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#define SOIL_SENSOR A0
#define RELAY_PIN 7
#define LED_MOTOR_OFF 8
#define LED_MOTOR_ON 9

int moistureThreshold = 500;

void setup() {
    pinMode(LED_MOTOR_OFF, OUTPUT);
    pinMode(LED_MOTOR_ON, OUTPUT);

    // Relay initially OFF → make pin INPUT (high impedance)
    pinMode(RELAY_PIN, INPUT);

    digitalWrite(LED_MOTOR_OFF, HIGH);
    digitalWrite(LED_MOTOR_ON, LOW);

    Serial.begin(9600);
}

void loop() {
    int moistureValue = analogRead(SOIL_SENSOR);

    Serial.print("Soil Moisture: ");
    Serial.println(moistureValue);

    // Soil DRY → Motor ON
    if (moistureValue > moistureThreshold) {

        pinMode(RELAY_PIN, OUTPUT);
        digitalWrite(RELAY_PIN, LOW);      // Relay ON

        digitalWrite(LED_MOTOR_ON, HIGH);
        digitalWrite(LED_MOTOR_OFF, LOW);
    }
    // Soil WET → Motor OFF
    else {

        pinMode(RELAY_PIN, INPUT);       // Relay OFF (no current draw)

        digitalWrite(LED_MOTOR_ON, LOW);
        digitalWrite(LED_MOTOR_OFF, HIGH);
    }

    delay(1000);
}

```