Preparation for the Midterm Exam (October 26)

**Reading:** The exam will be based on Sipser, *including* some of this week’s material. You are responsible for the following:

- **Chapter 0:** Everything except for the sections on GRAPHS (pp. 10–13), BOOLEAN LOGIC (pp. 14–15), and INDUCTION (yeah! pp. 23-25).
- **Chapter 1.1:** All of it! But the exam will *exclude* the construction used in Theorem 1.12 (intersection and union of regular languages).

**Cheat sheet:** You may bring with you any *handwritten* notes, diagrams etc. you can fit on one-half of a notebook page (written on one side only). **No photocopies** are allowed. If you prepare your sheet carefully, the preparation process will be an effective study aid.

**Content:** Pretty much what we have been doing in class. There will be some set theory problems, some questions related to formal definitions of automata, some constructions of automata. You will need to be very clear on the meaning of the terminology and the notation (your “cheat sheet” will help you out of memorizing, but it is no substitute for understanding). You will also need to know how to design simple deterministic and non-deterministic automata, like in the homework.

**Preparation:** Your best bet is to study your notes and the reading carefully, especially anything that didn’t make much sense the first time through. Verify your understanding by re-doing any past homeworks that you got wrong. (You can turn them in before the exam if you are pretty sure they are right).

Be careful not to *confuse* NFAs and DFAs. They look similar but work according to different rules! (NFAs will not be featured in the midterm).