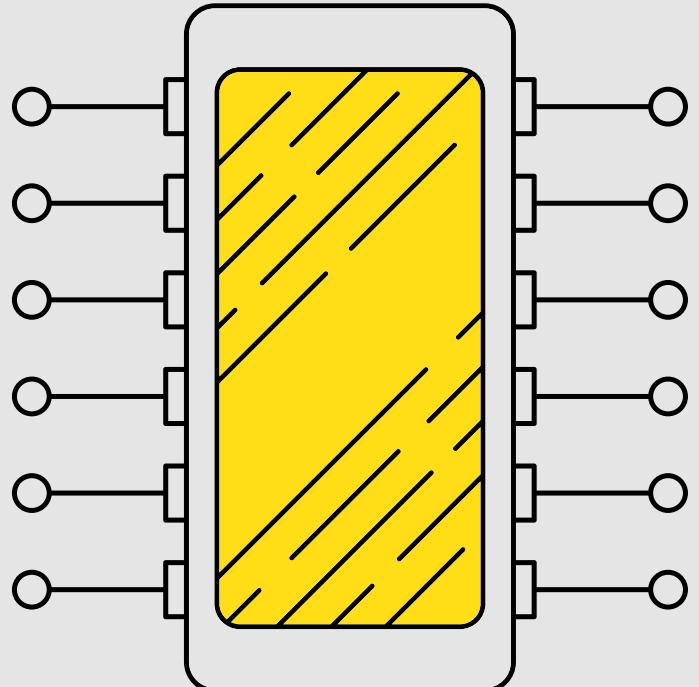


Proyecto Final

Microcontroladores

