Welcome to CSE 311: Foundations of Computing I

- Instructor: Rajesh Rao (rao@cs.washington.edu)
- TAs:
  - Jason Ganzhorn (ganzhj@cs)
  - Michael Ayzenberg (mickayz@cs)

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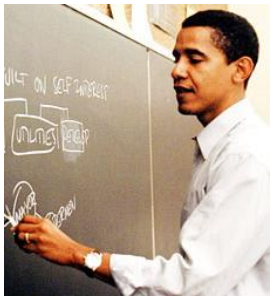
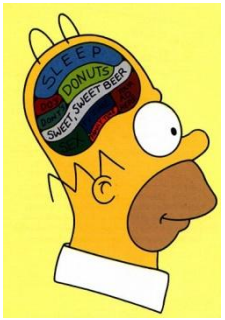
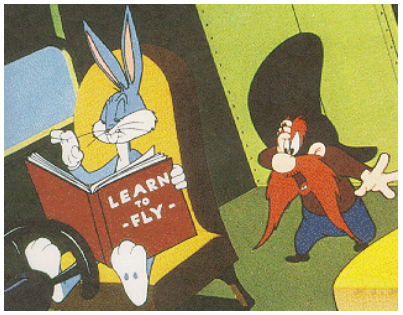
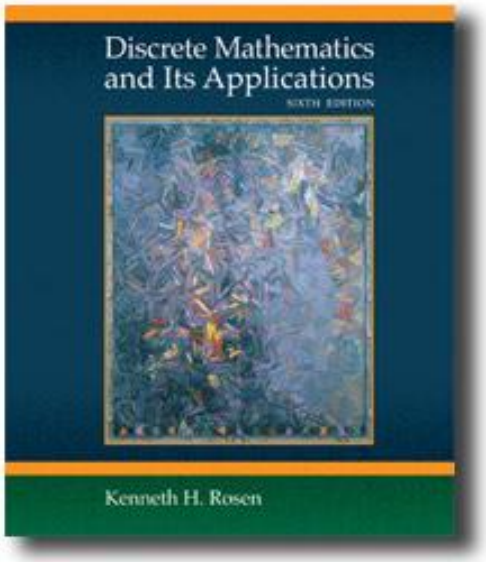






Syllabus and Course Information

- Browse class web page for syllabus and course information:
  - http://www.cs.washington.edu/cse311/
- Lecture slides will be made available on the website after class
- Textbook
  - *Discrete Mathematics and Its Applications 6th Ed.* (2007)
  - By Kenneth Rosen



Today's Agenda

- Course Topics and Goals
- How do I get an A?
- Intro to Propositional Logic
  - Sections 1.1-1.2 in the text

Course Topics

- Logic and Proof s (Chap. 1)
- Sets, Functions, and Binary Relations (Chaps. 2, 8)
- Number Theory (Chap. 3)
- Induction (Chap. 4)
- Graphs and Trees (Chaps. 9, 10)
- Circuits (Chap. 11)
- Finite State Machines and Computability (Chap. 12)

Course Goals

- Learn definitions and basic tools for reasoning about discrete mathematical objects useful for computer science and engineering
- Learn to mathematically express and analyze a computational problem
- Learn to rigorously prove statements about computation
- Hone your analytical skills for your future career!

How do I get an A in this class?

- Answer: *Practice*, *Practice*, *Practice* (solving problems)
- Weekly homework assignments (50%)
  - Total of about 7 assignments
  - Collaborative/group work is encouraged but *only after you have tried to solve each problem by yourself first*
    - No copying of solutions – explain in your own words!!
    - See Course Policies regarding this on the class website
  - No late submissions: due at the *beginning of class* on due date
- Midterm exam (20%)
  - Monday, February 7, 2011 in class
- Final exam (30%)
  - 2:30-4:20 p.m. Monday, March 14, 2011 in class

Okay, time to wake up…

Let's begin with some logic…

- Introduction to Propositional Logic:
  - Propositions
  - Logical Notation and Truth Tables
  - Conditional Statements
  - Translating English into Logical Expressions and vice versa

"It's now $\vee$ never"

Next Class: Equivalences & Predicate Logic…

- Things to do:
  - Visit course website
  - Read Chapter 1