

**EECS 2032****Lab 8**  
**Fall 2021**

In this lab, is an introduction to LPC802 board. You will know how to write a small program, build it and download it to the board

**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

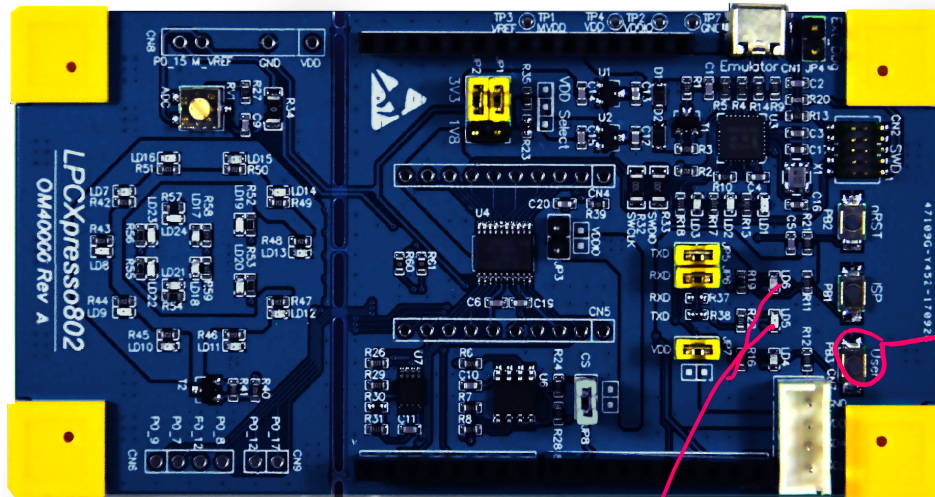
The two LEDs (red and blue) should link according to the following

- If the user button is pushed, the two LEDs alternate blinking every second or so
- If the user button is not pushed, the red is ON and the green is 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



LEDs

User switch

## Submission

The code and the report are submitted to LAB8 on **ECLASS not the websubmit**

The code is lab8\_intro.c

The report is lab8\_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