1)

(IA) $z \in \varepsilon\text{-closure}(z)$

(IS) $p \in \varepsilon\text{-closure}(z)$

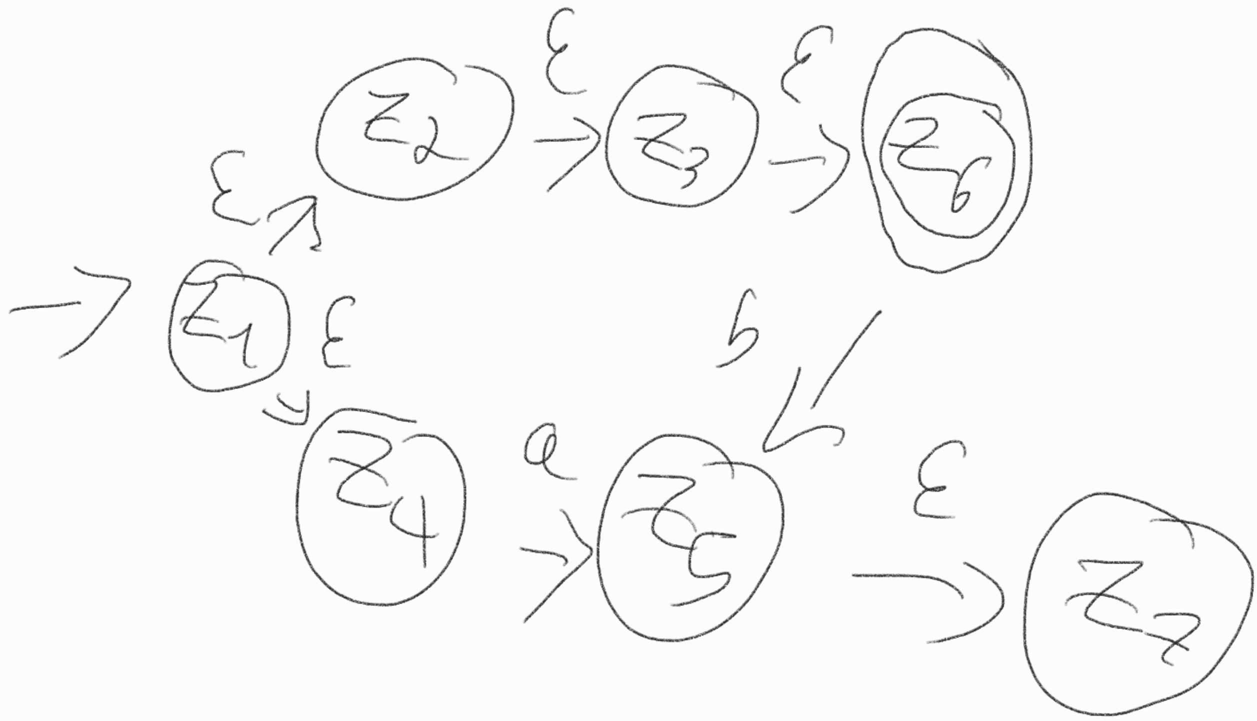
und es gilt

$\delta(p, \varepsilon) \ni q$,

dann gilt

$q \in \varepsilon\text{-closure}(z)$

Bsp:



$\varepsilon\text{-closure}(z_1) = \{z_1, z_2, z_3, z_4, z_6\}$

DEA Powerset(ε-NEA M) {

$Z = \{\{z_0\}\};$

$F = \emptyset;$

$x = z_1, \quad a = a \in \Sigma$

while(Z ist nicht leer) {

nehme ein X aus Z;

$Z = Z \setminus \{X\}$;

for (alle $a \in \Sigma$) {

berechnen $X' = \bigcup_{z \in X} \delta(z, a)$;

$X' = \varepsilon$-closure(X') und

speichere $\delta'(X, a) = X'$;

if ($X' \notin T$) {

$Z = Z \cup T$;

