//<http://www.rinkydinkelectronics.com/library.php?id=73> Library Download for DS3231

#include <DS3231.h>

#include "HX711.h"

#include <SD.h>

#include <SPI.h>

File myFile;

HX711 scale;

DS3231 rtc(SDA, SCL);

Time tCurrent;

String h = "2022 03 13.txt";

//Timer Setup

int tCurrentSec = 0;

int tStartSec = 0;

//Load Cell Setup

const int CodeEStop = 8; //User Estop in Code

const int ButtonInput = 4; //User Input

uint8\_t dataPin = 6; //Load Cell Setup

uint8\_t clockPin = 7; //Load Cell Setup

float w1, w2, previous = 0; //Load Cell Setup

int pinCS = 10; //Read Write Setup

void setup() {

//Load Cell

pinMode(4, INPUT);

scale.begin(dataPin, clockPin);

scale.set\_scale(3972.86962);

scale.tare();

Serial.begin(9600);

//CLOCK

// Initialize the rtc object

rtc.begin();

// The following lines can be uncommented to set the date and time

//rtc.setDOW(SATURDAY); // Set Day-of-Week to SUNDAY

//rtc.setTime(17, 56, 0); // Set the time to 12:00:00 (24hr format)

//rtc.setDate(13, 03, 2022); // Set the date to January 1st, 2014

tCurrent = rtc.getTime();

tStartSec = tCurrent.hour\*360 + tCurrent.min\*60 + tCurrent.sec;

//tCurrentSec = tCurrent.hour\*360 + tCurrent.min\*60 + tCurrent.sec; //Not Needed, but helpfult to include here

Serial.println(String(rtc.getDateStr(FORMAT\_LONG,FORMAT\_BIGENDIAN,' '))+".txt");

String h = String(rtc.getDateStr(FORMAT\_LONG,FORMAT\_BIGENDIAN));

Serial.println(h);

//SD READER WRITER

pinMode(pinCS, OUTPUT);

if (SD.begin()) //SD Card Initialization

{

Serial.println("SD card ready for use.");

}

else

{

Serial.println("SD card initialization failed");

return;

}

myFile = SD.open("ReadMe.txt", FILE\_WRITE); //Create and Open File

myFile.println("Test of saving data from arduino to SD Card as Excel/Sheets readable data to be graphed later. File Name Based on Date");

myFile.close(); //Closes file

}

void loop()

{

//Find Sensing Data for Each Loop

w1 = scale.get\_units(10); //Weight of Load Cell

//Record Data if Action is Taken

myFile = SD.open("6.txt", FILE\_WRITE); //Create and Open File

//Find Time Since Start

tCurrent = rtc.getTime();

tCurrentSec = tCurrent.hour\*360 + tCurrent.min\*60 + tCurrent.sec;

if (myFile)

{

Serial.println("Writing to file...");

myFile.println(String(tCurrentSec-tStartSec) + ", " + String(w1));

Serial.println(String(tCurrentSec-tStartSec) + ", " + String(w1));

myFile.close(); //Closes file

}

//if file doesnt open, print an error

else {

Serial.println("error opening document");

}

Serial.println("Done.");

if (digitalRead(CodeEStop) == HIGH) {

myFile.close(); //Closes file

Serial.print("Done.");

while(1){delay(1000);}

}

}