

CS452/552 - Real-Time Operating Systems

Lab Assignment #3

Spring 2016

The purpose of this assignment is to practice using interrupts.

For this assignment, you are to write an interrupt driven clock routine, that will run in conjunction with another program. The “other” program can be your program #1 (possibly modified to accommodate the requirements below) , or you can use `demo5.c` or another routine of your choice. The interrupt portion should use `timer0`. Every second, the interrupt routine should update a 4-bit counter, whose value is displayed in the *upper* four LEDs. The “other” routine should therefore not use the upper LEDs during its execution.

After writing your routine, determine the code sizes, and also estimate the average number of cycles required by your interrupt service routine to service each interrupt, and the *percentage* of time your ISR takes of the total execution time.