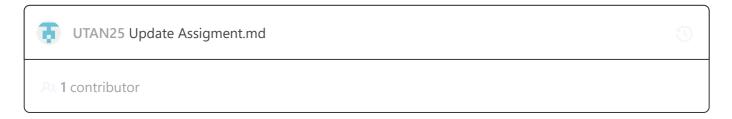


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Lab 1: Unai Telletxea

Link to your Digital-electronics-2 GitHub repository:

https://github.com/UTAN25/Digital-electronics-2/

Blink example

- 1. What is the meaning of the following binary operators in C?
 - o | or
 - o & and
 - o ^ exor
 - ~ compliment
 - << left shift</p>
 - o >> right shift
- 2. Complete truth table with operators: $| , \& , ^ , \sim$

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

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

Morse code

1. Listing of C code with syntax highlighting which repeats one "dot" and one "comma" (BTW, in Morse code it is letter A) 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)
      _delay_ms(SHORT_DELAY); // Pause several milliseconds
          PORTB = PORTB ^ (1<<LED_GREEN);</pre>
       _delay_ms(400); // Extra pause while it is On
      PORTB = PORTB ^ (1<<LED_GREEN); //Turns it Off so at the end of the
   // 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!

