# Test 2 Review

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## CSCI 340: Computational Models

*In general, homework problems are representative of what will be on the test. This is just a high-level overview of what's been covered. If you are unsure if something will be on the test, just ask!*

- **Kleene's Theorem**

  - TG → RE
  - RE → FA
  - Union/Concatenation/Closure of FAs
  - NFAs
  - FA "minimization" / simplification

- **Mealy and Moore Machines**

  - Definition
  - Mealy to Moore
  - Moore to Mealy
  - Creation of output machine

- **Regular Languages, Decidability**

  - Complement
  - Intersection
  - Equivalence (Method of Intersecting Complements)
  - Finite vs. Infinite

- **Nonregular Languages**

  - The pumping lemma (showing languages are non-regular)
  - Myhill-Nerode theorem (infinite number of classes)

- **Context-Free Grammars**

  - Definition
  - Context-Free Language
  - Writing Grammars accepting a language
  - Describing languages defined by CFG
  - Ambiguity