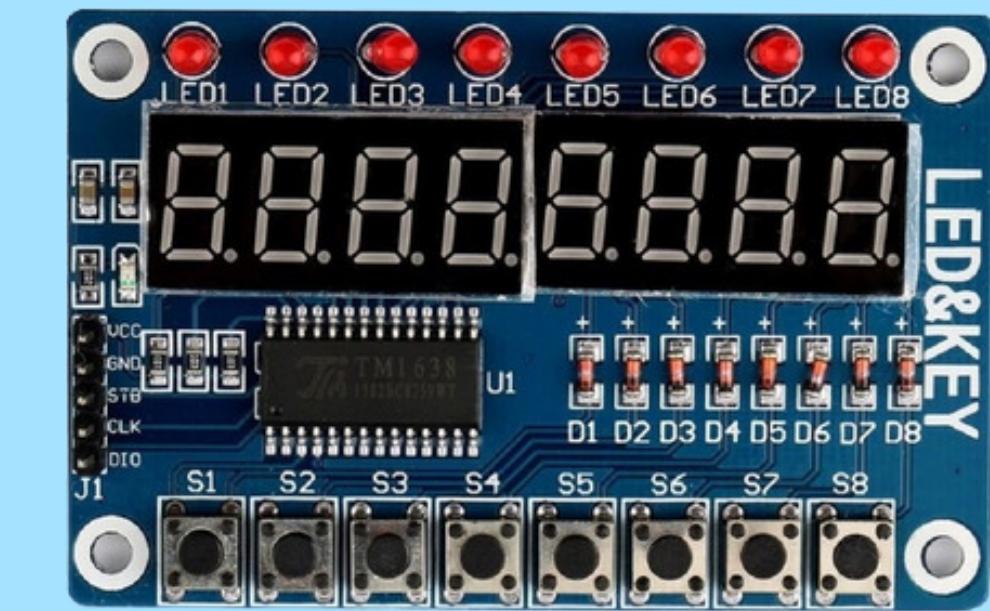
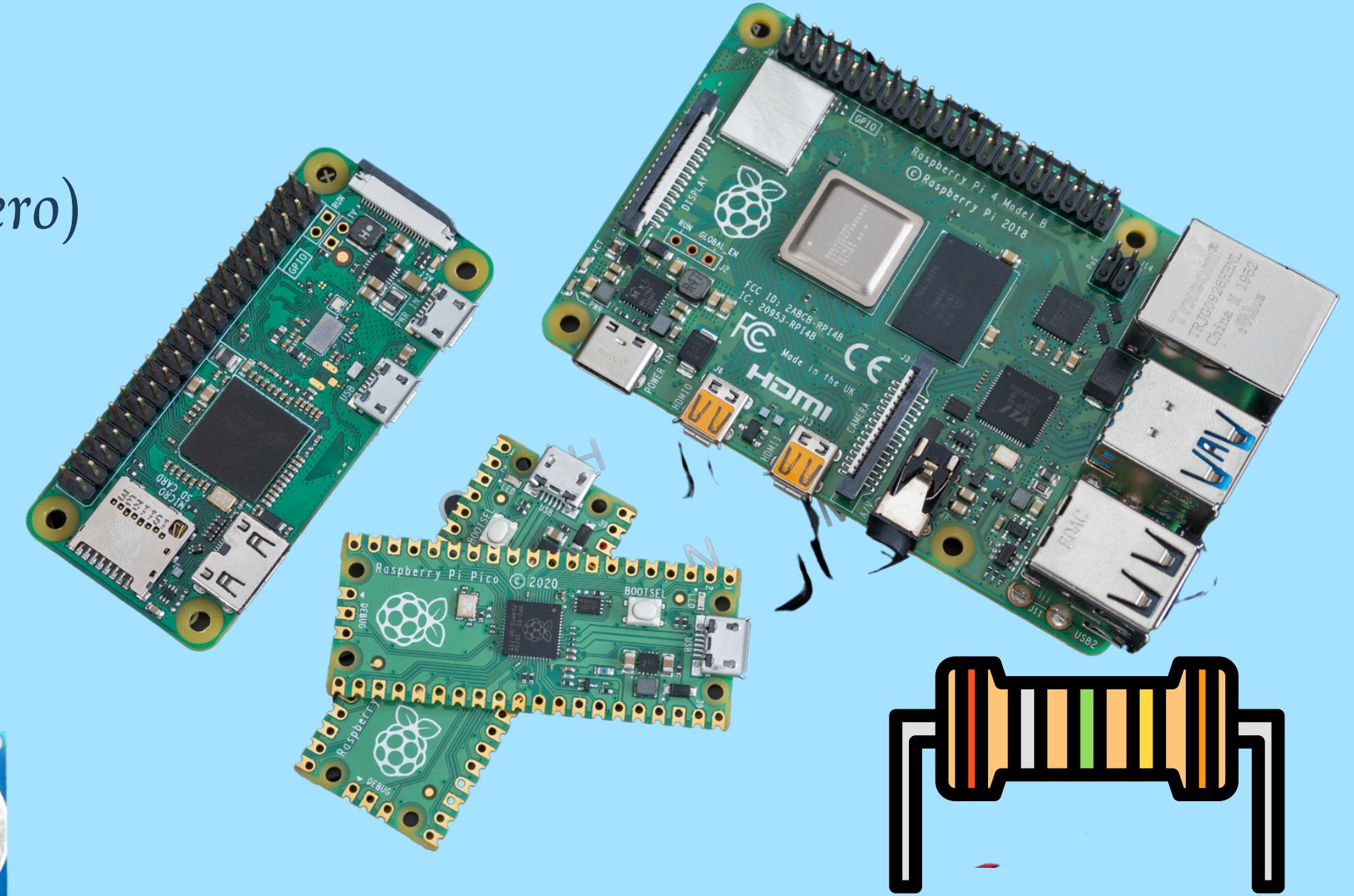
