Microcomputers 1

Lab 8

# Workbook

**Concepts:**

* Using the HCS12 **edge-triggered interrupts**

**Objectives:**

* Use the HCS12 I/O ports connected to the Dragon12+ board.
* Implement **edge-triggered interrupts** for pushbuttons.

**Task1: Component Identification:**Identify the components (the peripheral modules on the HCS12 microcontroller) that you need to solve this problem. Please be as specific as possible; e.g., if you need 8 pins of PORT B, mention it here along with their directions. Also, briefly explain what they are used for, e.g., PTJ enables or disables eight flashing LEDs. Also, show any data declaration and initialization that you need for the initialization of your system.

**Task2:De-bouncing Solution: A common problem in mechanical switches (or buttons) is bouncing. When a pushbutton is pressed or released, the actual signal bounces for a short period. Explain how you solve the bouncing problem. Generate the demo video clip that includes the interrupts events by** Pushbutton #0, Pushbutton #1, and Pushbutton #2.

**Task3:**  To improve your program readability, a**dd comments appropriately in your program**