```
#include <DHT.h>

#define DHTPIN 12    // Digital pin connected to the
DHT sensor #define DHTTYPE DHT11        // DHT 11

DHT dht(DHTPIN, DHTTYPE);

const int relayPin = 13; // Digital pin connected to the relay
module int sensorPin = A2; // Analog pin A0 for MQ-135 sensor

float sensorValue; // Variable to store sensor
reading float ppm; // Parts per million of
detected gas (CO2) int water; // variable to
store moisture level

const int lightSensorPin = A5; // Analog pin for the sensor


void setup() {
  Serial.begin(9600);
  dht.begin();
  pinMode(relayPin,
  OUTPUT);

}

// Function to convert sensor value to ppm (example
calibration) float analogToPpm(int rawValue) {

  // You will need to calibrate this conversion based on your
  sensor float ppmValue = map(rawValue, 0, 1023, 0, 5000); //
  Example mapping return ppmValue;

}



void loop() {

  delay(2000); // Delay between sensor readings


  float temperature = dht.readTemperature(); // Reading temperature in

  Celsius if (isnan(temperature)) {

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

  }
```

```
  Serial.print("Temperature: ");
  Serial.println(temperature);

  // Check temperature and control the fan
  via relay if (temperature > 25.0) {
    digitalWrite(relayPin, HIGH); // Turn on the fan
    Serial.println("Fan turned ON");
  } else {
    digitalWrite(relayPin, LOW); // Turn off the fan
    Serial.println("Fan turned OFF");
  }

  sensorValue = analogRead(sensorPin); // Read sensor value (0-1023)

  // Calculate ppm of CO2 using sensor calibration and values
  ppm = analogToPpm(sensorValue); // You need to define this function

  Serial.print("CO2 Concentration: ");
  Serial.print(ppm);
  Serial.println(" ppm");

  delay(500); // Delay for stability (adjust as needed)

  water = digitalRead(6); // reading the signal from the
  soil sensor if (water == HIGH) {
    digitalWrite(3, HIGH); // turn on the relay (motor on)
    Serial.println("Moisture Level: Low  | Motor: ON"); // print
moisture level and motor status
  } else {
    digitalWrite(3, LOW); // turn off the relay (motor off)
    Serial.println("Moisture Level: Full | Motor: OFF"); // print
moisture level and motor status
  }

  delay(500); // delay for 5 seconds before the next iteration
```

```
  int sensorValue = analogRead(lightSensorPin); // Read the sensor value

  Serial.print(":Light Intensity Value: ");
  Serial.println(sensorValue); // Print the sensor value to the serial
  monitor

  delay(5000); // Delay to slow down the output (optional)
}
```