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//2016.12.9

#include <LiquidCrystal.h> //This Library is required to connect the Liquid Crystal Display (LCD) //screen

int tempPin = 0; //Signal (or data) received from the sensor will initially be zero

// BS E D4 D5 D6 D7

LiquidCrystal lcd(7, 8, 9, 10, 11, 12); //This sets up where the numbers in the screen will show //up

void setup()

{

lcd.begin(16, 2);

Serial.begin(9600); //Data rate in which bits per second will be transmitted into the Python //Code

}

void loop()

{

int tempReading = analogRead(tempPin);

double tempK = log(10000.0 \* ((1024.0 / tempReading - 1))); //Temperature will be calculated //in Kelvin initially

tempK = 1 / (0.001129148 + (0.000234125 + (0.0000000876741 \* tempK \* tempK )) \* tempK );

float tempC = tempK - 273.15; // Convert Kelvin to Celsius

float tempF = (tempC \* 9.0)/ 5.0 + 32.0; // Convert Celsius to Fahrenheit

//The following code block displays and accommodates temperature data into the LCD

// Display Temperature in C

lcd.setCursor(0, 0);

lcd.print("Temp C ");

lcd.setCursor(6, 0);

lcd.print(tempC);

// Display Temperature in F

lcd.setCursor(0, 1);

lcd.print(" F ");

lcd.setCursor(6, 1);

lcd.print(tempF);

//The following code block will print the recorded data every second in the Arduino //platform/IDE, but the same data will be transmitted and printed into the Python script

Serial.print(tempC);

Serial.print(",");

Serial.print(tempF);

Serial.println(" ");

delay(1000); //1000ms = 1 second}