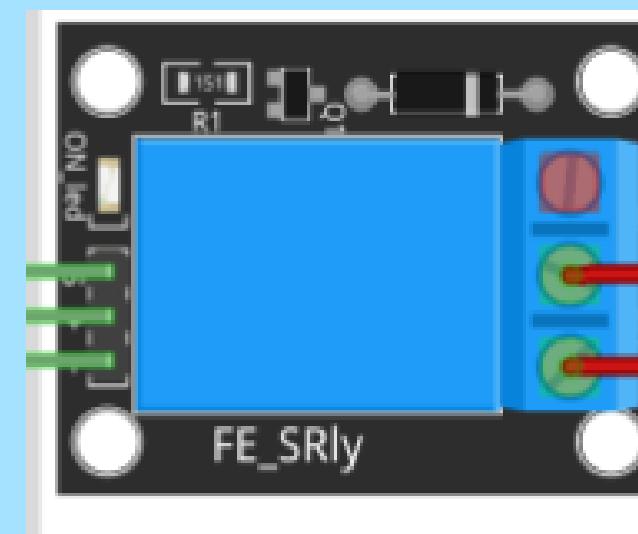
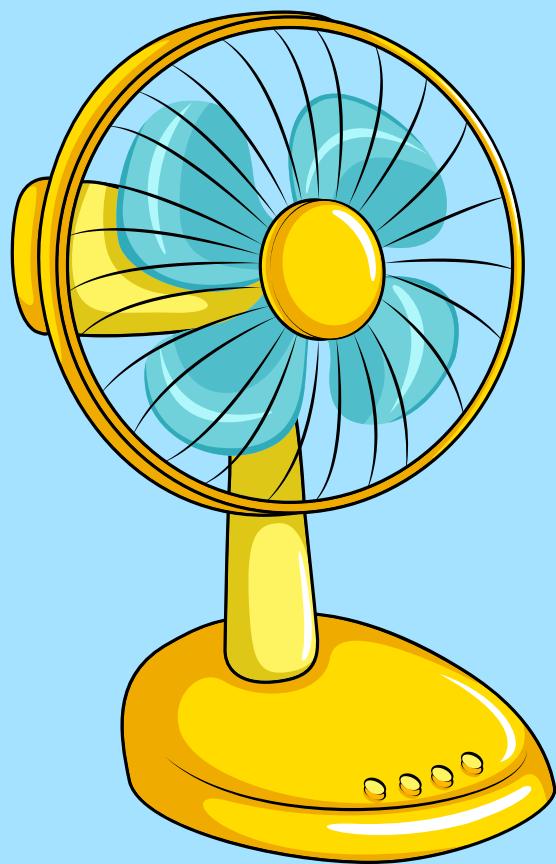


