

## Homework 1:

7) Debugging Hardware Interrupts  
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A) Is the event handler being called?

No. When I set a breakpoint there, it doesn't stop at that point.

B) Is the timer running?

Yes. Successive looks at the pcb shows that the timer 2 count (Timer 2 cnt) keeps changing.

C) Is the timer generating interrupts?

Yes, the Timer 2 Ctrl reads a021. This means that the timer is enabled, interrupts are on, the maximum count has been reached, and the timer is running continuously, according to the timer 2 control register description in the manual.

D) Is the processor responding to interrupts in general (are they enabled)?

Yes, the interrupt flag is set.

E) By now you should realize what the bug is in the code. Explain how to fix the bug and then fix it in the debugger (don't change the code) and continue running the program. What do you observe?

The bug is that the interrupt mask is set to 00fd, which means that the bit corresponding to Timer interrupts (the lowest bit) is set. This masks or disables interrupt requests from the timers.

I changed it by adding pcb address (0FF00H) to the IMASK offset (028H), and then writing 00fdH - 1 = 00fcH to that address.

After this, I ran the program and saw a lot of random segments light up on the LED display.