Administrivia

- Homework 1 on Web; due next Monday at 5pm.

Slide 1

Minute Essay From Last Lecture

- How much of this (if any) looks familiar to you from other courses? Paraphrasing some answers:

  "Similar to proofs in geometry."

  "Connectives similar to ones in programming (or something else."

  "Similar to what we did in symbolic logic."

  "Truth tables familiar."

- How many have programming background / are taking this for the CS major/minor? most *but not all*.

Slide 2

Recap — Propositional Logic Proofs

Slide 3

- Idea is to construct detailed formal proof ("proof sequence") capturing "valid argument" that one thing logically follows from others.

  Problems sometimes cast in terms of hypotheses and conclusion, sometimes as "prove that $P \wedge Q \rightarrow R$ is a tautology". Same thing — "deduction method."

- Proof sequence can be thought of as sequence of valid moves in an elaborate game. Typically guided by some deeper understanding of why conclusion follows from hypotheses, but — this is a formal system, and we're not allowed to make up new moves, however plausible-seeming, unless we can prove (with a proof sequence) that the new move is valid.

More Examples

Slide 4

- Section 1.2 problems 19, 20, 25, 33, 38, 43.

  (Divide into groups and do at board.)

Minute Essay

- Should we spend more class periods like this (was it more interesting/useful/fun), or would you rather have lecture only?

Slide 5