Theory of Computation

Exercise 11_12: (Pushdown Automata & Properties of CFL)

1. Find the language of NPDA M.

M = $(\{q0, q1, qf\}, \{0,1\}, \{0,1,\$\}, \delta, q0, \$, \{qf\})$

δ: δ(q0, 0, $) = { (q1, 0), (qf, λ) },

δ(q1, 1, 1) = { (q1, 1) },

δ(q1, 1, 0) = { (q1, 1) },

δ(q1, 0, 1) = { (qf, 1) }

2. Find PDA for the language L2.

L2 =$\{a^n b^m : n \leq m \leq 2n\}$

*3. Prove that the language L is CFL by using properties of CFL (DO NOT draw PDA or CFG). (Homework 9)

L3 = $\{0^i 1^j 2^k : j = i + k\}$