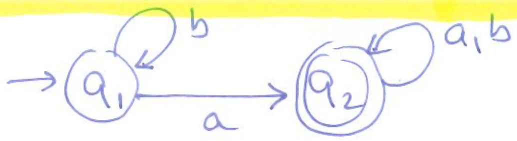
Sei $\mathcal{A}$: 

$\mathcal{A} = (K, \Sigma, \delta, q_1)$

$K = \{q_1, q_2\}$, $\Sigma = \{a, b\}$

Konstruktion aus dem Hauptsatz von Kleene zur Berechnung eines regulären Ausdruckes $\underline{r}$ mit $\mathcal{I}(r) = \mathcal{L}(\mathcal{A})$.

- $L(\mathcal{A}) = \bigcup\limits_{q_f \in F} R^n_{1f} = \underline{R^2_{12}}$

wobei
$$\begin{cases} R^0_{ij} = \begin{cases} \{d \in \{a,b\} \mid \delta(q_i, d) = q_j\} & \text{falls } i \neq j \\ \{d \in \{a,b\} \mid \delta(q_i, d) = q_j\} \cup \{\varepsilon\} & \text{falls } i = j \end{cases} \\ R^{k+1}_{ij} = R^k_{ij} \cup R^k_{i,k+1} \left(R^k_{k+1,k+1}\right)^* R^k_{k+1,j} \end{cases}$$

R^k_{ij}	Menge	Reg. Ausdruck
R^0_{11}	$\{b\} \cup \{\varepsilon\} = \{b, \varepsilon\}$	$b + 1$
R^0_{12}	$\{a\}$	a
R^0_{21}	$\emptyset$	0
R^0_{22}	$\{a,b\} \cup \{\varepsilon\} = \{a, b, \varepsilon\}$	$a + b + 1$.

$$R^1_{ij} = R^0_{ij} \cup R^0_{i1} (R^0_{11})^* R^0_{1j}$$

R^1_{11}	$\{b,\varepsilon\} \cup \{b,\varepsilon\}\{b,\varepsilon\}^*\{b,\varepsilon\}$	$b+1+(b+1)(b+1)^*(b+1) = b^*$
R^1_{12}	$\{a\} \cup \{b,\varepsilon\}\{b,\varepsilon\}^*\{a\}$	$a + (b+1)(b+1)^* a = b^* a$
R^1_{21}	$\emptyset \cup \emptyset\{b,\varepsilon\}^*\{b\varepsilon\}$	$0 + 0.(b+1)^*(b+1) = 0$.
R^1_{22}	$\{a,b,\varepsilon\} \cup \emptyset\{b,\varepsilon\}^*\{a\}$	$a + b + 1$.

$$R^2_{ij} = R^1_{ij} \cup R^1_{i2} (R^1_{22})^* R^1_{2j}$$

$$\underline{R^2_{12}} = R^1_{12} \cup R^1_{12} (R^1_{22})^* R^1_{22}$$

Reg. Ausdruck: $b^*a + b^*a(a+b+1)^*(a+b+1)$

$= \underline{b^*a(a+b)^*}$.