Programas de test

En el repositorio https://github.com/arduino/arduino-alvik-mpy/tree/main/examples podemos encontrar ejemplos para ver el uso de los diferentes sensores y actuadores, por ejemplo

Sensor name	Part name	Test program name
RGB Color detection	APDS 9660	read_color_sensor.py
ToF 8x8 Array - up to 350 cm	LSM6DSOX	read_tof.py
IMU - 6 degree	VL53L7CX	read_imu.py
3x Line follower	custom made	line_follower.py
7x Touch sensor	AT42QT2120	read_touch.py
Actuator name	**Part name**	**Test program name**
Geared motors w/ encoder	GM12-N20VA-08255-150-EN	wheels_positions.py
RGB LEDs	RGB LEDs	leds_settings.py

Detector de color

Modificación del read_color_sensor.py

```
from arduino_alvik import ArduinoAlvik
from time import sleep_ms
import sys

alvik = ArduinoAlvik()
alvik.begin()

while True:
    try:
        r, g, b = alvik.get_color()
        h, s, v = alvik.get_color('hsv')
        print(f'RED: {r}, Green: {g}, Blue: {b}, HUE: {h}, SAT: {s}, VAL: {v}')
        print(f'COLOR LABEL:')
```

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```
        print ({alvik.get_color_label()})
        sleep_ms(1000)
    except KeyboardInterrupt as e:
        print('over')
        alvik.stop()
        sys.exit()
```

https://www.youtube.com/embed/j0tgpjJKK40

Detector TOF

Si ejecutamos read_tof.py

```
from arduino_alvik import ArduinoAlvik
from time import sleep_ms
import sys

alvik = ArduinoAlvik()
alvik.begin()

while True:
    try:
        L, CL, C, CR, R = alvik.get_distance()
        T = alvik.get_distance_top()
        B = alvik.get_distance_bottom()
        print(f'T: {T} | B: {B} | L: {L} | CL: {CL} | C: {C} | CR: {CR} | R: {R}')
        sleep_ms(100)
    except KeyboardInterrupt as e:
        print('over')
        alvik.stop()
        sys.exit()
```

Detecta hasta los obstáculos por arriba

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https://www.youtube.com/embed/XHXCfblL4ks

Giro

Si ejecutamos read_imu.py

```
from arduino_alvik import ArduinoAlvik
from time import sleep_ms
import sys

alvik = ArduinoAlvik()
alvik.begin()

while True:
    try:
        ax, ay, az = alvik.get_accelerations()
        gx, gy, gz = alvik.get_gyros()
        print(f'ax: {ax}, ay: {ay}, az: {az}, gx: {gx}, gy: {gy}, gz: {gz}')
        sleep_ms(100)
    except KeyboardInterrupt as e:
        print('over')
        alvik.stop()
        sys.exit()
```

Vemos como el eje x cambia de -1 0 a 1 según la posición

https://www.youtube.com/embed/E083Xe_IMFY

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