CSCI 1321 (Principles of Algorithm Design II), Spring 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 during the scheduled final-exam period (May 8, 8:30am – 11:30am). It will be approximately twice the length of one of the previous exams, but you will have the full three hours to complete it. 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. This exam will focus on material covered after Exam 2, but may also include earlier material. (See Homeworks and other assignments[1] for a list of assigned reading.) 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.

- Basic data structures — implementing them (possibly in terms of other data structures) and using them to solve problems:
  - Linked lists.

[1] `http://www.cs.trinity.edu/~bmassing/CS1321_2001spring/assignments.html`

  - Deques.
  - Stacks.
  - Trees.
  - Hash tables.
- Recursion, especially working with recursive data structures.
- Order of magnitude of functions.

You should also look again at the review sheets for the previous two exams.