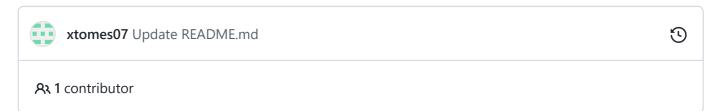


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Lab 1: Jiří Tomešek

My Digital-electronics-2 GitHub repository

Blink example

- 1. What is the meaning of the following binary operators in C?
 - I OR
 - & AND
 - o ^ XOR
 - o ~ NOT
 - << binární posun vlevo</p>
 - >> binární posun doprava
- 2. Complete truth table with operators: | , & , ^ , ~

b	a	b or a	b and a	b xor a	not b
0	0	0	0	0	1
0	1	1	0	1	1
1	0	1	0	1	0
1	1	1	1	0	0

Morse code

1. Listing of C code with syntax highlighting which repeats one "dot" and one "comma" on a LED:

```
int main(void)
{
   // Set pin as output in Data Direction Register
   // DDRB = DDRB or 0010 0000
   DDRB = DDRB | (1<<LED_GREEN);</pre>
   // Set pin LOW in Data Register (LED off)
   // PORTB = PORTB and 1101 1111
   PORTB = PORTB & ~(1<<LED_GREEN);
   // Infinite loop
   while (1)
   {
       // Pause several milliseconds
       _delay_ms(SHORT_DELAY);
       PORTB = PORTB ^ (1<<LED_GREEN); //LED ON -krátká doba pro tečku
       _delay_ms(SHORT_DELAY);
       PORTB = PORTB ^ (1<<LED_GREEN); //LED OFF
       _delay_ms(SHORT_DELAY);
       PORTB = PORTB ^ (1<<LED_GREEN); //LED ON - dlouhá doba pro čárku
       _delay_ms(3*SHORT_DELAY);
       PORTB = PORTB ^ (1<<LED_GREEN); //LED OFF
       _delay_ms(SHORT_DELAY);
   }
   // Will never reach this
   return 0;
}
```

2. Scheme of Morse code application, i.e. connection of AVR device, LED, resistor, and supply voltage. The image can be drawn on a computer or by hand. Always name all components and their values!

