Experiment 6

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Subject Name: IOT Lab **Subject Code:** 20CSP-358

1. **Aim:** Interfacing of Arduino with temperature and humidity sensor.

2. **Components Required:**
   - Arduino Uno R3 board
   - DH11 Temperature and Humidity Sensor
   - Breadboard
   - 3x Jumper Wires

3. **Theory:**

About DH11 Sensor:
DHT11 Module features a temperature & humidity sensor complex with a calibrated digital signal output. The exclusive digital-signal-acquisition technique and temperature & humidity sensing technology ensure high reliability and excellent long-term stability.

DHT11 Module Pinout:
The DHT11 module has a total of 3 pins. In which two are for power and one is for communication. The pinout of a DHT11 Sensor module is as follows:

- DATA pin for 1-wire communication.
- GND Connected to Ground pin of the Arduino.
- VCC Provides power for the module, Connect to the 5V pin of the Arduino.

4. Circuit:
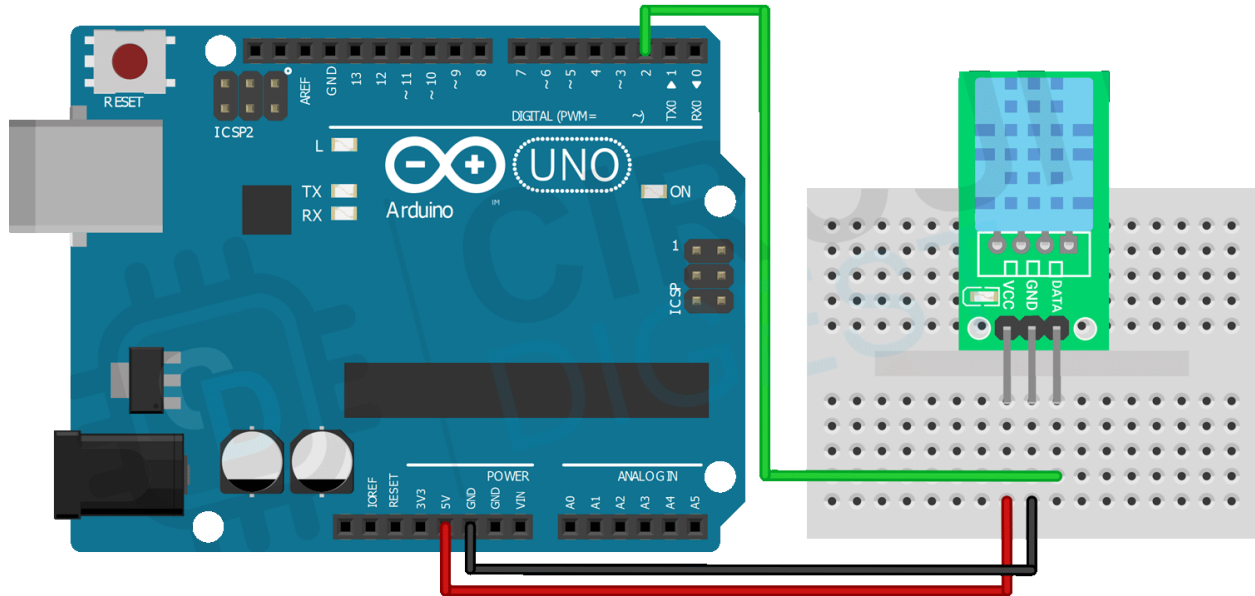
5. Script:

```
#include <dht.h>

dht DHT1;
void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
}

void loop() {
  // put your main code here, to run repeatedly:
  int chk=DHT1.read11(7);
  Serial.print("Temperature:");
  Serial.println(DHT1.temperature);
  Serial.print("Humidity:");
  Serial.println(DHT1.humidity);
}
```

6. Output:

7. Learning Outcome:

- Use of DHT11 temperature and humidity sensor
- Connection using breadboard
- Use of Arduino