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/* This program displays the Character Speed WPM on line 1 and Character
Clock Timing on line 2 of  a 16 x 2
LCD display based on a HD44780 display controller. WA7RSO
Modified for Analog Input & Display of the Voltage on LCD LLine 3
08/13/2013
*/
#include <LiquidCrystal.h>  //  alert compiler to include the lcd library

int RS = 8;               // Register Select on pin #4 of the LCD
int RW = 9;               // Read/Write on pin #5 of the LCD
int E = 10;               // Enable on pin #6 of the LCD

// initialize the library with the numbers of the Arduino pins used
LiquidCrystal lcd(RS, E, 4, 5, 6, 7);     //defines the pins used from the
LCD to the Arduino (New Interface Board)


int rawNumber;

String CharSpeed20 = ("Char Speed-20WPM");
String CharClock20 = ("60 ms 16.7Hz Clk");
String InputVoltage;

void setup()                          //required function
{
  // initialize serial communication at 9600 bits per second:
//  Serial.begin(9600);     //see text
  pinMode(RW, OUTPUT);
  digitalWrite(RW, LOW);          // Allow "Writing" to the LCD

  lcd.begin(20,4);                //let the program know the size of the
display to be handled

  printspeed();                     // calls the function to print the WPM
message
//  printclock();                   // calls the function to print the
first 16 characters of the message
}

void loop()                        //  Dummy Loop
{
// Read the analog input on pin #0
  int sensorValue = analogRead(A0);
  // Convert the analog reading (which goes from 0 - 1023) to a voltage
(0 - 5V):
  float voltage = sensorValue * (5.0 / 1023.0);
// print out the value you read:
//  Serial.println(voltage);
  lcd.setCursor(0,2);
//  InputVoltage = Stringvoltage;
  lcd.print("Voltage: ");
  lcd.print(voltage);
  lcd.print("V");
  Clear4thLine();
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      lcd.setCursor(0,3);
      rawNumber = sensorValue;
      lcd.print("Raw Value: ");
      lcd.print(String(sensorValue));
    delay(500);

}

void printspeed()                       // Show the Character Speed in WPM
   {
      lcd.setCursor (0,0);                  // Set cursor at beginning of 1st
Row ("0")
      lcd.print(CharSpeed20);              // print the WPM Character Speed
      Serial.println(CharSpeed20);
      lcd.setCursor(0,1);                  //sets cursor at the bginning of
the second line and then moves right
      lcd.print(CharClock20);
      Serial.println(CharClock20);
   }

void Clear4thLine()
{
      lcd.setCursor(0,3);
      lcd.print("                    ");
}
```