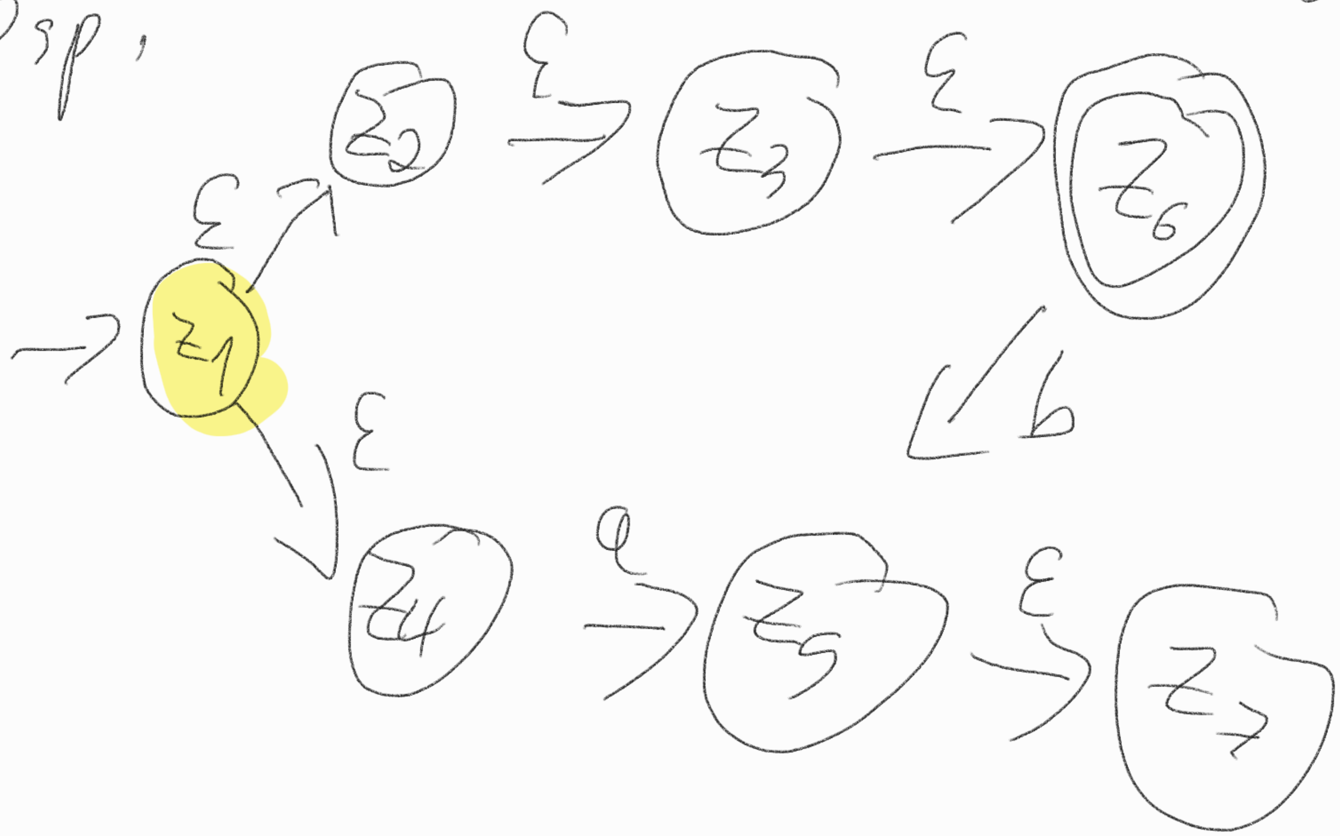
(IA) $z \in \varepsilon\text{-closure}(z)$

(IS) Sei $p \in \varepsilon\text{-closure}(z)$ und außerdem $\delta(p, \varepsilon) \ni q$, dann gilt $q \in \varepsilon\text{-closure}(z)$

Bsp:



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

Pseudocode:

DEA Powerset(ε-NEA M) {

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

$F = \emptyset$;

while (Z ist nicht leer) {

nehme ein X aus Z;

