

Exercises for FLL, Fall 2016, sheet 7

Return Thursday Oct 27, in class

Exercise 1. Is *baaab* in the language of the grammar

$S \rightarrow AB \mid BC, A \rightarrow BA \mid a, B \rightarrow CC \mid b, C \rightarrow AB \mid a$? Provide the CYK table and the answer.

Exercise 2. Describe a decision procedure that decides whether $\varepsilon \in L(G)$, where G is some CFG.

Exercise 3. Give two grammars in CNF which generate the same language, but which have different numbers of variables.

Exercise 4. Show that it is undecidable whether two grammars G_1 and G_2 , both in CNF, generate the same language. You may use all results stated in the lecture notes.