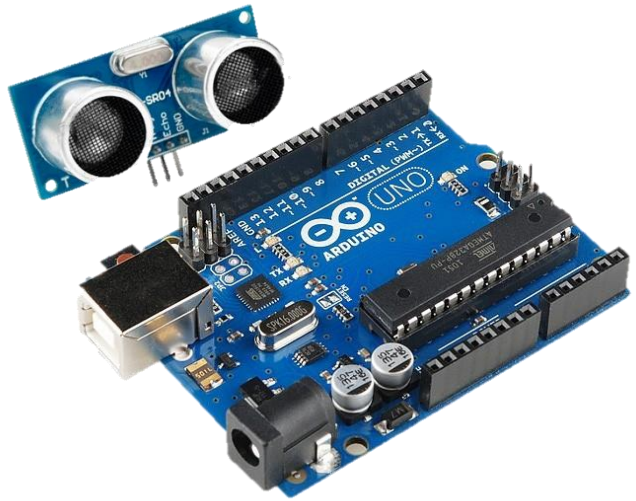
Comunicación serial Python y Arduino



Turbo Código

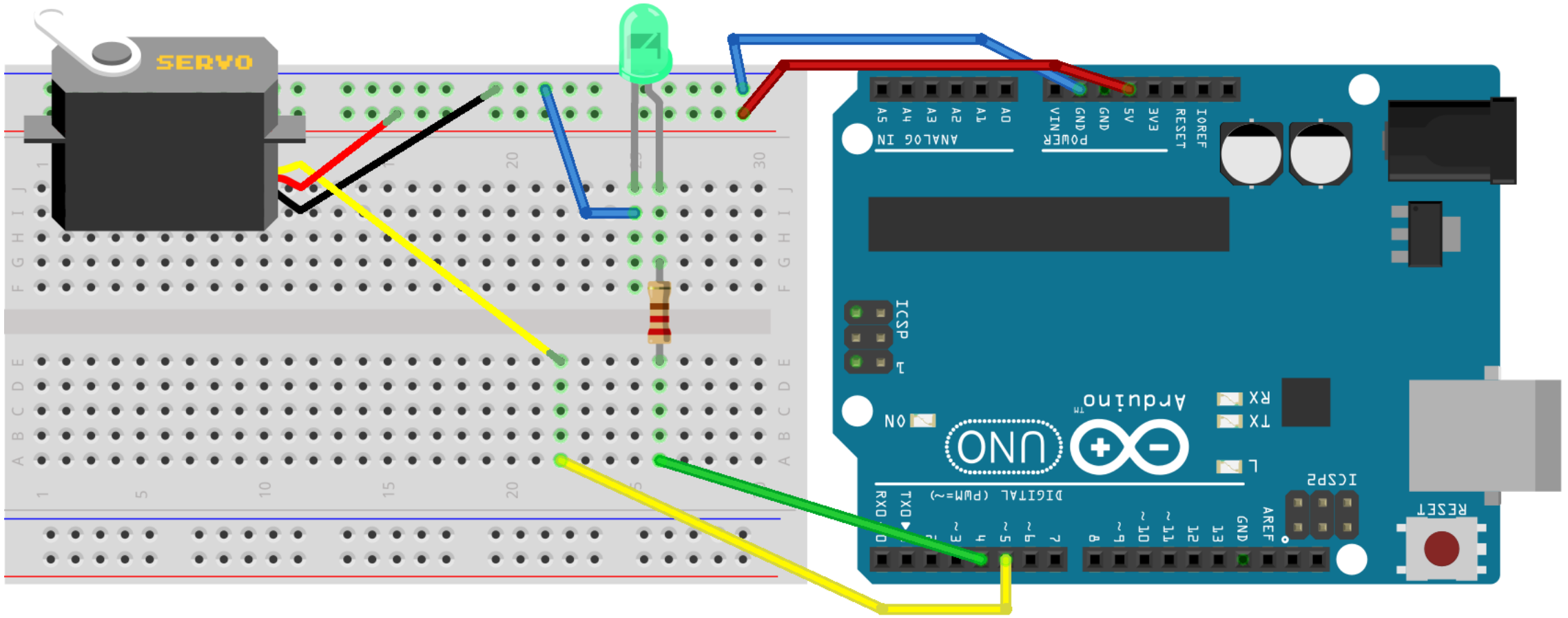
13

Envía Datos De Arduino a Python

