ADC

Note: Any function referenced here is in the *peripherals/adc.h* file, except otherwise stated

Before any further action to the GPIOs, the first thing that must happen is the enabling of the GPIO clock. This is done through the function

void enableGpioClocks() (#include "/clock/clock.h")

Continuous mode

To start the ADC in continuous mode, call the function

void startContinuousConversion(uint8_t sequence[], uint8_t seq_len);

where

- sequence: Is the sequence with which the ADC inputs are sampled
- seq_len: Is the length of the aforementioned sequence

General

To read the data of the last ADC conversion, call the following function, which is blocking and waits until the consversion has ended.

uint16_t readDataConverted();

It returns the value of the last conversion.

GPIOs

Note: Any function referenced here is in the *peripherals/gpio.h* file, except otherwise stated

Before any further action to the GPIOs, the first thing that must happen is the enabling of the GPIO clock. This is done through the function

void enableGpioClocks() (#include "/clock/clock.h")

Then, the pin must be configured with the following function

void configPin(uint8_t port, uint8_t pin, uint8_t gpio_mode);

where

- port: Sets the register to be used, e.g. GPIOA for PORTA etc.
- pin: Sets the specific pin to be configured, e.g. GPIO_PIN_1 for pin 1
- mode: Sets the mode, which takes the following values
  - OUTPUT_PUSH_PULL: For output mode with push-pull configuration
  - OUTPUT_OPEN_DRAIN: For output mode with open-drain configuration
  - ALT_FUNC_PUSH_PULL: For output mode with push-pull configuration
  - ALT_FUNC_OPEN_DRAIN: For output mode with open-drain configuration
  - ANALOG: For input mode with analog
  - FLOATING_INPUT: For floating input
  - INPUT_PULL_UP_DOWN: For input with pull-up/pull-down resistors

To set a pin we call

void setPin(uint8_t port, uint8_t pin, uint8_t value);

where

- port: Sets the register to be used, e.g. GPIOA for PORTA etc.
- pin: Sets the specific pin to be configured, e.g. GPIO_PIN_1 for pin 1
- value: I s the value to set (0 for low or 1 for high)