

Exercises for FFL, Fall 2017, sheet 6

Return Thursday Nov 9, 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. Formalize in FOL the following English statements. In each case, declare the type of each signature symbol that you use. Use the strict syntax declared by the definitions in the lecture notes – not using more or less brackets than demanded by those strict syntax rules.

1. My father is an airline pilot.
2. Nobody is perfect.
3. Men and women have the same rights.
4. New York is further away from Bremen than Hannover.