CSCI 1323 (Discrete Structures), Spring 2001

Review for Exam 1

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

The exam will be in class February 22. You will have 75 minutes. 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 questions will be similar in form to those in the homework assignments.

2 Topics to review

You are responsible for all material covered in class or in the assigned reading, *except for* material past p. 120. (See Homeworks and other assignments[1] for a list of assigned reading.) You should review in particular the following topics. This list is *not necessarily exhaustive*, but should give you an idea of what topics I consider most significant.

- Propositional logic:
  - Translating English into propositional-logic wffs.
  - Proving that a propositional-logic wff is a tautology using truth tables.
  - Proving that a propositional-logic wff is a tautology using proof rules.
- Predicate logic (propositional logic plus quantifiers):
  - Translating English into predicate-logic wffs.
  - Proving that a predicate-logic wff is valid using proof rules.
- Proofs of program correctness:
  - Rules for assignment, conditional statements, loops.
  - Combining these rules to verify correctness of simple programs.
- Proof techniques:
  - Direct proofs, proof by cases, proof by contraposition, proof by contradiction.
  - Proofs by induction.

[1] `http://www.cs.trinity.edu/~bmassing/CS1323_2001spring/assignments.html`