

Indizierung 1

$$L_{2,1}^3 = L_{2,1}^2 \mid L_{2,3}^2 (L_{3,3}^2)^* L_{3,1}^2$$

$$= L_{2,3}^2 (L_{3,3}^2)^* L_{3,1}^2$$

$$= \begin{matrix} L_{2,2}^2 \\ (L_{2,2}^1 \mid L_{2,2}^1 (L_{2,2}^1)^* L_{2,2}^1) \end{matrix} \begin{matrix} (L_{3,3}^2)^* \\ (L_{3,3}^1 \mid L_{3,2}^1 (L_{2,2}^1)^* L_{2,2}^1)^* \end{matrix} \begin{matrix} L_{3,1}^2 \\ (L_{3,1}^1 \mid L_{3,2}^1 (L_{2,2}^1)^* L_{2,1}^1) \end{matrix}$$

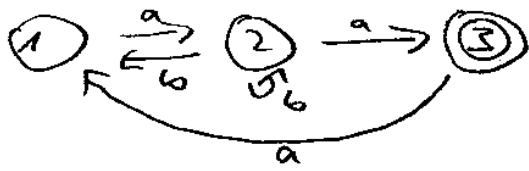
$$= (a \mid b \mid Z_1)^* (a)$$

$$Z_1 = L_{3,2}^1 \mid L_{2,2}^1 (L_{2,2}^1)^* L_{2,2}^1$$

$$= (L_{3,2}^0 \mid L_{3,1}^0 (L_{1,1}^0)^* L_{1,2}^0) (L_{2,2}^0 \mid L_{2,1}^0 (L_{1,1}^0)^* L_{1,2}^0)^* (L_{2,2}^0 \mid L_{2,1}^0 (L_{1,1}^0)^* L_{1,2}^0)$$

$$= (b \mid a \mid a)$$

$$L_{2,1}^3 = a (b \mid (b \mid a a) a)^* a$$



Indizierung ?

$$\begin{aligned}
 L_{1,3}^3 &= L_{1,3}^2 \mid L_{1,3}^2 (L_{3,3}^2)^* L_{3,3}^2 \\
 &= \begin{matrix} L_{1,3}^2 & \mid & L_{1,3}^2 & ( & L_{3,3}^2 & )^* & L_{3,3}^2 \\ \downarrow & & \downarrow & & \downarrow & & \downarrow \\ (L_{1,2}^1 \mid L_{1,2}^1 (L_{2,2}^1)^* L_{2,3}^1) & \mid & (L_{1,3}^1 \mid L_{1,2}^1 (L_{2,2}^1)^* L_{2,3}^1) & ( & L_{3,2}^1 \mid L_{3,2}^1 (L_{2,2}^1)^* L_{2,2}^1 & )^* & L_{3,3}^1 \\ \times & & \times & & \times & & \times \\ L_{1,2}^1 = (L_{1,2}^0 \mid L_{1,2}^0 (L_{1,1}^0)^* L_{1,2}^0) & & & & L_{3,2}^1 = (L_{3,2}^0 \mid L_{3,1}^0 (L_{1,2}^0)^*) & & \\ L_{1,3}^1 = (L_{1,3}^0 \mid L_{1,2}^0 (L_{2,3}^0)^* L_{1,2}^0) & & & & & & \end{matrix} \\
 &= a (b|ab)^* a \mid a (b|ab)^* a (aa (b|ab)^* a)^* aa (b|ab)^* a \\
 &= a (b|ab)^* a \mid a (b|ab)^* a (aa (b|ab)^* a)^* \\
 &= a (b|ab)^* a (aa (b|ab)^* a)^*
 \end{aligned}$$

sieht so aus wie der, den man intuitiv erhält, nach der vorherigen Seite gilt:

$$= a (b | (b|aa) a)^* a$$