



TALLER 4 - ESP32 SENSORES

EJERCICIO 1

Implemente el siguiente circuito con un sensor de luz LDR en la plataforma WOKWI, explique cómo funciona y comente el programa línea por línea.

The screenshot displays a Wokwi simulation environment. On the left, a code editor shows a Python script named `main.py` that controls two LEDs (red and green) based on the output of an LDR sensor. The script uses the `machine` module for pin control and `utime` for timing. The LDR sensor is connected to pin 18 (input), and the red LED is connected to pin 21 (output), while the green LED is connected to pin 22 (output). The simulation window on the right shows the physical components: an ESP32 board, an LDR sensor module, a red LED, and a green LED, all connected according to the code. The terminal at the bottom shows the output of the program, which prints the sensor reading and the state of the LEDs.

```
1 from machine import Pin
2 from utime import sleep, sleep_ms
3
4 LDR = Pin(18, Pin.IN)
5 rojo = Pin(21, Pin.OUT)
6 verde = Pin(22, Pin.OUT)
7 print("iniciando")
8
9 while True:
10     lectura_fotocelda = LDR.value()
11     print("lectura_FOTOCELDA")
12     sleep_ms(100)
13
14     if (lectura_fotocelda == True):
15         rojo.value(1)
16         verde.value(0)
17
18     else:
19         rojo.value(0)
20         verde.value(1)
21
22
23
```

Simulation

lectura_FOTOCELDA
lectura_FOTOCELDA
lectura_FOTOCELDA
lectura_FOTOCELDA
lectura_FOTOCELDA

EJERCICIO 2

Monte el circuito en físico utilizando una tarjeta ESP32 y el programa Thonny. Tome fotos como evidencia

Nota: Se deben enviar los dos enlaces de los ejercicios al correo camolano@educacionbogota.edu.co