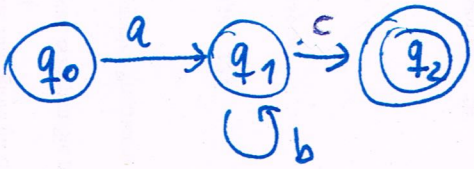
$L = \{ab^n c \mid b \in \mathbb{N}_0\}$, $w = abbc$

- Endlicher Automat:



Akzeptieren:

$q_0 \xrightarrow{a} q_1 \xrightarrow{b} q_1 \xrightarrow{b} q_1 \xrightarrow{c} q_2$

$q_2 \in F$ ✓

- (Rechts-) lineare Grammatik

$S \to a B_1$
$B_1 \to b B_1$
$B_1 \to c B_2$
$B_2 \to \varepsilon$

Erzeugen:

$S \Rightarrow aB_1$
$\Rightarrow abB_1$
$\Rightarrow abbB_1$
$\Rightarrow abbcB_2$
$\Rightarrow abbc$ ✓

- Regulärer Ausdruck

ab^*c

$L(ab^*c) = L(a) \cdot L(b^*) \cdot L(c)$
$= \{a\} \cdot \{b\}^* \cdot \{c\}$
$a \in$ $bb \in$ $c \in$ ✓

GDI3 01.12.18

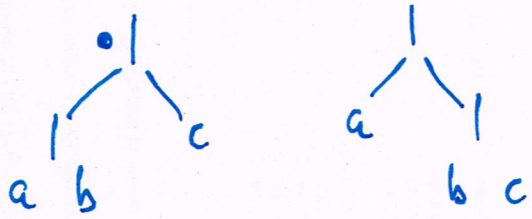
Zu 6.1) d), Klammerung

a|b|c

$r_1 \in Reg, r_2 \in Reg \Rightarrow (r1|r2) \in Reg$

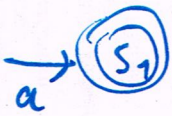
((a|b)|c) oder (a|(b|c))

[abc]

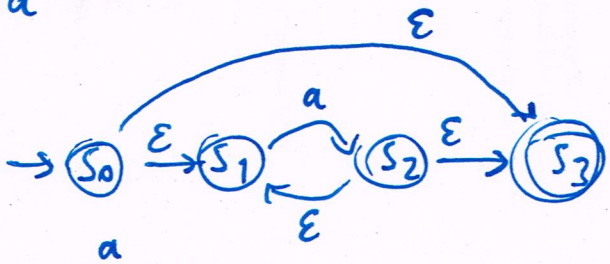


6.3) $a^*c(d|e)^*$

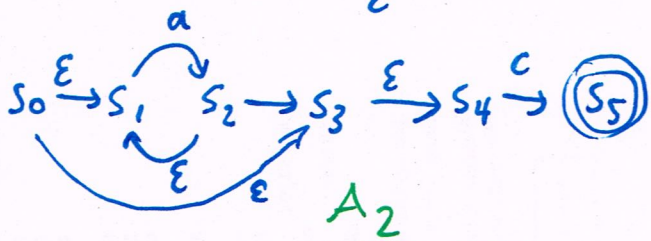
a) a:

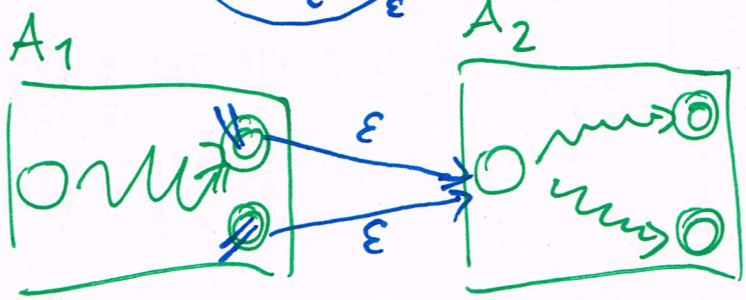


b) a^*:



c) a^*c:





6.6 a) $(aab|bba)(cc)^*$

$= aab(cc)^* \mid bba(cc)^*$

Rechenregel $(a|b)c = ac|bc$

$L = \{ a^n b^n \mid n \in \mathbb{N}_0 \}$

Ausblick

$\nexists$ endl. Automat

Wie könnte Gramm. aussehen?

$S \to aA$
$A \to aA \mid B$
$B \to bB \mid \varepsilon$

$S \to aSb \mid \varepsilon$

$L' = \{ a^n b^n c^n \mid n \in \mathbb{N}_0 \}$

$S \to aSbSc$