

INPUT:-

```
#define led_pin 12

void setup() {

    // put your setup code here, to run once:

    pinMode(LED_PIN, OUTPUT);

}

void loop() {

    // put your main code here, to run repeatedly:

    digitalWrite(led_pin, HIGH);

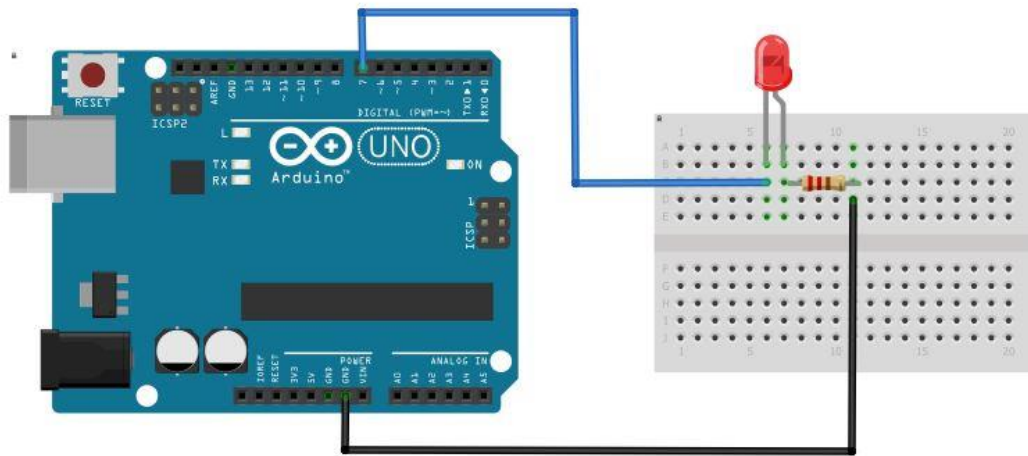
    delay(1000);

    digitalWrite(led_pin, LOW);

    delay(500);

}
```

Output:



INPUT:-

```
const int irPin = 10; // Pin connected to the IR sensor output
```

```
const int ledPin = 9; // Pin connected to the LED
```

```
void setup() {
```

```
    // Initialize the serial monitor
```

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

```
    // Set the LED pin as OUTPUT
```

```
    pinMode(ledPin, OUTPUT);
```

```
    // Set the IR pin as INPUT
```

```
    pinMode(irPin, INPUT);
```

```
}
```

```
void loop() {
```

```
    // Read the value from the IR sensor
```

```
    int irValue = digitalRead(irPin);
```

```
    // Print the value to the serial monitor
```

```
    Serial.println(irValue);
```

```
    // If the IR sensor detects a signal (HIGH), turn on the LED
```

```
    if (irValue == HIGH) {
```

```
        digitalWrite(ledPin, HIGH); // Turn LED on
```

```
    } else {
```

```
        digitalWrite(ledPin, LOW); // Turn LED off
```

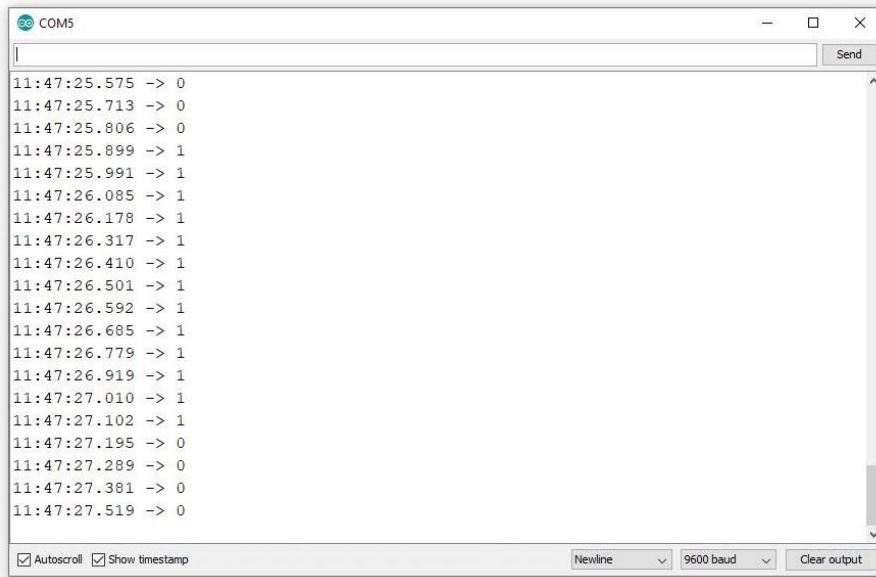
```
    }
```

```
    // Small delay for stability
```

