

CSCI 340
Dr. Schwartz
Review Sheet, Exam 1

This is intended as a guideline for studying for the exam... but only as a guideline. I wouldn't have covered something if I didn't think it was important. If you are wondering about a topic and you don't see it here, ask me!

The exam will be primarily composed of problem-solving questions (like the ones you've been doing on homework), but there may be some true/false, multiple choice, fill-in-the-blanks mixed in as well.

Chapter 2: Languages

- Different ways to define a formal language
- Kleene closure

Chapter 3: Recursive Definitions

- Components of a recursive definition
- Be able to define a language using a recursive definition

Chapter 4: Regular Expressions

- Formal definition of regular expressions
- Finite languages are regular
- Be able to understand and generate regular expressions to define a language

Chapter 5: Finite Automata

- Formal definition of FA
- Be able to understand and generate FAs to define a language

Chapter 6: Transition Graphs

- Formal definition of TG
- Contrast between TG and FAs
- Non-determinism

Chapter 7: Kleene's Theorem

- $FA = TG = RE$
- Turning TGs into REs (be able to perform algorithm)
- Converting REs into FAs (be able to perform algorithm)
- Non-deterministic FAs