```
1
2   void setup() {
3     // initialize serial communication at 9600 bits per second:
4   Serial.begin(9600);
5   Serial.println("CLEARSHEET");//setup so PLX-DAQ recieves data.
6   Serial.println("CLEARDATA");
7   Serial.println("LABEL, Time, Voltage,");//Name labels for columns in Excel
8   Serial.println("RESETTIMER");
9   }
10
11  void loop(){
12    Serial.print("DATA,"); //setup so PLX-DAQ recieves data.
13
14    int sum = 0;
15    for (int i=0; i<30; i++) {
16    sum=sum+analogRead(A2); //for loop to sum 30 measurments
17    }
18    float average=sum/30; //get average of the 30 measurments (better precision)
19    float voltageR2 = average * (5.015 / 1024); //voltage reading across R2
20    // Convert the analog reading (which goes from 0 - 1023) to a voltage (0 - 5V):
21    float Vs =( voltageR2 * 10.2)+voltageR2; //Total voltage calculations
22    //R1 and R2 ratio is 10.2, therefore V across R1 is V for R2*Ratio
23    //Total voltage is the sum of voltages across both resistors
24    unsigned long Time=millis()/1000; //how much time has elapsed
25    // print out the value you read:
26    Serial.print(Time); //print time elapsed
27    Serial.print(",");
28    Serial.println(Vs,5); //print total voltage with 5 decimals
29    //separate data print outs with by comma, so PLX-DAQ recognizes it as separate data
30    delay (1000);//repeat the loop every second (take data every second)
31
32  }
33
```