CSE 322
Introduction to Formal Models in Computer Science
Pre-midterm preparation

Spring 2000

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Recall that the midterm is Monday, May 8 in class.

The midterm will cover material up to the end of Section 2.4 as well as the properties of $\sim_L$ (but not state minimization).

1. Strings and languages and operations on them.

2. Regular expressions and regular languages.

3. Deterministic finite automata: Formal definition, $\vdash_M$, $\vdash_M^*$, $L(M)$, as well as state diagrams.

4. Nondeterministic finite automata: Formal definition, $\vdash_M$, $\vdash_M^*$ and $L(M)$ for NFA's as well as state diagrams.

5. Converting NFA's to DFA's: The subset construction.

6. Construction of an NFA to accept any regular language.

7. Construction of a regular expression representing the language accepted by any NFA.

8. Closure properties of regular languages, e.g. closure under complement, intersection.

9. Proofs that languages are not regular using the pumping lemma and using equivalence relation $\sim_L$.

10. The fact that (not the proof) L is regular if and only if $\sim_L$ has a finite number of equivalence classes.