

BBM 432 – Embedded Systems

Lab 4

Preparation

You will need a LaunchPad and access to [TM4C123 LaunchPadUsersManual.pdf](#). In this lab, you will need a switch, a 10k Ω resistor, three LEDs, and three 470 Ω resistors.

Starter project

You can use the last week's lab file as the starter project.

Purpose

In this lab, we expect you to design the last week's system using interrupts.

System requirements

In this lab, you will use the external circuitry of Lab 3 **but you are expected to use SysTick and GPIO interrupts**. The system requirements are the same.

You have to configure GPIO_PortA (or the port you choose except Port F) for edge triggered interrupts. You also have to configure SysTick interrupts. Your main method should only configure these interrupts, define global variables and wait for interrupts. Main execution logic will be inside the ISR routines, namely, SysTick_Handler and GPIOPortA_Handler. You can find reference code in your course slides and in the ebook

http://users.ece.utexas.edu/~valvano/Volume1/E-Book/C12_Interrupts.htm