

Compiler Construction 2017

— Exercise Sheet 6 —

Hand in until June 27th before the exercise class.

Exercise 1

(5 Points)

Consider the grammar $G = (N, \Sigma, P, S')$ covering some Boolean expressions:

- $N := \{S', S\}$
- $\Sigma := \{true, false, \wedge, \neg, (,)\}$
- $S' \rightarrow S$
- $S \rightarrow (S \wedge S) \mid \neg S \mid true \mid false$

- (a) Compute all $LR(0)$ sets of G .
- (b) Specify the (deterministic) $LR(0)$ parsing automaton of G as in Definition 9.6. Especially specify the parsing table. (Do not forget to give a numbering to the grammar rules.)
- (c) Provide a run of the automaton on the input $((\neg true \wedge false) \wedge \neg false)$.