

Slide 1

Administrivia

- Review sheet for the midterm on the Web.
- Reminder: Homework 5 due at end of class.

Slide 2

Minute Essay From Last Lecture

- Question: Suppose you have
 $A = \{2, 4, 6, 8\}$
 $B = \{1, 4, 9, 16\}$
What are $A \cup B$, $A \cap B$, and $A - B$? How many elements are there in $\mathcal{P}(A)$?
- Answers?

Midterm Review — General Stuff

- Open book / open notes, questions mostly similar to homeworks and quizzes. Difficulty is likely to be somewhere between easiest quiz questions and most difficult homework problems.
- Questions?

Slide 3

Midterm Review — Propositional and Predicate Logic

- See review sheet for topics.
- Questions?

Slide 4

Midterm Review — Proof Techniques and Induction

- See review sheet for topics. One kind of question I might ask is “what do you need to do to prove X ?” e.g., “to prove $P \rightarrow Q$ by contraposition, what do you need to prove?”
- Questions?

Slide 5

Midterm Review — Proofs of Program Correctness

- See review sheet for topics. I might ask questions similar to the one on the quiz — “what can you conclude from these Hoare triples?” — or give a loop and a predicate Q and ask whether Q is an invariant for the loop.
- Questions?

Slide 6

Midterm Review — Recursion and Recurrence Relations

- See review sheet for topics.
- Questions?

Slide 7

Midterm Review — Analysis of Algorithms

- See review sheet for topics. In answering questions such as “how many comparisons needed for this program?” you should try to write down a formula or a recurrence relation that just captures what’s in the code, then simplify/solve it.
- Questions?

Slide 8

Minute Essay

- None — sign in.

Slide 9