#include <SoftwareSerial.h>

// Define pins

#include <dht11.h>

#define dht\_apin 12 // Analog Pin sensor is connected to

dht11 dhtObject;

int ldr = 2; // PIR Motion Sensor connected to digital pin 2

int relayPin = 7; // Relay module control pin connected to digital pin 7

int fan = 6;

int temperaturee;

SoftwareSerial bluetooth(10, 11); // RX, TX (Connect TX of Bluetooth to RX of Arduino and vice versa)

void setup() {

pinMode(ldr, INPUT);

pinMode(relayPin, OUTPUT);

pinMode(fan, OUTPUT);

digitalWrite(relayPin, HIGH); // Initialize relay as OFF

// Start communication with Bluetooth module

bluetooth.begin(9600);

// Wait for the Bluetooth module to initialize

delay(1000);

}

void loop() {

// Read motion sensor state

int ldr\_value= digitalRead(ldr);

// Check if data is available from Bluetooth

if (bluetooth.available()) {

char command = bluetooth.read();

if (command == '1') {

// Turn on the relay (appliance/light) when '1' is received

digitalWrite(relayPin, LOW);

bluetooth.println("light is ON");

} else if (command == '0') {

// Turn off the relay (appliance/light) when '0' is received

digitalWrite(relayPin, HIGH);

bluetooth.println("light is OFF");

}

else if (command == '2') {

// Turn off the relay (appliance/light) when '2' is received

digitalWrite(fan, HIGH);

bluetooth.println("fan is ON");

}

else if (command == '3') {

// Turn off the relay (appliance/light) when '3' is received

digitalWrite(fan, LOW);

bluetooth.println("fan is OFF");

}

}

getTemperatureValue();

if (temperaturee>=34)

{

bluetooth.println("high temperature, fan ON");

digitalWrite(fan, HIGH);

}

if (ldr\_value == HIGH)

{

bluetooth.println("LOW light detected, Light ON");

digitalWrite(relayPin, LOW);

}

delay(1000); // Delay for a short time to avoid sending too much data

}

String getTemperatureValue()

{

dhtObject.read(dht\_apin);

Serial.print("Temperature(C)= ");

float temp = dhtObject.temperature;

Serial.println(temp);

bluetooth.print("temperature:");

bluetooth.println(temp);

temperaturee=temp;

delay(100);

return String(temp);

}