CS 215 - Fundamentals of Programming II
Spring 2010 - Midterm Exam Review Sheet

Notes and Reminders:

- An optional exam review session has been scheduled on Monday, March 1, 4pm-5pm after class. We will go over homework exercises and answer any questions you have about the material.
- Class is canceled for Friday, March 5. The instructor will be out of town starting at 3pm the afternoon of Thursday, March 4, until the end of spring break. Questions regarding Project 4 may be emailed, but replies probably will not be timely.

The Midterm Exam will be on Wednesday, March 3. You may bring one 8.5in x 11in size sheet of paper with notes on one side to the exam. You may print out the sheet, but it must be in a 10-point font or larger. E.g., please do not photoreduce or print 4 pages on a side. If you handwrite your notes, they may be as small as you like. You may handwrite notes in the margins of a printout. No other notes are allowed for the exam.

The exam will be cumulative and comprehensive with respect to basic programming constructs in the sense that you are expected to be able to read and write code or analyses and designs using concepts such as selection, repetition, and functions. Emphasis will on the material in Chapters 1-5, and covered in lectures, and homework and projects assigned through Wednesday, February 24. The following topics will not be on the exam: makefiles, command-line arguments, file streams, exception handling, templates. The exam will consist of questions similar to the homework problems, programming projects, and exercises in the textbook.

The following is a list of topics that will be emphasized, but it is in no way to be construed as an exclusive list.

1. Classes - design, implementation, and use, including overloaded operators
2. Algorithm analysis including determining the "Big-O" running time of code fragments and functions, and comparison of various time complexities.
3. Recursion - what is it and how to use it to solve problems.
4. Sequential and binary search algorithms
5. Selection sort and insertion sort algorithms
6. Vectors - declaration and use; comparison to arrays
7. Pointers and dynamic allocation including multi-dimensional arrays, the destructor, the copy constructor, and assignment operator