Alexis Campos

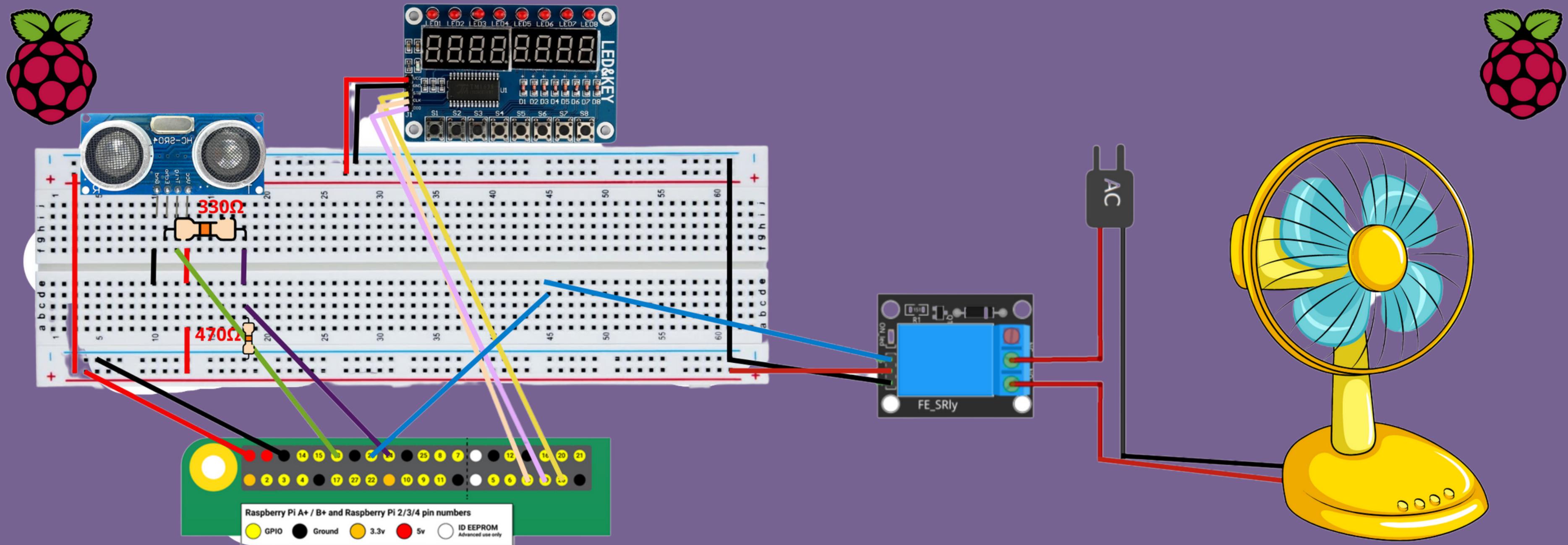


Material usado

- Raspberry pi (cualquier modelo a partir de la Zero)
- Sensor ultrasónico.
- Resistor 330Ω
- Resistor 470Ω
- TM-1638
- Relay Module
- Ventilador



Conexion



Página Web / Servidor

HTML 5

A screenshot of a web browser window displaying a project page. The browser has three tabs: "Inicio - Canva", "Proyecto Final Microcontrolador", and "Nueva pestaña". The address bar shows the file path: "C:/Users/alex/Downloads/PMD/PMD/Interfaz%20Web/index.html". The main content of the page is as follows:

Quantum Tecno.com

Proyecto Final
Medidor de Distancia Ultrasonico
Detector de Distancias Menores a 10 cm

Medidor:

The page features a large green gradient background with a central white rectangular area containing the logo and text. A sidebar on the left contains a "CSS" icon with a checkmark.