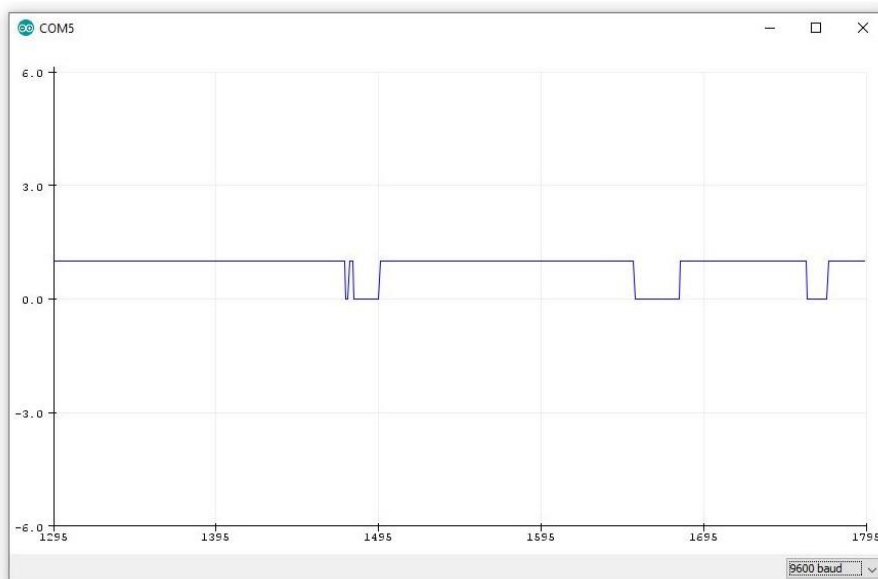
```
    delay(100);
```

```
}
```

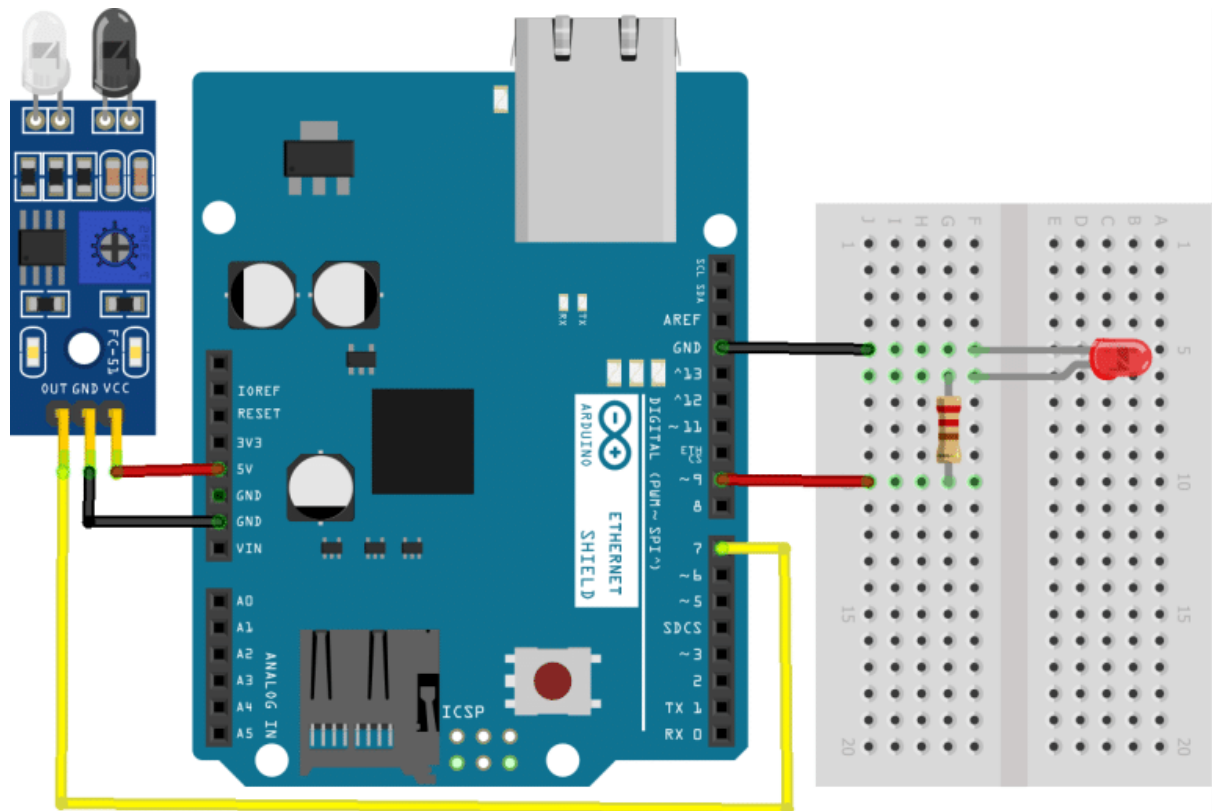
Serial Monitor: -



Serial Plotter: -



OUTPUT: -



INPUT: -

```
#include <dht.h>

#define inPin 2    // Pin number for DHT11 data
#define buzzerPin 10 // Pin number for the buzzer

dht DHT;

const float tempThreshold = 37.0; // Temperature threshold in Celsius
const float humidityThreshold = 70.0; // Humidity threshold in percentage

void setup() {
    Serial.begin(9600);
    pinMode(buzzerPin, OUTPUT); // Set buzzer pin as output
    digitalWrite(buzzerPin, LOW); // Ensure the buzzer is off initially
}

void loop() {
    int readData = DHT.read11(inPin);

    float t = DHT.temperature;    // Read temperature
    float h = DHT.humidity;        // Read humidity

