COMPUTER SCIENCE 322 (Winter Term 2004)
Compiler Construction
Prof. Levy

Problem Set 4

Due Monday 09 February

Reading Assignment: Dragon Book Sections 4.2-4.4

Written Assignment

4.1 (a)-(d)

4.2 For part (d), prove your answer. *Hint*: Base your proof on the one in the textbook/notes, using a for open-paren, b for close-paren.

4.11 (a) *Hint*: You do not need the full-blown left-recursion-elimination algorithm on p. 177; you can just use the schema at the top of p. 176. (b) After constructing the FIRST and FOLLOW sets and the parse table, you only need to show one parsing example: $(a, (a, a))$.

Turn these in to me on paper.

Programming Assignment

Complete the Java class `PredictiveParser`, using Algorithm 4.3 on page 187. Test your program on the example `test1.tbl`, which is based on the parsing table in Fig. 4.5 on page 188. Then convert your table from problem 4.11 (b) into this form, and test the program and table on the three examples strings in problem 4.1 (which is how I will test your program). You need only submit `PredictiveParser.java` in the turnin folder.