

# PV198 - UART II

One-chip Controllers

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# Intro

- Switch the branch to *Week\_10*!
- No homework for week 10.

# Introduction

- Sometimes you cannot or don't have to program the MCU yourself
- Instead control from other MCU or computer
- Usually custom, device specific communication protocol

# AT-Commands

- Protocol for controlling other MCUs
- Not standardized but shares some common structure and core set of commands accross different devices
- Originally used for modems
- Nowadays mostly GSM/GPRS modules and other wireless communication modules

# Goal

- Control a MCU over UART from Python using AT-Commands

## Wiring and configuration

- You will need ESP32-C6 DevKit and USB-UART bridge
- Connect 5V, GND, RX, TX (don't forget to swap RX and TX)
- UART uses 115200 bauds/s, 1 stop bit, no parity and 8-bit data

## Task

1. Reset the board with `at_reset.py` script from study materials
2. Verify connection using the test command
3. Check status of Wi-Fi, scan the surrounding networks and connect to "PV198" with password "lDo53b8xp6aR"
4. Request contents of webpage located on <https://www.fi.muni.cz/~xrohlin/>

AT-Commands documentation can be found [here](#).

## Bonus Task

1. MQTT: Connect to "mqtt://test.mosquitto.org" and send and receive messages to and from "PV198" topic
2. PWM: Connect the devkit to LED using breadboard and generate PWM



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