Topics For Exam 2

- Grammars, derivations and parsing. We talked a little about context-sensitive grammars but the
 exam is only over context-free grammars. We talked about how to design grammars to
 determine the precedence and associativity of operators and those things will not be on the
 exam. I do expect you to be able to write a grammar from the description of a language, too
 derive a string from a grammar or to construct the parse tree for a string derived from a
 grammar.
- 2. PDAs. You should be able to construct them.
- 3. PDAs are equivalent to grammars. Given a grammar you should be able to construct and use an equivalent PDA. I am unlikely to ask you to construct a grammar from a PDA.
- 4. You should be able to convert a grammar to Chomsky Normal Form and know why we do that.
- 5. You should be able to use the Pumping Lemma to show that a language is not context free.
- 6. To show that a language is context free find either a grammar or a PDA for it.
- 7. You should know the closure properties of context-free languages (unions? intersections? complements?)
- 8. There is nothing very interesting about deterministic PDAs other than that they are more limited than standard nondeterministic PDAs.
- 9. You should be able to construct a Turing Machines that accepts a given language or performs a given computation.