

```
/*
 * parallel_in_parallel_out_struct.c
 *
 * Created: 2/3/2022 10:39:54 PM
 * Author : Jason Tan
 */

#include <avr/io.h>

int main(void)
{
    //pointer to PIN2CTRL array of pin configuration registers
    uint8_t* ptr = (uint8_t*)&PORTA.PIN2CTRL;
    PORTC.PIN0CTRL = 0x08; //Enable internal pull up for PC0
    PORTC.PIN1CTRL = 0x08; //Enable internal pull up for PC1

    //DIR is what configure the port pins as inputs or outputs
    VPORTA.DIR = 0x00; //Configure PORTA pins ( PA7, PA6, PA5, PA4, PA3, PA2) as the
    inputs
    VPORTC.DIR = 0x00; //Configure PORTC pins ( PC1, PC0) as the inputs
    VPORTD.DIR = 0xFF; //Configure PORD pins (PD07 through PD00) as output pins

    //Configure PA7 - PA2 as input buffers with internal pull up resistors
    for(uint8_t i = 0; i < 8; i++){
        *(ptr + i) |= PORT_PULLUPEN_bm;
    }

    while (1)
    {
        VPORTD.OUT = ~((VPORTA_IN & 0xFC) | (VPORTC_IN & 0x03));
    }
}
```