

## src\main.c

```
1 // Practice assignment 6b
2
3 #include <stdio.h>
4 #include <avr/io.h>
5 #include <avr/interrupt.h>
6
7 volatile unsigned int time_tick_counter=0;
8
9 void init_ext_interrupts() {
10     EICRA |= (1 << ISC01) | (1 << ISC00); // set INT0 to trigger on a rising edge
11     EIMSK |= (1 << INT0); // Turns on interrupt for INT0
12     sei();
13 }
14
15 void set_light(unsigned int time) //timer for the LED
16 {
17     TCCR0A |= (1 << WGM01);
18     OCR0A = 0xF9;
19     TIMSK0 |= (1 << OCIE0A);
20     TCCR0B |= (1 << CS01) | (1 << CS00);
21     time_tick_counter=time;
22     PORTD |= (1 << PIND4);
23 }
24
25 int main(void) {
26
27     DDRC = 0xF0; // set data direction for port C pins, 0-3 as input (i.e. the buttons)
28     PORTC = 0x3F; // set pull-up resistor for port C
29     DDRD = 0b11111011; // set data direction for port D, all output
30     PORTD= 0b00000100;
31
32     init_ext_interrupts();
33
34     while(1) {
35     }
36
37     return 0;
38 }
39
40 ISR (INT0_vect)
41 {
42     set_light(1000);
43 } //set LED when PD4 is INT0 is triggered
44
45 ISR (TIMER0_COMPA_vect) // set up timer
46 {
47     if(time_tick_counter)
48         time_tick_counter--;
```

```
49     else {  
50         PORTD &= ~(1 << PIND4);  
51         cli();  
52     }  
53 }
```