#include <IRremote.h>

#include <Wire.h>

#include <RTClib.h>

// Define pin numbers

const int RECV\_PIN = 11;

// Create IR receiver and decoder object

IRrecv irrecv(RECV\_PIN);

decode\_results results;

// Real-time clock object

RTC\_DS3231 rtc;

// IR remote button codes (placeholders)

#define ON\_OFF\_BUTTON 0xFF30CF

#define UP\_ARROW 0xFF18E7

#define DOWN\_ARROW 0xFF4AB5

#define MENU\_BUTTON 0xFF10EF

#define ZERO\_BUTTON 0xFF38C7

#define SET\_ALARM 0xFF52AD

// Variables

bool deviceOn = false;

int counter = 0;

void setup() {

Serial.begin(9600);

irrecv.enableIRIn();

if (!rtc.begin()) {

Serial.println("Couldn't find RTC");

while (1);

}

}

void loop() {

if (irrecv.decode(&results)) {

handleInput(results.value);

irrecv.resume();

}

}

void handleInput(unsigned long value) {

switch (value) {

case ON\_OFF\_BUTTON:

togglePower();

break;

case UP\_ARROW:

increaseCounter();

break;

case DOWN\_ARROW:

decreaseCounter();

break;

case MENU\_BUTTON:

openMenu();

break;

case ZERO\_BUTTON:

endProgram();

break;

case SET\_ALARM:

setAlarm();

break;

default:

Serial.println("Unknown command");

}

}

void togglePower() {

deviceOn = !deviceOn;

Serial.println(deviceOn ? "Device ON" : "Device OFF");

}

void increaseCounter() {

counter++;

Serial.println("Counter: " + String(counter));

}

void decreaseCounter() {

counter--;

Serial.println("Counter: " + String(counter));

}

void openMenu() {

Serial.println("Opening Menu...");

// Real-time clock menu

setAlarm();

removeAlarm();

setTime();

}

void setAlarm() {

Serial.println("Setting Alarm...");

}

void removeAlarm() {

Serial.println("Removing Alarm...");

}

void setTime() {

Serial.println("Setting Time...");

}

void endProgram() {

Serial.println("Program Ended");

}