Study Guide for Exam #1

Disclaimer: This study guide attempts to touch upon the most important topics that may be covered on the exam. It is possible that I may have missed something, though I have done my best to make it complete.

1. One sheet of notes, front only (not valid for online course during COV-ID 19)
2. Chapter 1 & Chapter 2 questions will be multiple choice, True/False, or a small amount of writing (such as explain what something means)
3. I may draw from anywhere in Chapter 1, but this would be good areas to concentrate on:
4. Reasons for studying concepts of programming languages
5. Categories of programming languages
6. Programming domains, the domains themselves, not which languages belong to a domain
7. The different types of language evaluation, just the four main ones
8. Orthogonality
9. Chapter 2,
10. Be prepared to answer questions about Pseudocode (section 2.2), as it pertains to this class.
11. Fortran, not all the different versions and evolution, but why it was important
12. Lisp, things like how many data types, and what is it based on
13. Scheme, characteristics of the language, not when was it developed
14. ALGOL, success and failures, why it was important
15. Be able to answer questions about ‘C’ (C but not C++), **You may** have to write a little code or interpret a simple ‘C’ program.
    1. Questions like, what is the output of this and perhaps some multiple choice.
    2. Know:

* How forward declarations work for internal and external functions
* Global and local variables declaration and what static means
* Some preprocessor like #ifdef, #include
* Simple function calls and declarations
* Anything done in Homework or Programing Assignment to date, using C.

7. Chapter 3. 3.2,3.3, and 3.4

* 1. May have multiple choice, True/False, in addition to below
  2. Understand BNF and EBNF, the LHS and the RHS, terminal and non-terminal symbols
  3. Be able to draw parse tree’s and read BNF/EBNF as described in the text
  4. Know how to determine if a grammar is ambiguous or not
  5. Expect problems like the ones in your homework
  6. Know the definitions related to Attribute Grammars and be able to recognize syntax, semantic and predicate rules if given an attribute grammar
  7. Given a Parse Tress and Attribute Grammar rules, be able to “decorate” a tree
  8. Skip 3.5’

1. Chapter 4. 4.1, 4.2, 4.3, 4.4 and 4.5: Whole chapter
2. May have multiple choice and True/False.
3. **Be prepared to produce a Shift-Reduce trace, given a LR parsing and the reduction rules (Numerical ordering of the Grammar rules).**
4. If a topic was in the powerpoint, it may be in the exam!