

## ASSIGNMENT FROM CHAPTER 1 OF SIPSER

### Part 1 (due Monday 10-9): Exercises

- 1.6cel (state diagrams of DFAs for specified languages),
- 1.7bce (state diagrams of NFAs of specified size for specified languages),
- 1.13 (state diagrams of an NFA of a specified size for a specified language, perhaps via the suggested trick),
- 1.17 (NFA for a specified language, the corresponding DFA),
- 1.19 (NFAs for specified REs),
- 1.21 (REs for specified DFAs),
- 1.28 (NFAs for specified REs),
- 1.29 (pumping lemma),
- 1.30 (pumping lemma).

### Part 2 (due Wednesday 10-25): Problems

- 1.32 (machine to recognize flashcards),
- 1.41 and 1.42 (shuffles),
- 1.46 and 1.49 (regular and nonregular languages),
- 1.54c[quoting parts a and b] (nuance of the Pumping Lemma),
- 1.55efhij (minimum pumping length),
- 1.60[give only the state diagram, not the formal description] and 1.61 (a DFA may need to be exponentially larger than the corresponding NFA).