    Serial.print("Temperature = ");
    Serial.print(t);
    Serial.print("°C | ");
    Serial.print((t * 9.0) / 5.0 + 32.0); // Convert Celsius to Fahrenheit
    Serial.println("°F ");

    Serial.print("Humidity = ");
```

```
Serial.print(h);
```

```
Serial.println("% ");
```

```
// Check if temperature or humidity exceeds thresholds
```

```
if (t > tempThreshold || h > humidityThreshold) {
```

```
    tone(buzzerPin, 1000); // Activate buzzer at 1000 Hz
```

```
    delay(200);           // Sound for 200 milliseconds
```

```
    noTone(buzzerPin);    // Turn off buzzer
```

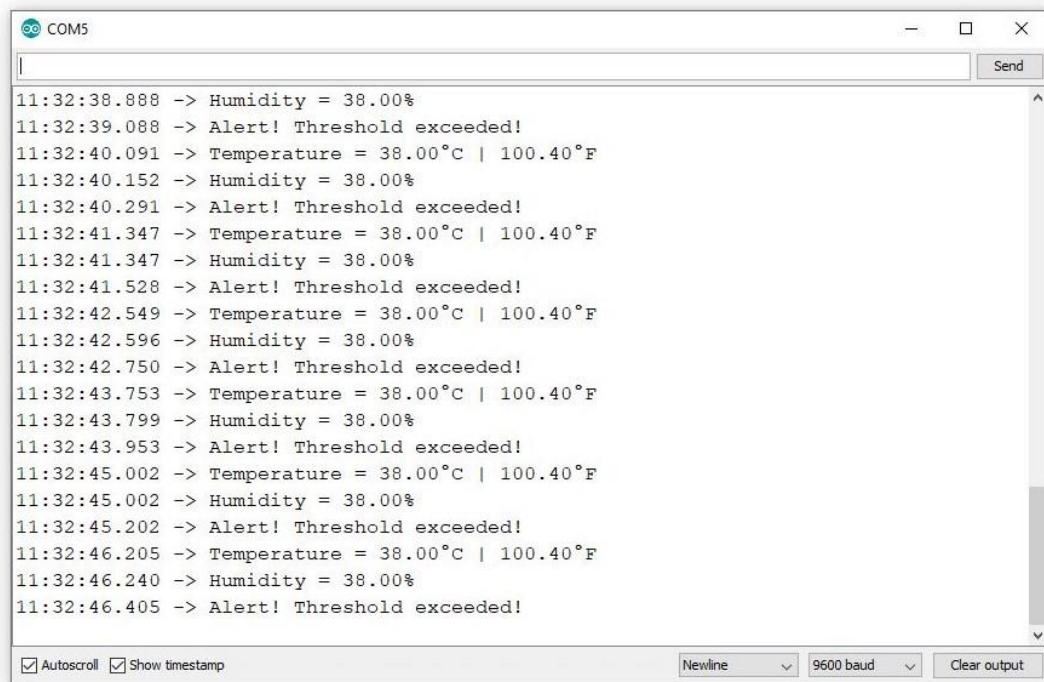
```
    Serial.println("Alert! Threshold exceeded!");
```

```
}
```

```
delay(1000); // Wait four seconds before next reading
```

