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EE 308 – LAB 4

**9S12 Subsystems: Pulse Width Modulation, A/D Converter, and
Synchronous Serial Interface**

WEEK 3

Serial Communications over the I^{2}C Bus

Pre-Lab

1. Write the C function `unsigned char iic_receive(void)` discussed in Homework 10.

2. Write the C function `unsigned char iic_receive_m1(void)` discussed in Homework 10.

3. Write the C function `unsigned char iic_receive_m1(void)` discussed in Homework 10.

4. Write the C function `unsigned char iic_receive_m1(void)` discussed in Homework 10.

5. Write the C function `void char iic_swrcv(void)` discussed in Homework 10.

6. What is the sequence of bytes to send to the DS1603 to set the time and date to 2:30:00 P.M. on April 6, 2009? Be sure to include the address byte and the starting register number.

7. Write a program to read the date and time from the DS1603 Real Time Clock, and display it on the LCD screen. Use the functions `lcd_init()`, `puts2lcd()` and `cmd2lcd()` from the textbook to write to the LCD display. Use the `iic_init()`, `iic_start()` and `iic_transmit()` from the lecture notes on March 23, and the functions you wrote in Parts 1-5 of this prelab. Be sure to convert the BCD numbers you receive from the DS1603 into appropriate ASCII strings.