The final exam will be given on Tuesday March 16 from 12-3 and will be a comprehensive exam covering chapters 1 through 6 of the text, although the topics covered since the midterm may be emphasized. Like the midterm, the final exam will be a closed notes/closed book exam, no notecards, calculators, etc. allowed. Bring a pencil or pen that writes well (do not use red or green ink). As with the midterm, you will write your answers on the exam itself, and can use the back sides of the pages as scratch paper. See the midterm review sheet for the topics covered before the midterm (chapters 1 through 4). Here are the topics we have covered since the midterm. Those marked with a (*) will be less important for the final.

1. Declaring arrays (like int[] foo;)
2. Allocating arrays (like foo = new int[7];)
3. Accessing array elements (like foo[3])
4. the length of an array (as in foo.length)
5. First item in an array has index 0
6. Arrays stored on the heap structure
7. Automatic initialization (in curly brackets, like foo = {1,2,3,4,5})
8. Working with arrays – finding min, max, total, first index with some property, all elements with some property
9. arrays as parameters – side effects
10. the difference between setting array variables equal (as in int[] a,b; a = b;) and setting the contents of two arrays to be the same.
11. (*) Simple sorting (selection sort)
12. (*) Binary search
13. (*) Algorithmic complexity, big O notation, growth of functions
14. two dimensional arrays
15. totalling each column, each row, or the whole array
16. command line arguments
17. arrays of objects (initializing, etc)
18. classes and the instances (objects) they define
19. static (class) methods versus instance methods – differences in definitions and use.
20. static (class) versus instance variables – differences in definition and use.
21. public, normal, and private methods: what is the difference?
22. public, normal, and private variables: what is the difference?
23. using final for constants
24. declaring and using objects defined by a class
25. Constructors for objects
26. Scope of variables and methods defined in a class
27. Passing (references to) objects and side effects
28. (*) default values for object fields, class variables, and array elements
29. (*) Eclipsing variables
30. (*) Exceptions
31. (*) Standard Java IO