
```

```
Serial.Print(F("Humidity: "));
```

```
Serial.Print(h);
```

```
Serial.Print(F("%Temperature: "));
```

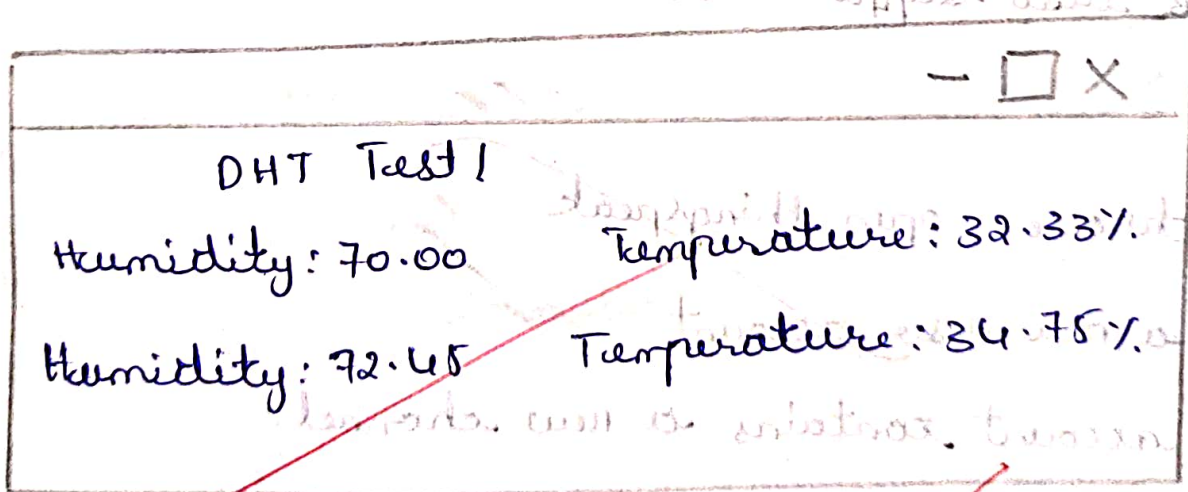
```
Serial.Print(t);
```

```
};
```

Note:

DHT11: It is a basic, ultra low cost digital temperature and humidity sensor. It uses a capacitive humidity sensor and a thermistor to measure the surrounding air, and spits out a digital signal on the data pin (no analog input pins needed).

Output:



Q11/2