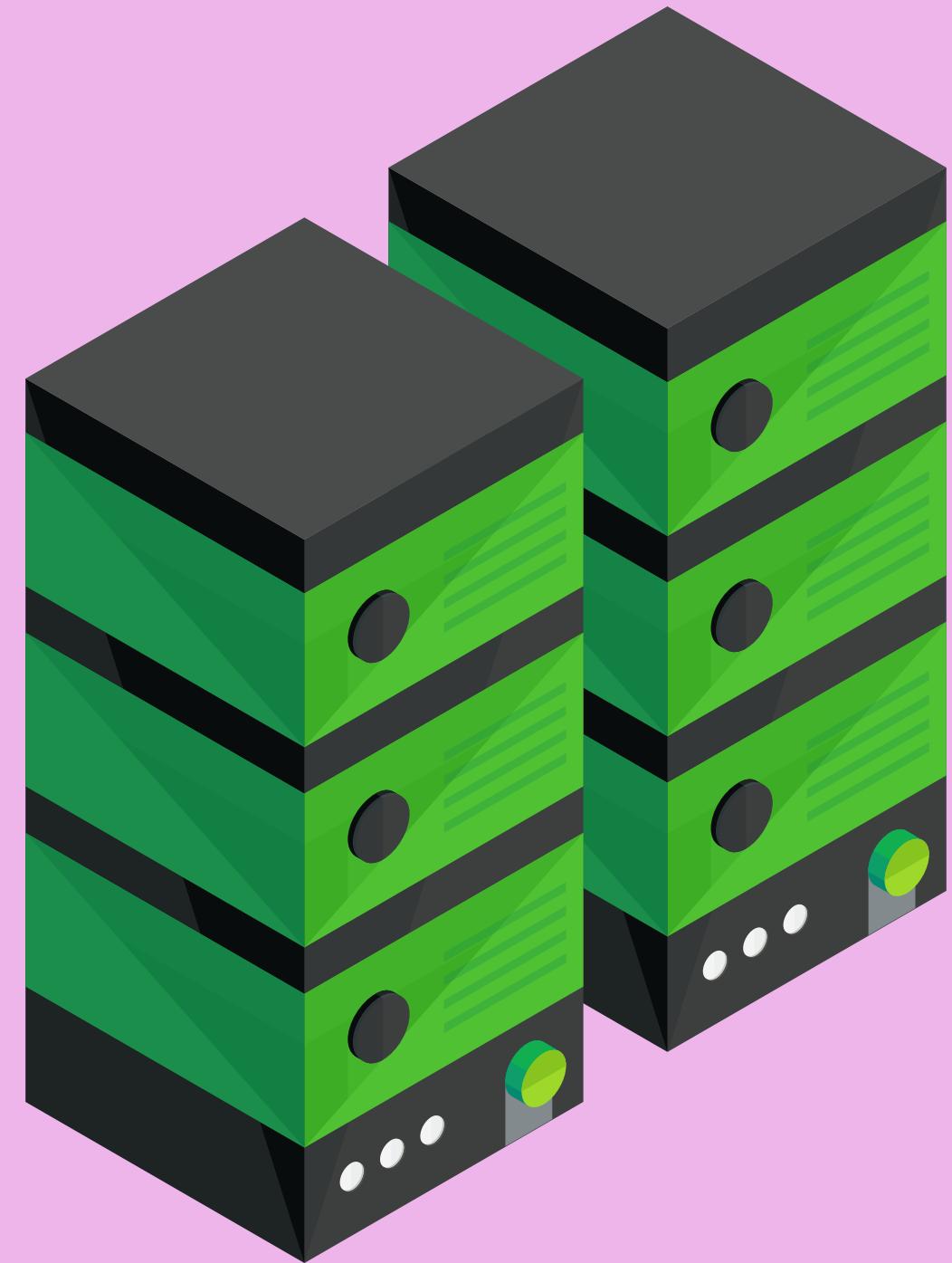


Iniciador de Servidor

```
pi@raspberrypi3: ~/PMD/RestApi
Archivo Editar Pestañas Ayuda
pi@raspberrypi3:~ $ cd PMD
pi@raspberrypi3:~/PMD $ cd RestApi
pi@raspberrypi3:~/PMD/RestApi $ npm start

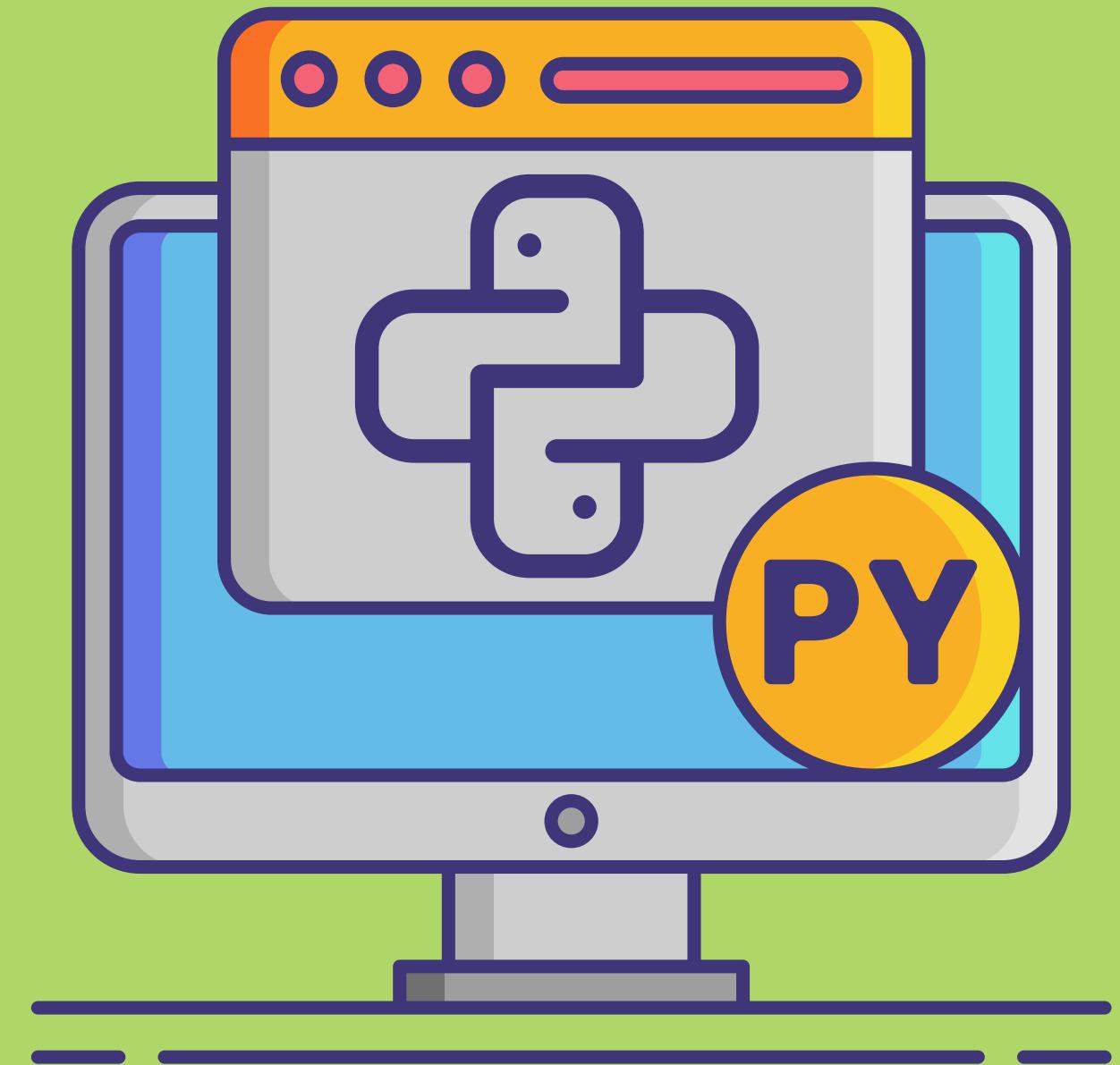
> nodeprueba@1.0.0 start
> node server

Server listening at port 3000
█
```



Iniciar programa index.py

```
pi@raspberrypi3: ~/PMD
Archivo Editar Pestañas Ayuda
pi@raspberrypi3:~ $ cd PMD
pi@raspberrypi3:~/PMD $ sudo python3 index.py
Comprobando estado Para detener presiona control+C
Comprobando estado Para detener presiona control+C
```