}

}

$F = F \cup \{x\};$

}

return DEA;

$$DEA = (P(Z), \Sigma, \delta', \{z_0\}, \{F \in P(Z) \mid F \cap E \neq \emptyset\})$$

2)

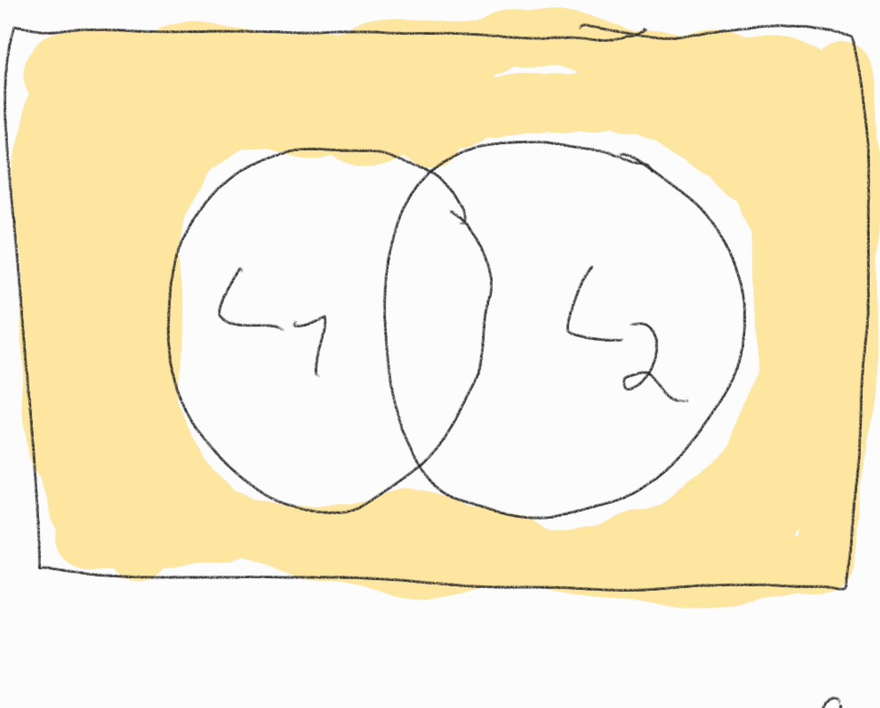
$$L_1 = L(M_1)$$

$$M_1 = (Z, \Sigma, \delta, z_0, E)$$

$$\overline{M_1} = (Z, \Sigma, \delta, z_0, Z \setminus E)$$

E'

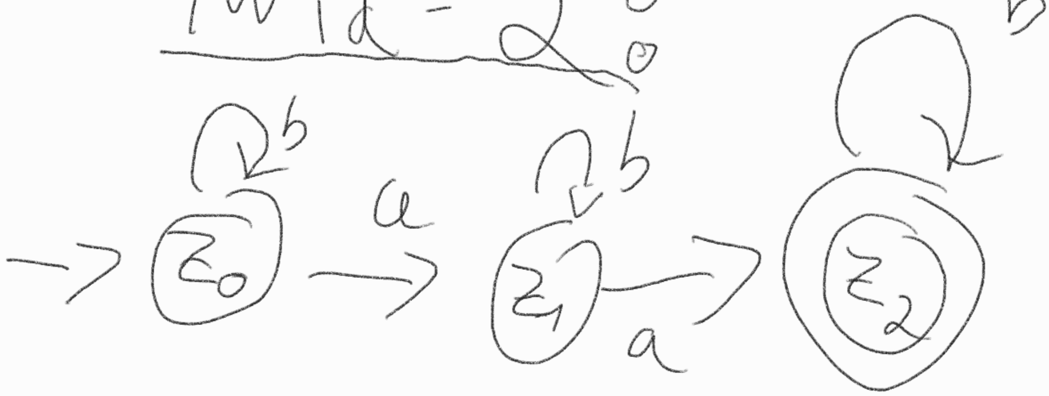
$$\overline{\overline{L_1} \cup \overline{L_2}} = L_1 \cap L_2$$



