EE 308/MENG 483 – Homework 5

1. Write some C code to set up PWM channel 2 to generate a pulse width modulated signal with a frequency of 500 kHz and a duty cycle of 50%. Be sure your code does not change the function of any other PWM channel.

2. Write some C code which sets up one of the PWM channels for a frequency of 5 kHz.

3. An analog signal with a frequency content from 0 Hz to 5 kHz signal to to be sampled with the HCS12 ATD converter system. What minimum sampling frequency should be used? Why?

4. A 10-bit A/D converter has VRL = 0 V and VRH = 2.5 V. Find the voltage values when the A/D conversion results are 40, 250, and 1,000.

5. Write some code which will enable the A/D converter, put it into 8-bit mode, and convert the analog inputs on pins PAD0 through PAD3 once. Add some code which will wait until the four conversions are completed.

6. Write some code which will enable the ATD1 A/D converter, put it into 10-bit right-justified mode, and convert the analog inputs on pins PAD12 through PAD15 continuously.