int analogPin = A2; // potentiometer wiper (middle terminal) connected to analog pin 3

// outside leads to ground and +5V

int raw = 0; // variable to store the raw input value

int Vin = 5; // variable to store the input voltage

float Vout = 0.000; // variable to store the output voltage

float R1 = 47.000; // variable to store the R1 value

float R2 = 0.000; // variable to store the R2 value

float buffer = 0.000; // buffer variable for calculation

void setup()

{

Serial.begin(9600); // Setup serial

digitalWrite(13, HIGH); // Indicates that the program has intialized

}

void printDouble( double val, byte precision){

// prints val with number of decimal places determine by precision

// precision is a number from 0 to 6 indicating the desired decimial places

// example: printDouble( 3.1415, 2); // prints 3.14 (two decimal places)

Serial.print (int(val)); //prints the int part

if( precision > 0) {

Serial.print("."); // print the decimal point

unsigned long frac;

unsigned long mult = 1;

byte padding = precision -1;

while(precision--)

mult \*=10;

if(val >= 0)

frac = (val - int(val)) \* mult;

else

frac = (int(val)- val ) \* mult;

unsigned long frac1 = frac;

while( frac1 /= 10 )

padding--;

while( padding--)

Serial.print("0");

Serial.print(frac,DEC) ;

Serial.println();

}

}

void loop()

{

raw = analogRead(analogPin); // Reads the Input PIN

Vout = (5 / 1023.000) \* raw; // Calculates the Voltage on th Input PIN

buffer = (Vin / Vout) - 1;

R2 = R1 / buffer;

printDouble(R2, 5); //

delay(1000);

}