

Formal Languages and Complexity

Proseminar

Week 14 [24.1.2017 /25.1.2017]

Task 1 Which language is generated by the following grammar $G = (V, \Sigma, S, R)$ for $V = \{S, A, B\}$, $\Sigma = \{a, b, c\}$ and

$$R = \{S \rightarrow cA, S \rightarrow bB, A \rightarrow c, B \rightarrow aB, B \rightarrow b\}?$$

Task 2 Construct a grammar and a PDA for the language

$$L = \{w \in \{a, b\}^* \mid \#_b(w) = 2\#_a(w)\}.$$

Task 3 Construct a grammar and a PDA for

$$L = \{uvw^R \in \{a, b\}^* \mid \#_a(w) = \#_b(w)\}.$$