



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

Problem Set 3

Due Friday 30 January

Reading Assignment: Dragon Book Sections 3.6-3.7; and pp. 141-144 (DFA state minimization)

Written Assignment

3.16, 3.17, 3.22 on pp. 149-150.

Turn these in to me on paper.

Programming Assignment

In this assignment you will verify your answers to 3.17 and 3.22 by writing the programs `Subset.java` and `Minimize.java`, to automate the work that you did by hand in those exercises. I have put “hollow” (i/o only) versions of these programs on the class web page, along with some example input files representing NFA’s and DFA’s. You should use the NFA example to create files representing the NFA’s you provided for 3.16. Run your Subset program on these files, and compare the output DFA’s with the answers you provided for 3.17. Then run your Subset program on the NFA’s you created as part of answering 3.22. Finally, run your Minimize program on the resulting DFA files, to verify your final answers to 3.22. You do not need to worry dead states; *i.e.*, if your DFA is (legitimately) missing a transition from a given state on a given symbol, you do not have to handle that DFA in your Minimize program.