

Exercises for FLL, Fall 2016, sheet 6

Return Thursday Oct 20, in class

Exercise 1. Give a PDA to accept $L = \{0^n 1^m 2^k \mid n, m, k \geq 1 \text{ and } n \neq m\}$ by accepting state. Describe the idea behind your PDA in words and specify its transition function. Be kind to the TAs: your plain English description of the working principles of your PDA should be clear and complete.

Exercise 2. (requires a little work!) Convert the following grammar $G = (V, T, P, S)$ into CNF, by (i) eliminating ε -productions, (ii) eliminating unit productions, (iii) eliminating useless symbols, (iv) putting the resulting grammar in CNF.

$$S \rightarrow 0A0 \mid 1B1 \mid AB$$

$$A \rightarrow C$$

$$B \rightarrow S \mid A$$

$$C \rightarrow S \mid \varepsilon$$