CSCI 1321 (Principles of Algorithm Design II), Fall 2001

Review for Final Exam

Note: The HTML version of this document may contain hyperlinks. In this version, hyperlinks are represented by showing both the link text, formatted like this, and the full URL as a footnote.

1 Format of the exam

(Everything in this section is the same as it was for Exams 1 and 2, except the date and amount of time.)

The exam will be at the scheduled time (Saturday, December 15, from 8:30am to 11:30am). The exam will be about twice the length of one of the in-class exams (or less), but you will have the full 3 hours. You may use your textbook and any notes or papers you care to bring, but you may not use other books, a calculator or computer, or each other's papers.

The following are some kinds of questions that might be on the exam. It is *not necessarily an exhaustive list* of all types of questions on the exam, but should give you an idea of what to expect.

- Given some C++ code (possibly a complete program, possibly a fragment), answer one or more of the following questions:
  - Will it compile correctly? (You may be told that it does not.) If not, why not, and how would you fix it?
  - What does it print out? What does it (if a function) return? What value does it assign to a specified variable? Are these results correct? If not, what has gone wrong, and how would you fix it?
- Given a problem description, write a C++ program or function to solve it. You may be given some of the code and asked to "fill in the blanks", or you may be given descriptions of C++ functions or classes to use in your solution.

2 Topics to review

You are responsible for all material covered in class or in the assigned reading. (See Homeworks and Other Assignments[1] for a list of assigned reading.) This exam will focus on material covered after Exam 2, but will also include earlier material, so it might be a good idea to look again at the review sheets for exam 1[2] and exam 2[3] and also at the exams and their sample solutions. You should review in particular the following topics. Again, this list is *not necessarily exhaustive*, but should give you an idea of what topics I consider most significant.

[1] `http://www.cs.trinity.edu/~bmassing/CS1321_2001fall/assignments.html`
[2] `http://www.cs.trinity.edu/~bmassing/CS1321_2001fall/Notes/review-exam1/`
[3] `http://www.cs.trinity.edu/~bmassing/CS1321_2001fall/Notes/review-exam2/`

- Basic data structures — implementing them (possibly in terms of other data structures) and using them to solve problems:
  - Linked lists.
  - Deques.
  - Stacks.
  - Queues.
  - Trees.
- Recursion, especially working with recursive data structures.