ECE152 Final Study Guide

For the final, no notes, books, or laptops will be allowed. There will be a few simple questions relating to timers, interrupts, and USART communication. Pertinent information from the datasheets will be attached to the test for you. You will have exactly 110 minutes for the test. The test will start at exactly 7:30am on Friday.

What to study:

Make sure you understand every prelab and study question from the labs

Make sure you know the difference between the different flag bits in registers for sending and receiving with the USART.

For the chapters we covered in the Java book: Chapter 1, 2, 3, 4, 5, 7, 8, 11, and 12

Be sure you have done the end of chapter exercises

Make sure you understand what the ‘Bullet points’ mean on the following pages of the book: Page 12, 41, 62, 78, 109, 181, 229, and 368. You should read the chapters to understand these.

You should have read and understood the three sorting methods covered in class

You should understand the concept of recursion and complexity. Be sure to have read the Wikipedia articles for each.

Test Format:

There will be some multiple choice questions.

There will be some short answer questions about C and Java

You will need to comment both C and Java code

You will need to modify C code to handle USART communications

You will need to write a Java methods
Sample Questions:

1. Write a Java function that prints out a prompt using the System.out.print() method then waits for
   user input. If the user input is blank, repeat the prompt, otherwise return what was read in from the
   keyboard. Use the attached method descriptions if needed
   (http://docs.oracle.com/javase/1.4.2/docs/api/java/lang/String.html).
   (http://docs.oracle.com/javase/6/docs/api/java/io/BufferedReader.html)
   Also the syntax for a BufferedReader to read from the keyboard is below.

   BufferedReader is = new BufferedReader(new InputStreamReader(System.in));

2. Describe how an insertion sort works. Worst case, how many comparisons are made when sorting the
   following set of numbers to get the smallest on the left and the largest on the right?

   Numbers: 5, 4, 3, 2, 1

3. Describe the following terms as they relate to object orientated programming: Inheritance,
   Polymorphism, Overloading, Overriding, and Class