

ADC Data Processor and Visualizer

Description

This application reads ADC and duty cycle data from a serial port, processes the data into a structured format, saves it as a CSV file, and generates interactive plots for visualization.

Requirements

- Python 3.x
- Libraries:
 - plotly
 - pandas
 - serial

Install the required libraries using:

```
pip install plotly pandas pyserial
```

Setup and Installation

1. **Configure Serial Port:** Ensure that the serial port for the device is accessible to Python.
 - **Default Serial Port:** COM5
 - **Baud Rate:** 4800
2. **Serial Access:** Make sure the port is closed to other applications for Python to access it properly before running the script.

Usage

Run the script using the command:

```
python VoltageADCPlotter.py
```

Configuration

The serial port parameters can be adjusted in the main block:

```
serial_conn = serial.Serial(  
    port="COM5",          # Default COM port  
    baudrate=4800,        # Default baud rate  
    bytesize=8,  
    timeout=2,  
    stopbits=serial.STOPBITS_ONE  
)
```

To use a different port or baud rate, modify the port and baudrate fields as necessary.