

1:

bcbab a bccac

$$L = \{ w \in \{a, b, c\}^* \mid w = 2a \times c \\ (c - |c|) \leq |c| \cdot a^2 \}$$

$$|c|^{|c|} + 2 \cdot |c|^{|a|}$$

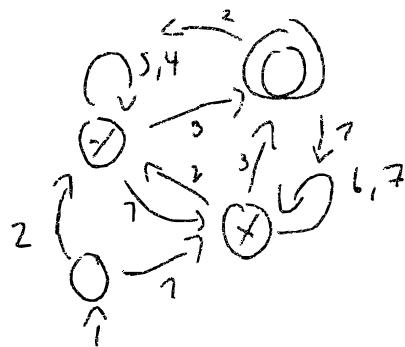
2 $c_i \perp |xx$ 6 $a_i x |xxx \rightarrow$

2 $a_i \perp |y$ 7 $c_i x | \epsilon$

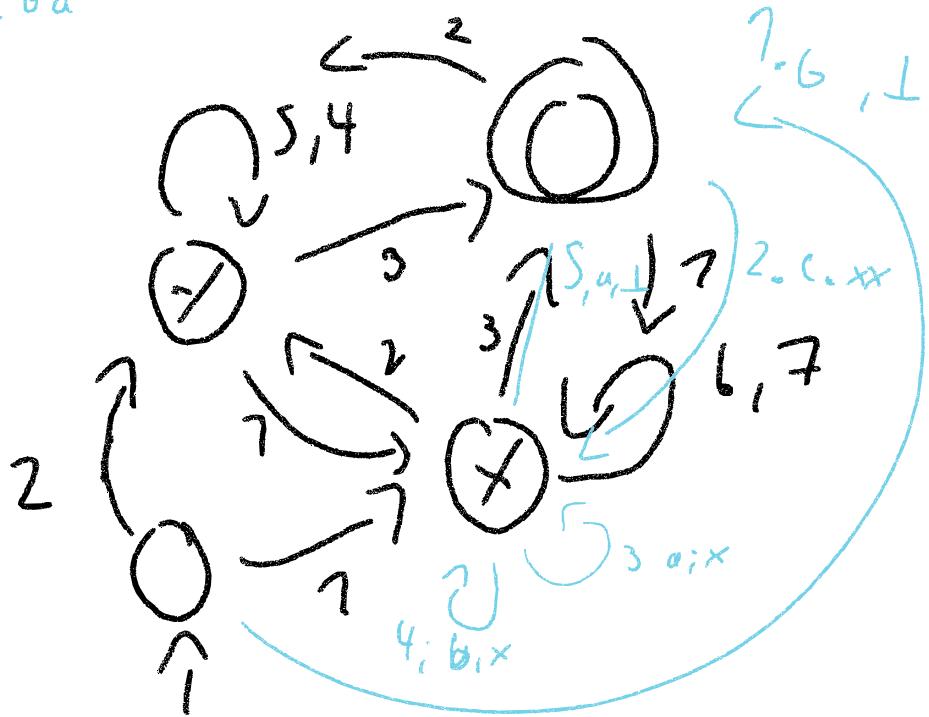
3 $\epsilon \epsilon_i \perp |c$

4 $c_i y | x$

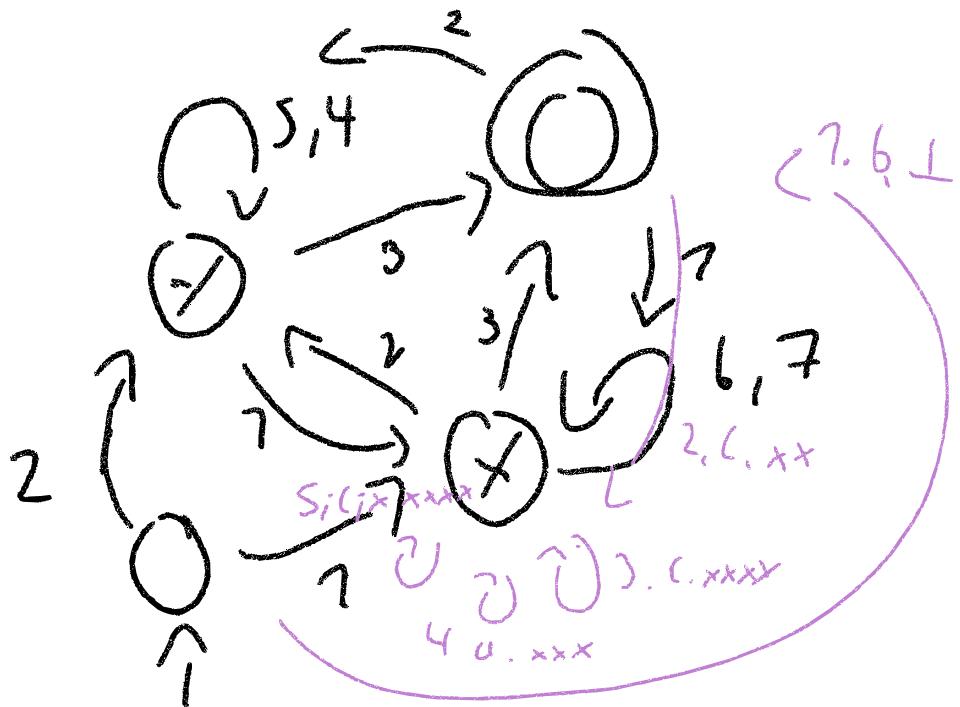
5 $a_i y | yy$



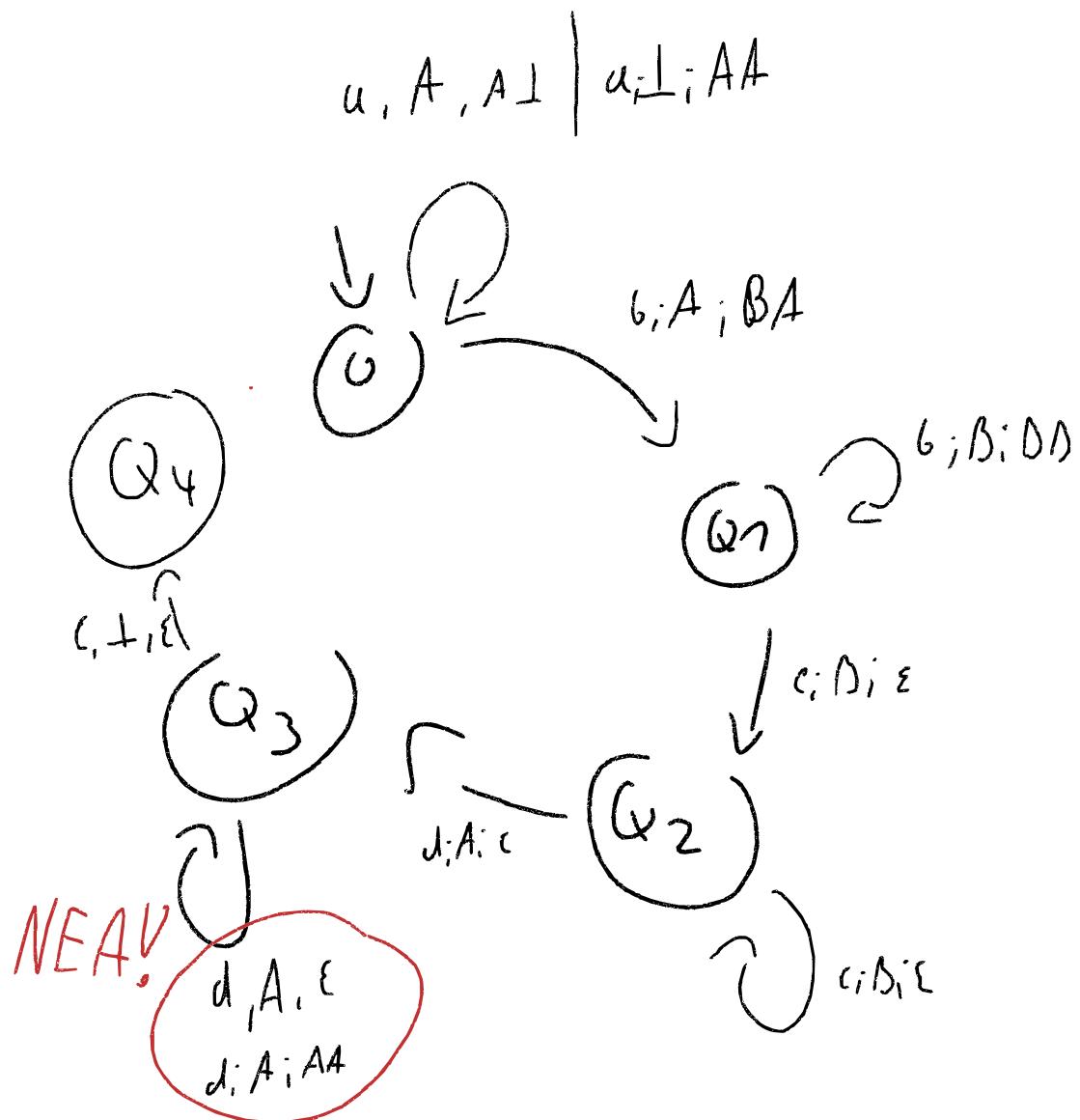
bca ba



bccac



$$2: \quad L = \{ |b| = |c| \quad |a| \leq |d| \}$$



$$Q \{ Q_0 ; Q_1 ; Q_2 ; Q_3 ; Q_4 \} \{ a \in \omega \mid Q_0 \}$$

$$\Sigma \{ a; b; \epsilon; c \} \quad \{ z_0 = + \}$$

$$\Gamma \{ A; B; \perp \}$$

$$\delta \{ \text{Aufgabe} \}$$

$$= \{ Q_4 \}$$

$$g = (V, \Sigma, P, S)$$

V: Nichtterminal

Σ : Terminalsymbole

P: Produktionsregel

S: Startsymbol

3:

$g(\{ \text{statement}; \text{condition}, \dots \}, \{ \text{"if"}, \text{"else"}, \dots \}, P,$
 $\text{statement})$

$P = \{ \text{statement} \rightarrow \text{"if"} \text{ condition statement} \mid \text{"if"} \text{ condition statement "else" statement}$
 $\text{condition} \rightarrow \dots$

$L(g) = \{ (\text{"if"})^* S ((\text{"else"})^*)^+ \}$

$(\text{if...}(S) \mid \text{if... else...}(S))$

Mehrdeutig, da $L = P$ ist, da S nicht
ausdefiniert beweisbar, S bleibt immer
(Mehrdeutig ist der Beweis)

if (id) else 2x Lösung 2x + Wege
if (id else)

4:

$$L = \{a^i b^j c^k \mid i=j \vee j=k\}$$

oder

$$S = A \quad b \quad B \quad c \quad | \quad a \quad C \quad b \quad D$$

Mehrdeutig

$$A = a \quad | \quad Aa \quad | \quad \epsilon$$

$$B = b \quad c \quad | \quad b \quad B \quad C \quad | \quad \epsilon$$

$$C = a \quad C \quad b \quad | \quad ab \quad | \quad \epsilon$$

$$D = D \quad c \quad | \quad \epsilon$$

$$A \quad b \quad D \quad C \quad \qquad a \quad C \quad b \quad D$$