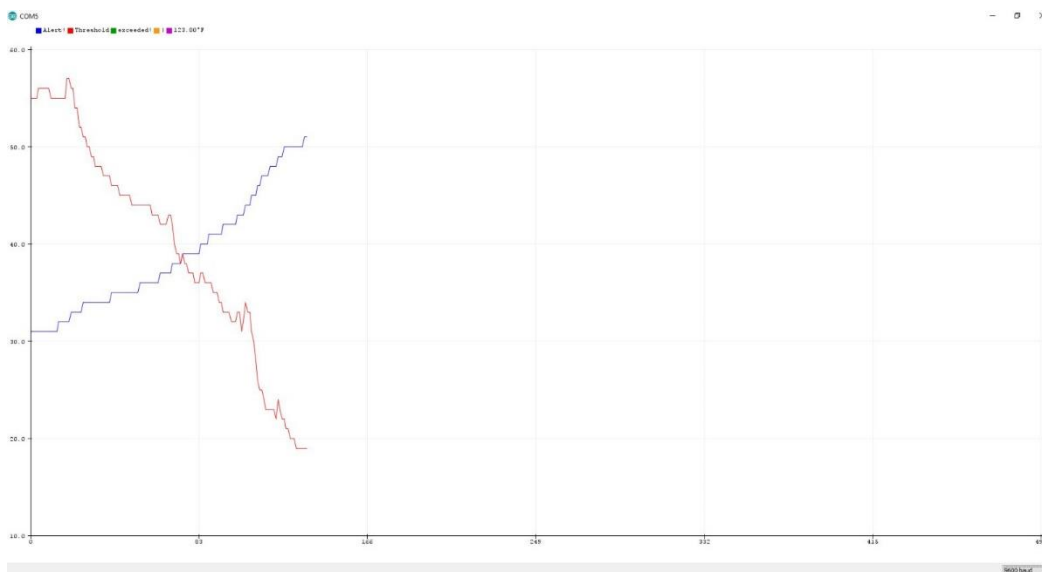
```
}
```

Serial Monitor :-



```
11:32:38.888 -> Humidity = 38.00%
11:32:39.088 -> Alert! Threshold exceeded!
11:32:40.091 -> Temperature = 38.00°C | 100.40°F
11:32:40.152 -> Humidity = 38.00%
11:32:40.291 -> Alert! Threshold exceeded!
11:32:41.347 -> Temperature = 38.00°C | 100.40°F
11:32:41.347 -> Humidity = 38.00%
11:32:41.528 -> Alert! Threshold exceeded!
11:32:42.549 -> Temperature = 38.00°C | 100.40°F
11:32:42.596 -> Humidity = 38.00%
11:32:42.750 -> Alert! Threshold exceeded!
11:32:43.753 -> Temperature = 38.00°C | 100.40°F
11:32:43.799 -> Humidity = 38.00%
11:32:43.953 -> Alert! Threshold exceeded!
11:32:45.002 -> Temperature = 38.00°C | 100.40°F
11:32:45.002 -> Humidity = 38.00%
11:32:45.202 -> Alert! Threshold exceeded!
11:32:46.205 -> Temperature = 38.00°C | 100.40°F
11:32:46.240 -> Humidity = 38.00%
11:32:46.405 -> Alert! Threshold exceeded!
```

Serial Plotter:-



OUTPUT: -

