This is your C212 Summer 2011 Exam Five. There are two parts to this exam:

(a) Part One in Lecture.
(b) Part Two in Lab.

**Part One.** Solve the following problems on paper:

1. Write the simplest, shortest Java application that reacts to mouse events.
2. Create a simple HTML form (and indicate where it would be placed in Tomcat) that would collect the name and the age of the user (via two textfields).
3. Write a simple JSP that can read these two parameters and print back a statement in which the user is addressed by the name (s)he entered, being told how old (s)he will be next year (one year older than now): “Well, ..., you will be ... years old next year.” Don’t forget to indicate how the HTML form sends data to the JSP, in other words how you point one towards the other.
4. Write the simplest GUI program in Java that shows a text field, a label and a button. The program keeps track of a balance, which is initially zero. The user enters a numeric value in the textfield, and presses the button; the label then is updated to show the new balance (which is now modified with the value entered in the textfield, be it positive or negative).
5. Write code for a Java applet that draws a yellow disc with a blue border. Explain how you would compile your code and how (and where) you would deploy it in Tomcat.
6. Develop a Java program (either as a standalone JFrame-based program or Applet) that allows the user to scribble on it. There are two ways in which one can support that, illustrated below:

![Applet Viewer: One.class](image1)

![Applet Viewer: One.class](image2)

Explain the difference in the models for these two approaches, and clearly state which one you chose to implement, then write the code for that.
Part Two. Using the written exam (which is now read-only) type and debug the code. Explain and fix your errors then write a summary of what you had to do to make the program perfect. If your code was not perfect on the exam evaluate the amount of work you had to put in it to fix it, then subtract that from 100 and submit that as part of your report as “the grade” for the exam. Discuss it: is it too low, too high? How did you evaluate your “corrections”? Try to make it an objective process. We can take more than today for Part Two if needed. Good luck and let me know if you have any questions.