

Laboratory Worksheet #4

Timer overflow interrupts

The following is an exercise on Timer overflow interrupts and will serve as good starting point for Lab 1.2. The hardware used for this activity should already be ready on your board from Lab 1.1.

- Go to the Embedded Control website (<http://litec.rpi.edu>), follow the link for ‘Sample Codes’ and use the sample code pertaining to Lab 1.2.
- Compile/download and run this program. This program counts number of timer overflows occurring while the slide switch is in Off position.

Questions:

1. What is the frequency of system clock?
2. The program configures T0 to use SYSCLK/12 as its source. Since T0 is a 16-bit register, after how much time (in seconds) will it cause a timer overflow interrupt?
3. The variable *counts* keeps track of number of timer overflows and this value is printed on the terminal. Modify this printf statement to also print out the corresponding time period in seconds. See if this displayed time period matches with actual time the switch was in Off position.

