Key and LED drivers.

Design the following for the Arduino MEGA2560 and VIA-Shield.

Use Test Driven Development to implement software drivers for the onboard keys and LEDs in C.
Datasheets for the VIA shield and MCU can be downloaded from *itslearning*.
Document your code in the source files (authors, date, inline comments, etc.).
Make a zip archive with both the production code project and the Google test project and upload it to itsLearning.

Part 1:

Design and implement a led output driver with the following interface:

void init_leds();
void set_led(uint8_t led_no, uint8_t state); // led_no [1..8], state [0..1]

Part 2:

Design and implement a key input driver for the first 6 switches with the following interface:

void init_keys();
uint8_t get_key(uint8_t key_no); // key_no [1..6], return true if key pressed

Part 3:

Implement a demo application.
The leds should show the following logic operators between switch 1 and switch 2:

```
1  2  3  4  5  6  7  8
○  ○  ○  ○  ○  ○  ○  ○
AND OR XOR NAND NOR XNOR
```