

GPIO

Please do the following exercises individually.

LEDs and push-buttons

Suppose that the first four pins of port C are connected with active low LEDs and remaining pins with active high push-buttons. Please initialize the port as follows:

- The pins for the LEDs are output.
- All LEDs are switched off.
- The pins for the buttons are input.
- The pull-down resistors for the buttons are activated

Then activate LED 1 if button 5 is pressed¹.

¹ You might need the following constants: `PORT_OPC_PULLDOWN_gc`, `PIN1_bm`, `PIN5_bm`.

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Initialize LEDs and Buttons

```
PORTC.DIR = 0x0F;
PORTC.OUT = 0x0F;
PORTC.PIN4CTRL = PORT_OPC_PULLDOWN_gc;
PORTC.PIN5CTRL = PORT_OPC_PULLDOWN_gc;
PORTC.PIN6CTRL = PORT_OPC_PULLDOWN_gc;
PORTC.PIN7CTRL = PORT_OPC_PULLDOWN_gc;
```

Handle Button

```
if (PORTC.IN & PIN5_bm) {
    PORTC.OUT &= ~PIN1_bm;
}
```

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