

Attribute Grammars

Heiko Vogler

Fakultät Informatik

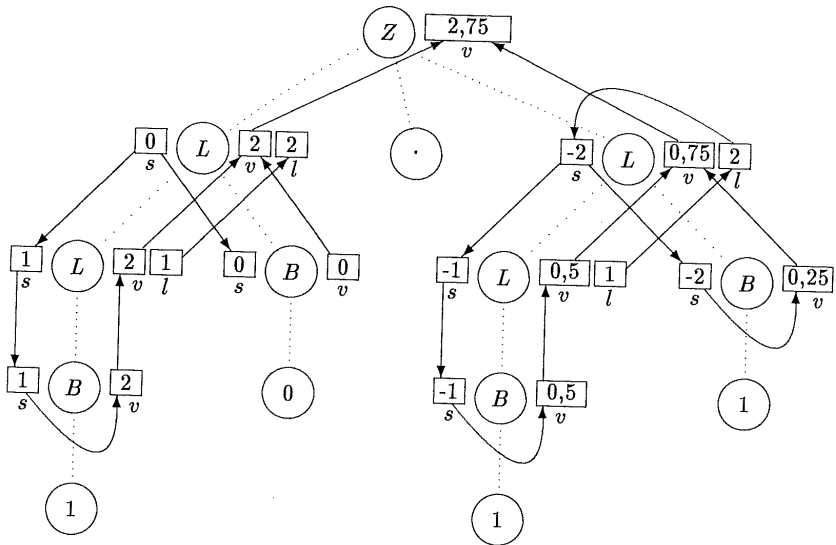
Technische Universität Dresden

Freitagsseminar 04.01.2018

D.E. Knuth, Semantics of context-free languages.
Math. Systems Theory, Vol. 2, 127–145, 1968

J. Engelfriet, Attribute grammars: attribute evaluation methods.
In: B. Lorho (ed.) Methods and tools for compiler construction,
103–138, Cambridge University Press, 1984

A. Kühmann, H. Vogler, Attributgrammatiken. Vieweg, 1997.



$$p_1: Z \rightarrow L \cdot L$$

$$\begin{aligned} \text{sem. Regeln: } \langle v, 0 \rangle &= \langle v, 1 \rangle + \langle v, 2 \rangle \\ \langle s, 1 \rangle &= 0 \\ \langle s, 2 \rangle &= -\langle l, 2 \rangle \end{aligned}$$

$$p_2: Z \rightarrow L$$

$$\begin{aligned} \text{sem. Regeln: } \langle v, 0 \rangle &= \langle v, 1 \rangle \\ \langle s, 1 \rangle &= 0 \end{aligned}$$

$$p_3: L \rightarrow LB$$

$$\begin{aligned} \text{sem. Regeln: } \langle v, 0 \rangle &= \langle v, 1 \rangle + \langle v, 2 \rangle \\ \langle l, 0 \rangle &= \langle l, 1 \rangle + 1 \\ \langle s, 1 \rangle &= \langle s, 0 \rangle + 1 \\ \langle s, 2 \rangle &= \langle s, 0 \rangle \end{aligned}$$

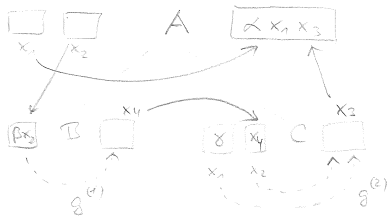
$$p_4: L \rightarrow B$$

$$\begin{aligned} \text{sem. Regeln: } \langle v, 0 \rangle &= \langle v, 1 \rangle \\ \langle l, 0 \rangle &= 1 \\ \langle s, 1 \rangle &= \langle s, 0 \rangle \end{aligned}$$

$$p_5: B \rightarrow 1$$

$$\text{sem. Regel: } \langle v, 0 \rangle = 2\langle s, 0 \rangle$$

AG



LCFRS

