EECS 388: Computer Systems and Assembly Language
Homework 5

Due: Tuesday, April 8, 2008

1. (20) How many RTI interrupt events must occur to generate a 15 minute delay assuming the MCLK is operating at 2MHz and the RTR[2:0] bits are set for "110"? How do you set up the Real-Time Interrupt Control Register (RTICTL) (i.e., enable RTI and set RTI prescale) for this purpose?

2. (15) Textbook, page 291. Advanced problem #4. **Change MCLK to 4 MHz**.

3. (15) Textbook, page 291. Advanced problem #5.

4. (25) Write a program to measure the period of a periodic signal connected to input channel 3 by measuring the count difference between two falling edges. Set PR2:PR0 = 011. Use polling method.

5. (25) Generate a 1500Hz square wave with a 40% duty cycle (ON/PERIOD) on output compare channel 2 (OC2). MCLK = 8MHz. Set the prescaler to divide by 4. Use interrupt.