# CSCI 2400 - Models of Computation 

## Homework 6

Due: Thursday March 4 in class
Problem 1. Draw a NPDA for the following language:

$$
L_{1}=\left\{v w w^{R}: \quad w \in\{a, b\}^{*}, \quad v \in\{b\}^{*}\right\}
$$

Problem 2. Draw a NPDA for the following language:

$$
L_{2}=\left\{a^{n+m} b^{n} c^{m}: \quad n, m \geq 0\right\}
$$

Problem 3. Draw a NPDA for the following language:

$$
L_{3}=\left\{w v: \quad w \in\{a, b\}^{*}, v \in\{c, d\}^{*},|v| \neq 3|w|\right\}
$$

