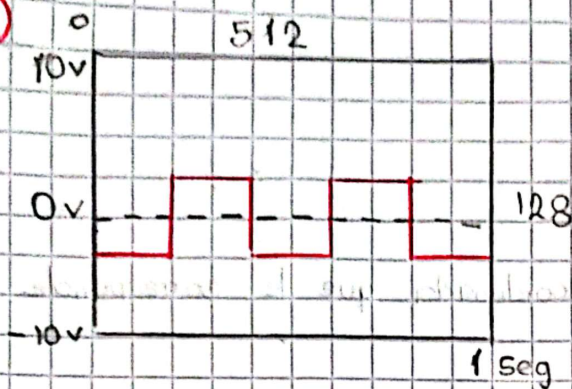


②



Mateo Restrepo

Generador de onda cuadrada entradas

x = coordenada x (pixeles) (int)
 f = frecuencia Hz (float)
 a = amplitud volt (float) Pico a Pico

salida

y = coordenada x (pixeles) (int)

Recta 1

$$F = \frac{1}{T}, T = \frac{1}{F}$$

$V \rightarrow P_{ix}$
 (1) 0 64
 (2) 10 128
 $x \quad y$

$$\frac{y - 64}{x - 0} = \frac{10 - 64}{10 - 0}, y = -6.4x + 64$$

$$y_p = -6.4 \cdot a + 64$$

Recta 2

$$\frac{y - 0}{x - 1} = \frac{512 - 0}{10000 - 1}, \frac{y}{x - 1} = \frac{512}{9999}, y = 0.0512x - 0.0512$$

$$x_p = 0.0512 \cdot f - 0.0512$$

$F \rightarrow P_{ix}$
 (1) 1v = 0
 (2) 10000 512

def onda(amp, freq, x):

```

m_freq = 0.0512
b_freq = -0.0512
Xp = 0.0512 * freq - 0.0512

m_amp = -6.4
b_amp = 64
Yp = 6.4 * amp + 64
posicion = x % Xp
  
```

if posicion < Xp/2:

$y = Y_p$

else:

$y = -Y_p$

) return y

Replit

```
def onda(amp, freq, x, offset)
```

```
    Xp = 0.0512 * freq - 0.0512
```

```
    Yp = 6.4 * amp + 64
```

```
    position = x % Xp
```

```
    if position < Xp / 2 :
```

```
        y = Yp + offset
```

```
    else :
```

```
        y = -Yp + offset
```

```
    return int(y)
```

🔴 Código Servos 🔴

```
import board
import analogio
import pwmio
import time
```

```
potentiometer = analogio.AnalogIn(board.GP26)
```