python

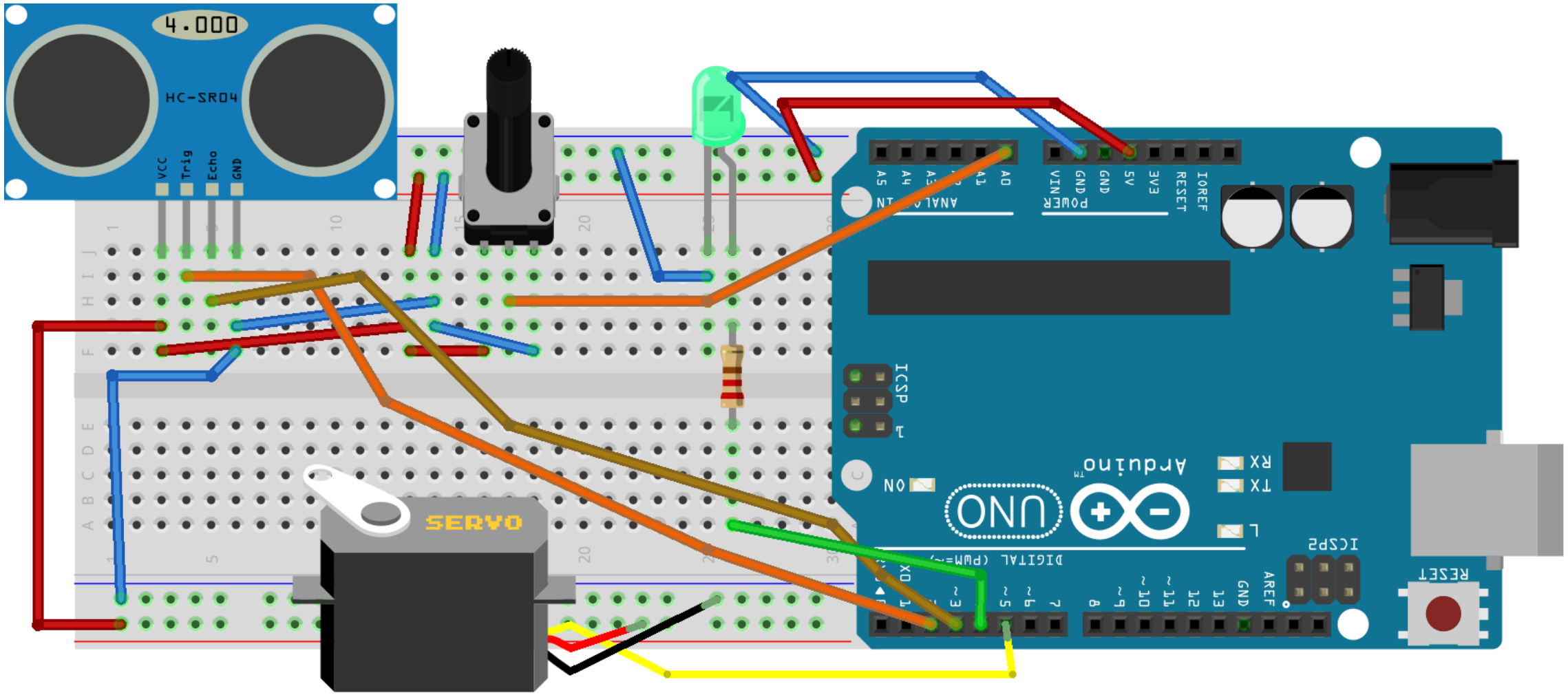
ARDUINO

Circuito



Turbo Código
https://www.youtube.com/user/juarezefren

Circuito

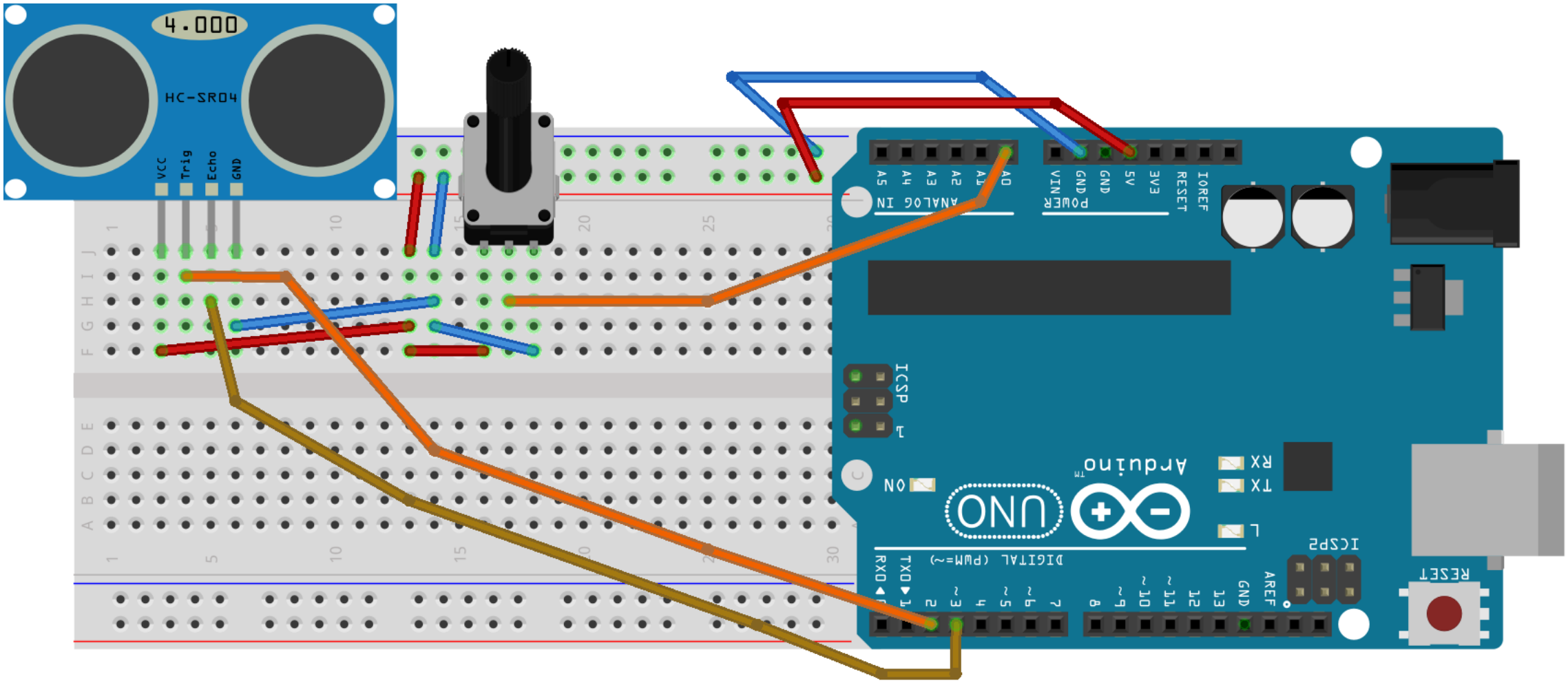


Turb

https:

fritzing

Circuito



Turbo
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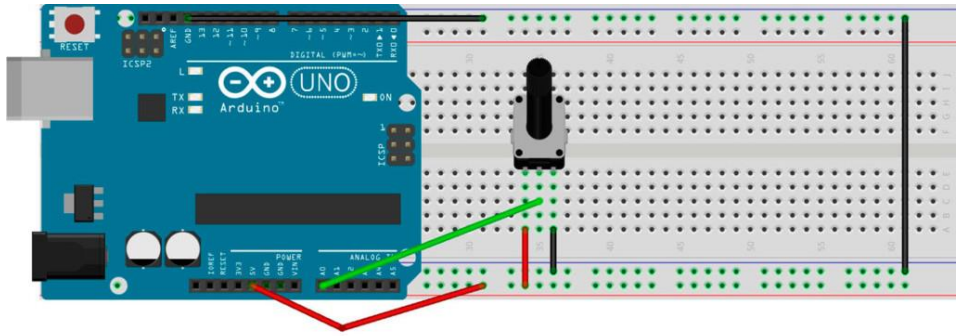
fritzing