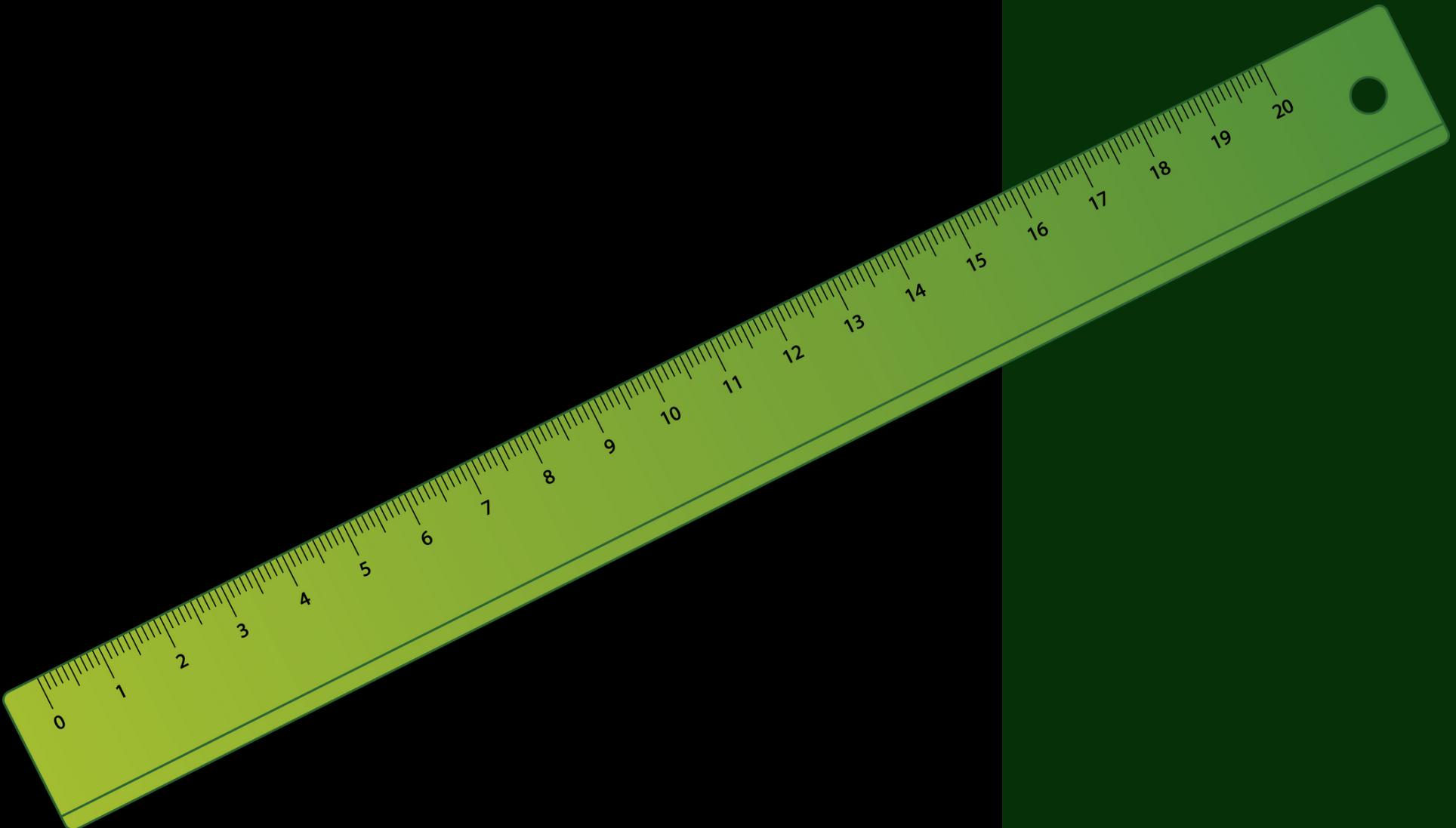


Iniciando a leer medidas

Esperando medida menor a 10 cm

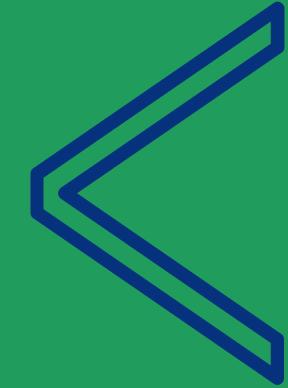
```
pi@raspberrypi3:~/PMO $ sudo python3 index.py  
Comprobando estado Para detener presiona control+C
```