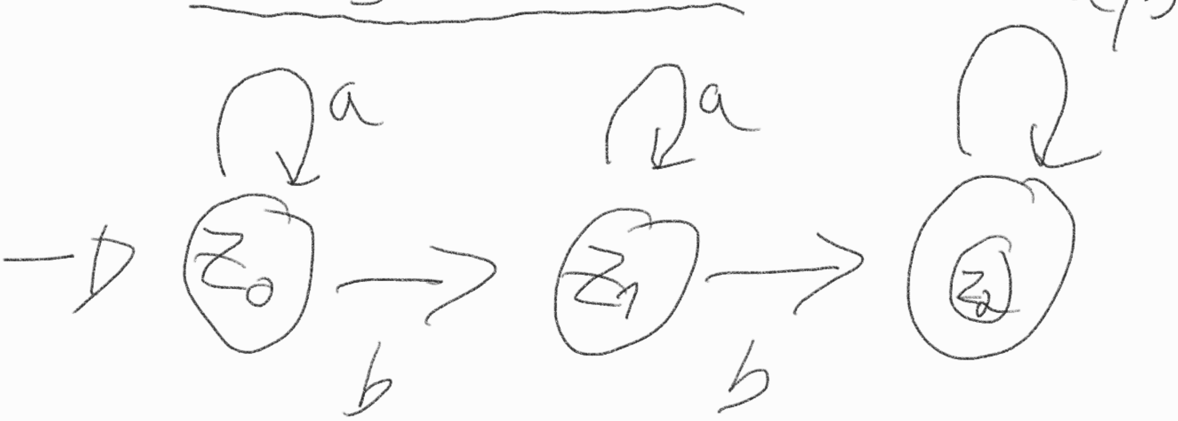
$\hat{=} \; \overline{L_1} \cup \overline{L_2}$

3) L_3:

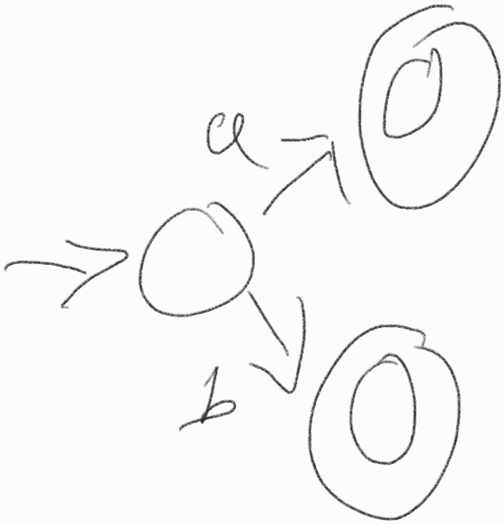
$\underline{|w|_a = 2}$:



$\underline{|w|_b \geq 2}$:



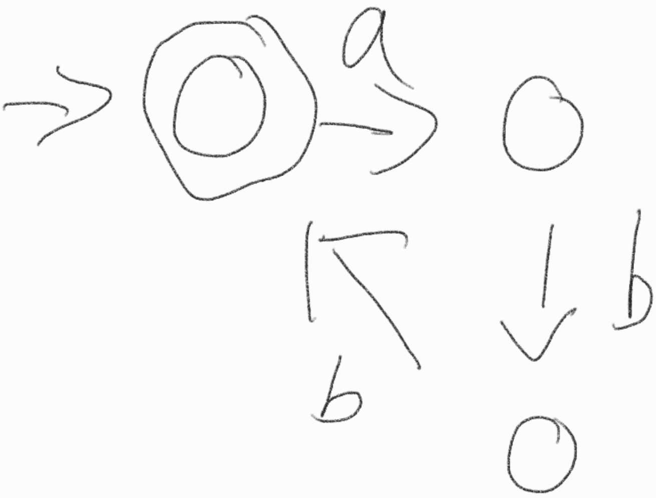
4) $a | b \triangleq$



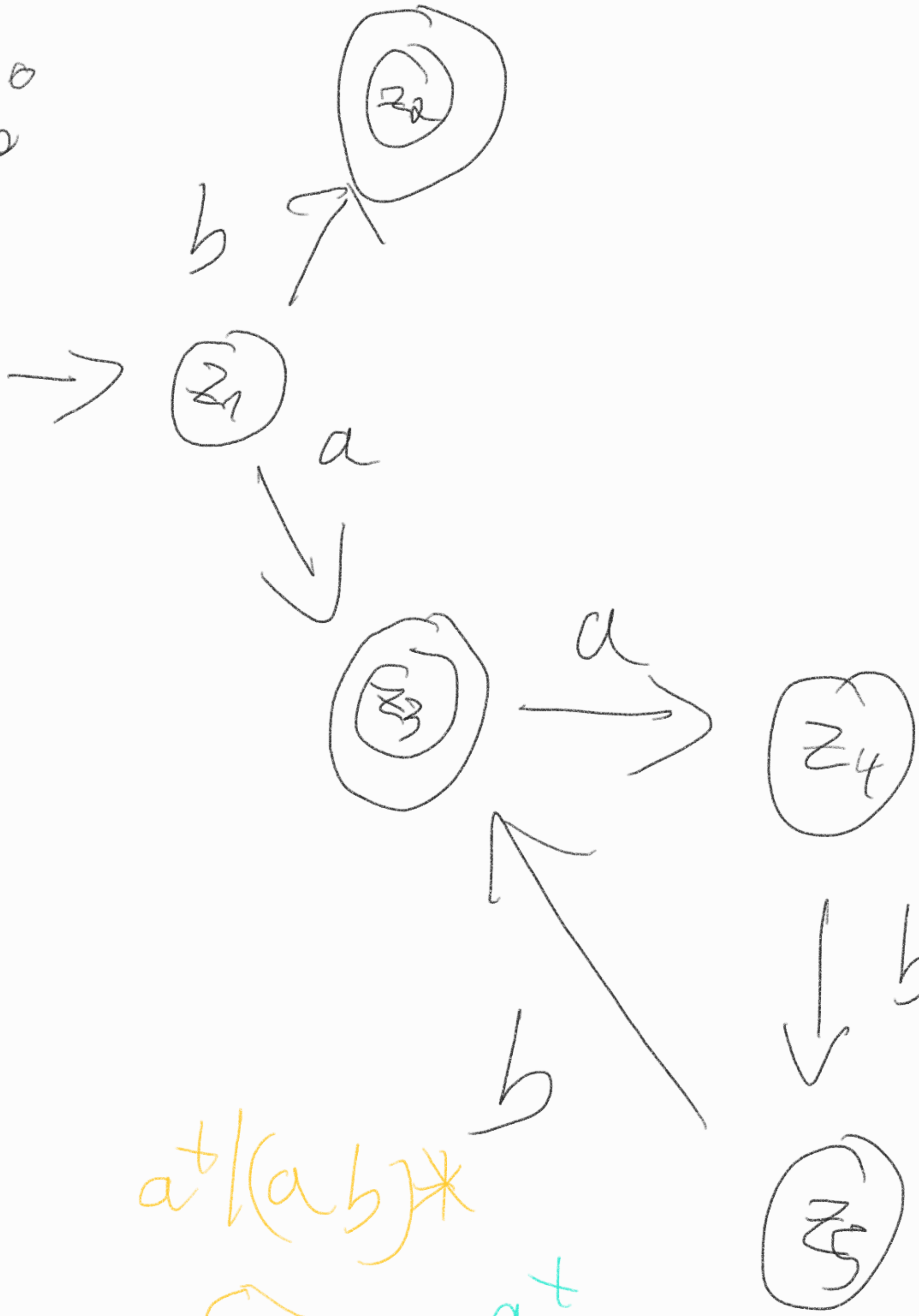
$a^+ \triangleq$

$a \triangleq$

$(abb)^* \triangleq$



M_{y_1}:



$a^+|(ab)^*$

M_{y_2}: