

**EECS 2032****Lab 10**  
**Fall 2020**

In this lab, you will learn how to use MCUXpresso to write, compile and debug a simple project that runs on the LPC802 OM4000 board. Also you will write your first projects that toggles some LED's and read input data from a switch.

**PreLab**

Before the start of the lab you have to

- Install MCUXpresso tool on your laptop
- Watch the two videos on the Eclass course site
- The user manual, the data sheet and the schematic diagram are posted on the lab site for your convenience.

**LAB**

Write, test and debug a program that does the following

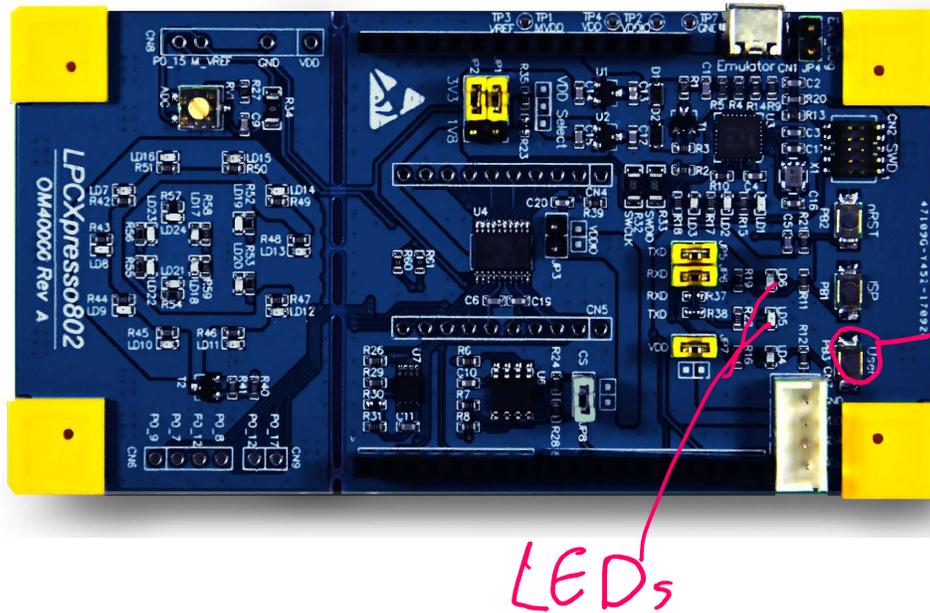
The two LEDs (red and blue) should blink according to the following

- If the user button is pushed, the red LED blinks and green LED OFF
- If the user button is released, the green LED blinks and red LED off

The blinking should be about once every second or so. The delay is caused by a loop that you have to adjust how many times is repeated.

If the loop is written in assembly, it will be easier to count how many instructions and by knowing the board clock, you can get the exact delay. However it is written in C, and you have to approximate the time it will take to execute.

The figure below shows what buttons and LEDs you should use



## Submission

The code and the report are submitted to LAB10 as usual

The code is lab10\_LED.c

The report is lab10\_report **in PDF format, no word file will be opened for marking**

About 1 min video showing you demo the problem, note there is a limit on the file size you can upload on eclass, be very brief. If you want, you can upload it to youtube and submit the link

## Report Format

The report should contain the following sections

1. Name and lab number on the front page
2. Problem statement in your own words
3. The code as submitted in lab10\_LED.c
4. Design approach, this is basically how did you solve the problem, it could be pseudo code, FSM, or flow chart.
5. Any comments/difficulties/surprises if you had any