

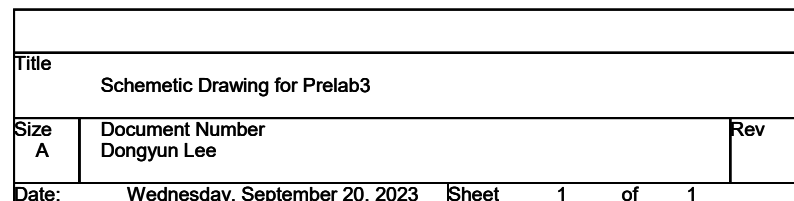
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PreLab03: Switch Inputs and LED Outputs – Very
Simple I/O

ESE280-L03

Bench #3



```
;
; AssemblerApplication1.asm
;
; Created: 9/20/2023 4:57:58 PM
; Author : CAD
;
```

```
;PB2 reads SW0 and PB3 drives LED0
```

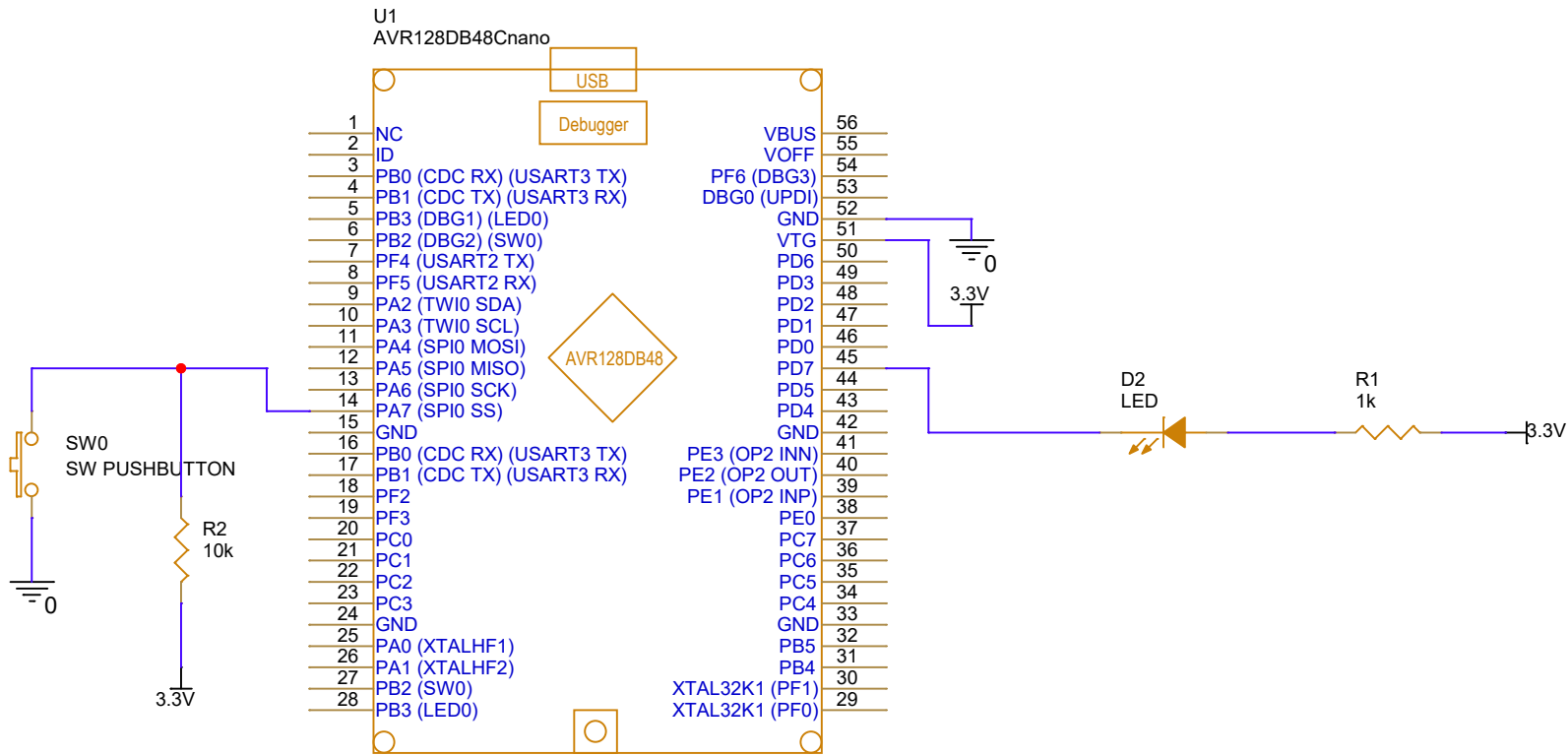
```
start:
```

```
    sbi VPORTB_DIR, 3    ;set direction of PB3 as output
    sbi VPORTB_OUT, 3    ;set output value to 1
    cbi VPORTB_DIR, 2    ;set direction of PB2 to input (default)
    ldi r16, 0x08        ;enable internal pull-up resistor at PB2
    sts PORTB_PIN2CTRL, r16
```

```
;Read switch position to control LED
```

```
loop:
```

```
    sbis VPORTB_IN, 2    ;skip next instruction if PB2 is 1
    cbi VPORTB_OUT, 3    ;clear output PB3 to 0, turn LED ON
    sbic VPORTB_IN, 2    ;skip next instruction if PB2 is 0
    sbi VPORTB_OUT, 3    ;set output PB3 to 1, turn LED OFF
    rjmp loop            ;jump back to loop
```



Title		
Schematic Drawing for Prelab3		
Size	Document Number	Rev
A	Dongyun Lee	
Date: Wednesday, September 20, 2023		
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```
;
; AssemblerApplication2.asm
;
; Created: 9/20/2023 5:48:23 PM
; Author : CAD
;

;PA7 reads SW0 and PD7 drives LED0
start:
    sbi VPORTD_DIR, 7    ;set direction of PD3 as output
    sbi VPORTD_OUT, 7    ;set output value to 1
    cbi VPORTA_DIR, 7    ;set direction of PA7 to input (default)
    ldi r16, 0x08        ;enable internal pull-up resistor at PA7
    sts PORTA_PIN7CTRL, r16

;Read switch position to control LED
loop:
    sbis VPORTA_IN, 7    ;skip next instruction if PA7 is 1
    cbi VPORTD_OUT, 7    ;clear output PD7 to 0, turn LED ON
    sbic VPORTA_IN, 7    ;skip next instruction if PA7 is 0
    sbi VPORTD_OUT, 7    ;set output PD7 to 1, turn LED OFF
    rjmp loop            ;jump back to loop
```