COSC 362 Test #1 – Mon. 2/27 in class

Here are some types of problems to expect to see on the test next Monday. This is not necessarily an exhaustive list, but most (if not all) of the test will consist of problems descried in the following list…

* Questions about definitions, notation, and/or basic properties of grammars, NFAs, DFAs
* Context-free grammars
  + Given a grammar, find (or at least describe) the language it generates
  + Given a grammar, show how to generate (and/or prove that we can generate) some specific string or set of strings
  + Given a language, design a grammar which will generate that language
* DFAs
  + Given a language, design a DFA that accepts it
  + Given a DFA, trace the computation of a given string on it
  + Given a DFA, determine whether a given string (or set of strings) is accepted
  + Given a DFA, find (or describe) the language accepted by it
  + Given a DFA, determine if it is minimal; if not, find a minimized DFA accepting the same language
* NFAs
  + Given a language, design a NFA that accepts it
  + Given a NFA, trace the computation of a given string on it
  + Given a NFA, determine whether a given string (or set of strings) is accepted
  + Given a NFA, find (or describe) the language accepted by it
  + Given a NFA, convert it (using the procedure demonstrated in class and/or in the book) to a DFA accepting the same language
* Background (Ch. 1) material
  + Proof using mathematical induction
  + Proof by contradiction