Homework 4 – Due: Friday, March 4, 2005

Prof. Nadeem Abdul Hamid
CSC 320 Spring 2005

1

Answer problem 1.38 in the textbook (page 90).

2

- Give a context-free grammar for the language of palindromes (over the alphabet a, b): $\{w \mid w = w^{\mathcal{R}}$, that is, w is a palindrome $\}$.

- Convert your CFG for the language of palindromes to a pushdown automaton (PDA) following the algorithm we discussed in class (page 108-109 in the textbook).

3

Show that the set of strings over the alphabet $\{a, b\}$ with twice as many a's as b's is a context-free language. (That is, give a PDA or CFG that recognizes/generates the language.)