// Interfacing Arduino with DHT11 humidity and temperature sensor

// include LCD library code

#include <LiquidCrystal.h>

// include DHT library code

#include "DHT.h"

#define DHTPIN 8 // DHT11 data pin is connected to Arduino pin 8

// LCD module connections (RS, E, D4, D5, D6, D7)

LiquidCrystal lcd(7, 6, 5, 4, 3, 2);

#define DHTTYPE DHT11 // DHT11 sensor is used

DHT dht(DHTPIN, DHTTYPE); // Initialize DHT library

char temperature[] = "Temp = 00.0 C ";

char humidity[] = "RH = 00.0 % ";

// Motor

int val = 150;

#define buzz 13

void setup() {

// set up the LCD's number of columns and rows

lcd.begin(16, 2);

dht.begin();

pinMode(buzz, OUTPUT);

}

void loop() {

delay(1000); // wait 1s between readings

// Read humidity

byte RH = dht.readHumidity();

//Read temperature in degree Celsius

byte Temp = dht.readTemperature();

// Check if any reads failed and exit early (to try again)

if (isnan(RH) || isnan(Temp)) {

lcd.clear();

lcd.setCursor(5, 0);

lcd.print("Error");

return;

}

temperature[7] = Temp / 10 + 48;

temperature[8] = Temp % 10 + 48;

temperature[11] = 223;

humidity[7] = RH / 10 + 48;

humidity[8] = RH % 10 + 48;

lcd.setCursor(0, 0);

lcd.print(temperature);

lcd.setCursor(0, 1);

lcd.print(humidity);

// Motor

if (Temp >= 30){

analogWrite(9, val);

analogWrite(10, 0);

delay(1000);

}

else{

analogWrite(9, 0);

analogWrite(10, 0);

delay(1000);

}

if (Temp >= 45){

tone(buzz, 1000);

delay(1000);

noTone(buzz);

digitalWrite(buzz, HIGH);

}

else {

noTone(buzz);

digitalWrite(buzz, LOW);

}

}