Assignment 14

Automata & Theory of Computation

Student ID: **Name:**

1. Answer the following questions.

1) Fill in the blanks to construct an npda $M = (\{q_0, q_1, q_2\}, \{a, b\}, \{c, z\}, \delta, q_0, z, \{q_2\})$ that accepts the language $L = \{a^n b^{3n} : n \geq 0\}$.

$\delta(q_0, \lambda, z) = \{(q_1, z)\}$,

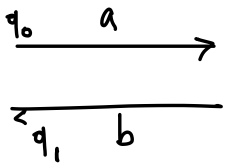
$\delta(q_1, \lambda, z) = \{(q_2, z)\}$, → z는 없어지면 안되니까 다시 써줌

$\delta(q_0, a, z) =$ $\{(q_0, cccz)\}$

$\delta(q_0, a, c) = \{q_0, cccc\}$

$\delta(q_0, b, c) = \{(q_1, \lambda)\}$

$\delta(q_1, b, c) = \{(q_1, \lambda)\}$



2) Fill in the blanks to show the npda above accepts the string *abbb*.

$(q_0, abbb, z) \vdash$ (q_0, bbb, ccc) $\vdash$ (q_1, bb, cc) $\vdash$ (q_1, b, c) $\vdash$ (q_1, λ, z) $\vdash (q_2, \lambda, z)$