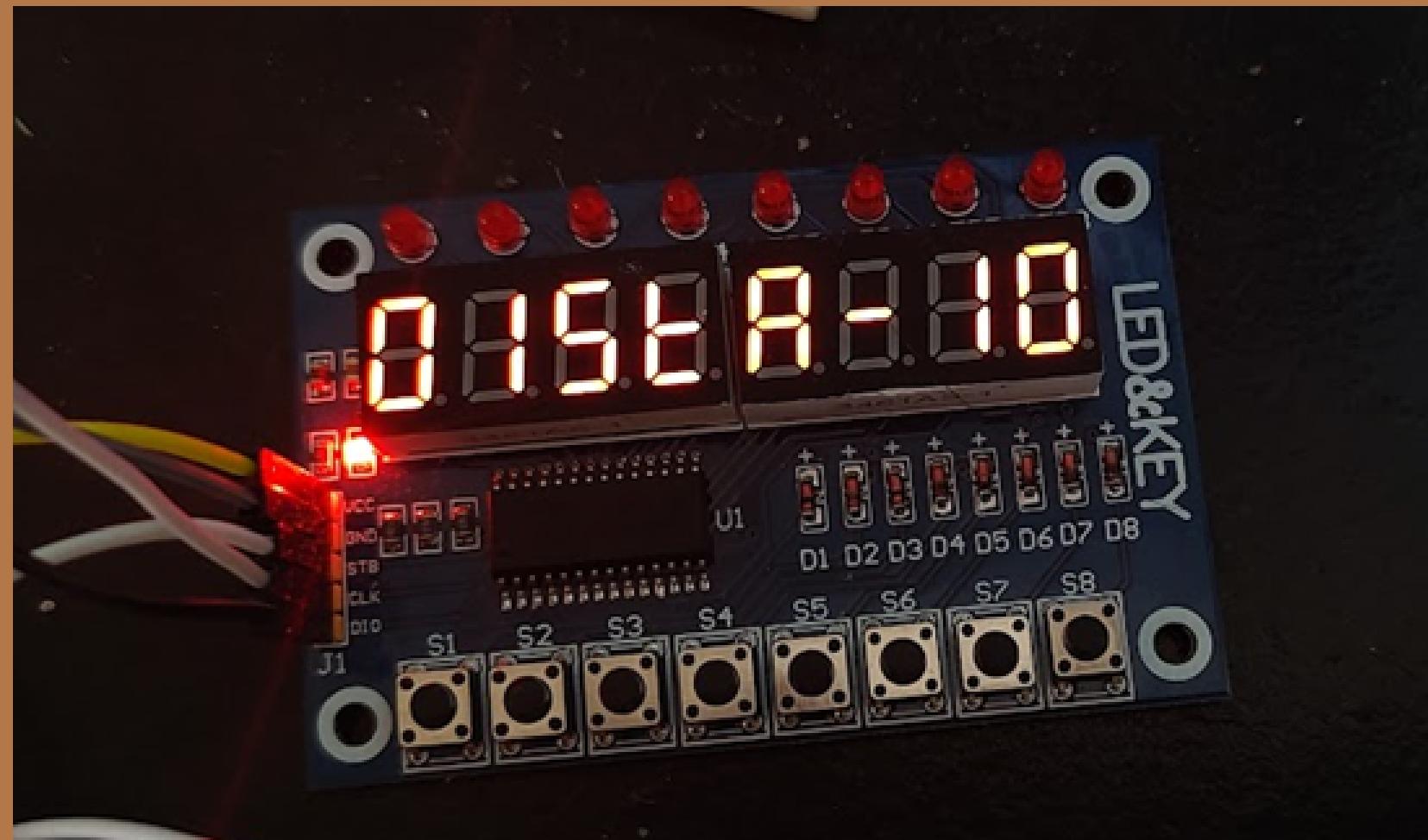
```
La distancia es: = 72.4 cm  
La distancia es: = 72.0 cm  
La distancia es: = 71.5 cm  
La distancia es: = 71.9 cm  
La distancia es: = 71.9 cm  
La distancia es: = 72.0 cm  
La distancia es: = 74.3 cm  
La distancia es: = 71.6 cm  
La distancia es: = 72.4 cm  
La distancia es: = 71.1 cm  
La distancia es: = 71.5 cm  
La distancia es: = 71.5 cm  
La distancia es: = 71.5 cm
```



Distancia menor a 10 cm

La distancia es: = 71.5 cm
La distancia es: = 71.5 cm
La distancia es: = 74.1 cm
La distancia es: = 73.6 cm
La distancia es: = 71.5 cm
La distancia es: = 73.7 cm
La distancia es: = 74.0 cm
La distancia es: = 7.0 cm
La distancia es menor a 10 cm
Esperando 10 segundos





Tm-1638 Distancia -10 cm



Ventilador encendido con Relay

