CMSI 182
INTRODUCTION TO COMPUTER SCIENCE
Fall 2007

Final Review Sheet

The final exam will take place on Thursday, December 13, at 11am. It will be open book, notes, and hand-outs, but not open computer. This guide should help you to prepare for it properly.

Covered Material

The final covers the non-asterisked sections of Chapters 0 to 5 and Chapter 10 in the Brookshear textbook. Coverage also includes all handouts and code that have been distributed in support of this content. Make sure you have some working knowledge of pseudocode, JavaScript, XHTML, and CSS (i.e., you can read and understand fragments written in those idioms, and you can write simple short segments with them).

Sample Tasks and Questions

The following represent the types of questions or tasks that you may be asked to accomplish (in addition to those listed in the Midterm Review Sheet):

- Given some [simple] problem or task, specify an algorithm that solves that problem, possibly in plain English, pseudocode, or JavaScript

- Given an algorithm, figure out and explain what it does (i.e., what computation it performs)

- Given an algorithm, make an assessment of this algorithm's efficiency (i.e., big theta)

- Given two or more alternative algorithms for solving the same problem, indicate which one might be preferable based on some objective criteria (conciseness, efficiency, etc.)

- Briefly explain algorithm concepts such as conditions, iteration, recursion, and complexity

- Solve a puzzle that uses reasoning similar to what is required for formulating algorithms

- Describe or explain some key concept regarding any of the major topics covered during the semester (i.e., data representation, data manipulation, operating systems, networks, algorithms, artificial intelligence)

- Given a description of a particular robot (sensors, motors, physical components), provide a "stimulus-response" sequence for getting that robot to perform some task