

EECS 2032Lab 6
Fall 2019

In this lab, you will be introduced to the FRDM-KL43Z board and the MCUXpresso SDK, then you will write a simple program to control the two LED's on the board

Pre Lab

Watch the 2 videos on the course web page and read the board user manual and quick start guide. Also refer to the lecture slides regarding FRDM KL43Z board.

Problem

In this part, you will write a small program to control the LED's on the board. Review the GPIO in the book and the lecture slides. The board has two switches, SW1 and SW3. Two LED's the green LED LEDG and the red LED LEDR.

Write a program to do the following

1. If both SW1 and SW3 are not pressed, the two LED's are OFF
2. If SW1 is pressed and SW3 is not pressed, LEDG is ON, LEDR is OFF
3. If SW1 is not pressed and SW3 is pressed, LEDG is OFF, LEDR is ON
4. Both SW1 and SW3 are pressed, one LED is ON and one LED is blinking
 - If SW1 was pressed first, LEDR is blinking and LEDG is OFF
 - if SW3 was pressed first, LEDG is blinking and LEDR is OFF

What is blinking

You can do this in two different ways

Not very good way: the LED is blinking at the speed of the clock (order of magnitude)

A Good way: blinking every half a second (for a bonus mark)

Deliverable, Demo your code to the TA (both partners should demo the code) and submit a report by the following Wednesday as usual

Your report should contain the problem statement, diagrams or schematics if needed, your code, and your design. The design could be written in pseudo code, state diagram, to explain your design.