

Talen en Automaten

Additional assignments for exercise class on Fri 22nd Dec, 2017

1 Constructing CFGs

Give a grammar generating the language of all strings over $A = \{(\,), [,]\}$ where brackets and parentheses are nested correctly; so, for instance, $()()([()])$ is in the language but $([])$ is not.

2 Ambiguity and regular grammars

Consider the grammar

$$\begin{aligned} S &\rightarrow UaabaU \\ U &\rightarrow aU \mid bU \mid \lambda \end{aligned}$$

- a) Show that this grammar is ambiguous.
- b) Is the language generated by this grammar regular? If so, give a regular grammar.