Potenciometro

- value_pot = analogRead(PIN_POT);
- value_pot = map(value_pot , 0, 1023, 0, 100);
- Serial.println(value_pot);



Ultrasonico

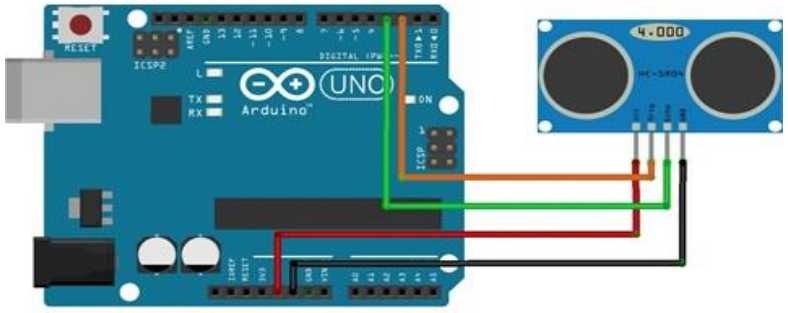
- Rango de 2 cm a 400 cm
- Mide el tiempo, en microsegundos
- Velocidad Sonido = 343 M/S

$$343\frac{m}{s} * 100\frac{cm}{m} * \frac{1}{1{,}000{,}000}\frac{s}{\mu s} = \frac{1}{29.15}\frac{cm}{\mu s}$$

$$Distancia\ (cm) = \frac{Tiempo\ (\mu s)}{29.15 * 2}$$

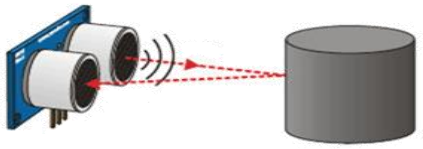
$$Distancia\ (cm) = \frac{Tiempo\ (\mu s)}{58.3}$$

```
float getDistance(int p_trig, int p_echo){
  float _val;
  digitalWrite(p_trig, LOW);  //para genera
  delayMicroseconds(4);

  digitalWrite(p_trig, HIGH);  //generamos
  delayMicroseconds(10);
  digitalWrite(p_trig, LOW);

  _val = pulseIn(p_echo, HIGH);
  _val = _val/58.3;
  if(_val >= 2 and _val <= 400)
    return _val;
  return -1;
}
```



Trig -> 2

Echo -> 3



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Algo parecido a multihilo en Arduino

Ejecuta una función cada cierto tiempo
-- se puede hacer también utilizando millis() --

- https://github.com/sstaub/Ticker

How to use

First, include the TimerObject to your project:

```
#include "Ticker.h"
```

Now, you can create a new object in setup():

```
Ticker tickerObject(callbackFunction, 1000);
tickerObject.start(); //start the ticker.
```

In your loop(), add:

```
tickerObject.update(); //it will check the Ticker
and if necessary, it will run the callback function.
```

Installation

1. "Download":https://github.com/sstaub/Ticker/archive/master.zip the Master branch from GitHub.
2. Unzip and modify the folder name to "Ticker"
3. Move the modified folder on your Library folder (On your `Libraries` folder inside Sketchbooks or Arduino software).

No usar delay() en el loop()

Pyserial (instalación)

- Instalación
  - pip install pyserial

- Lista tus dispositivos serie:
  - python -m serial.tools.list_ports

Pyserial (lectura)

- import serial
- **dev** = serial.Serial("COM4", 9600)

- val =**dev**.readline()

- **cad** = val.decode('ascii')

- **dev**.close()