

Automata Theory: Assignment 10

Due date: April 18 (Thursday)

Problem 1 (6 points)

Construct nondeterministic PDAs for the following languages:

- (a) $\{a^n b^{2 \cdot n}, a^n b^{3 \cdot n} : n \geq 0\}$
- (b) $\{a^{2 \cdot n} b^m : n \leq m \leq 4 \cdot n\}$

Problem 2 (4 points)

Construct a Turing machine that accepts the following language:

$$\{a^n b^{2 \cdot n} : n \geq 0\}$$