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

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

berechne $x' = \bigcup_{z_i \in Z} \delta(z_i, a)$

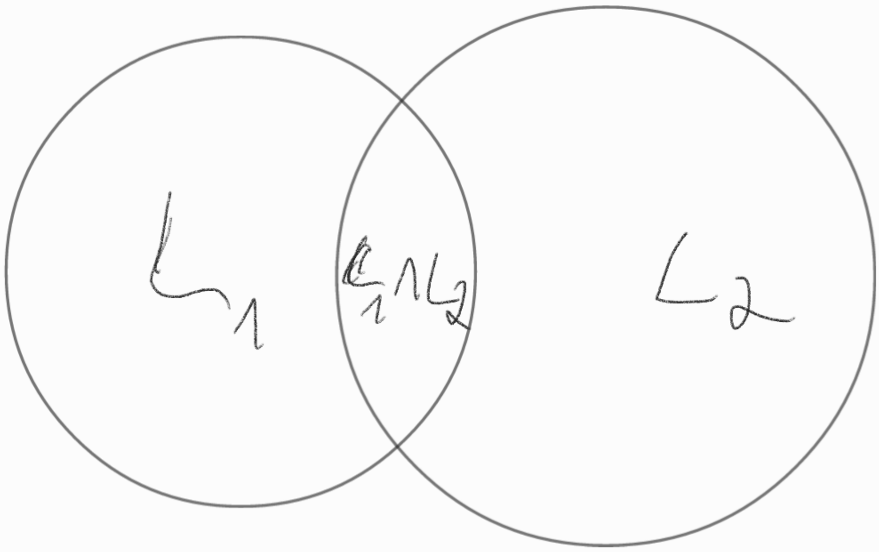
$x' = \varepsilon$-closure(x') und $\delta'(x, a) = x'$;

```
if(x' ∈ F){
    Z = Z ∪ F;
  }
 }
F = F ∪ {x};
}
return(DEA);
```

DEA:

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

2)



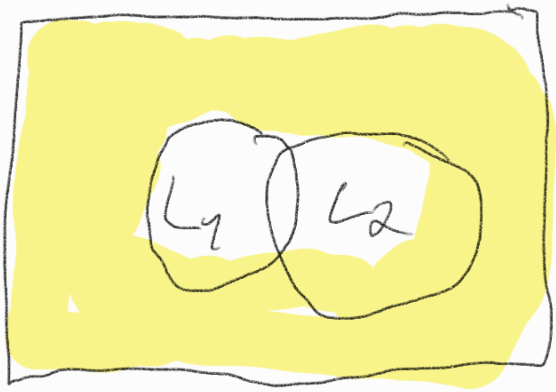
$$L_1 = L(M_1)$$

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

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

$$L_1 \cap L_2$$

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

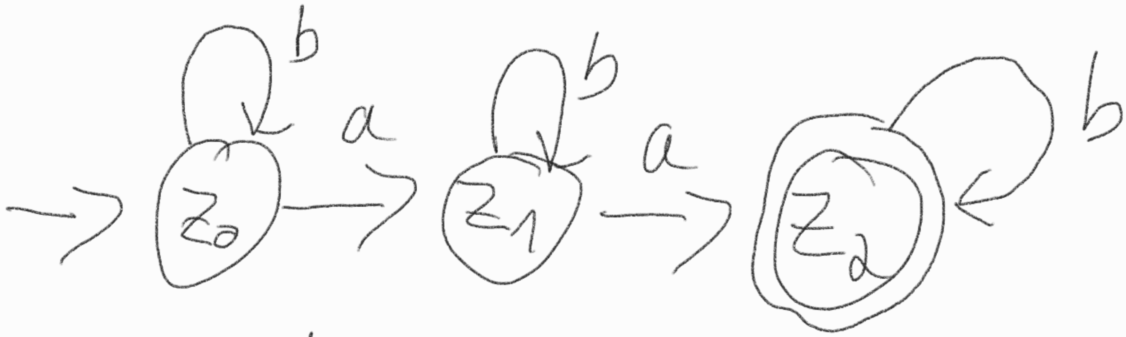


$$\overline{\overline{L_1} \cup \overline{L_2}} = L_1 \cap L_2$$

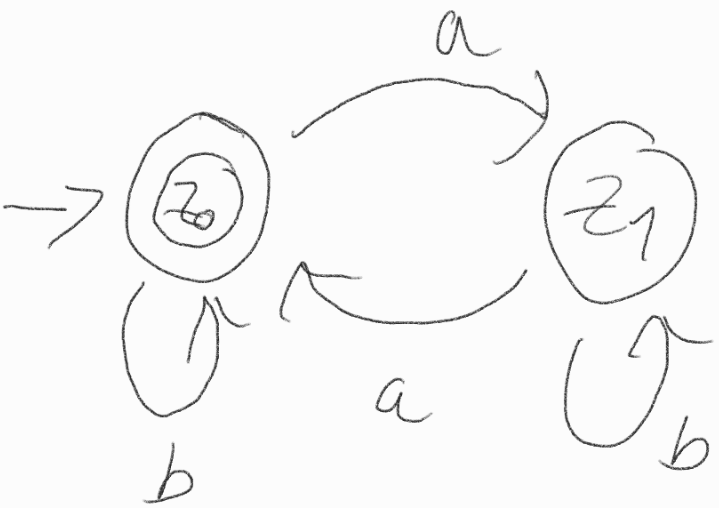
3) $L_3 =_{def} \{ w \in \{a,b\}^* \mid$

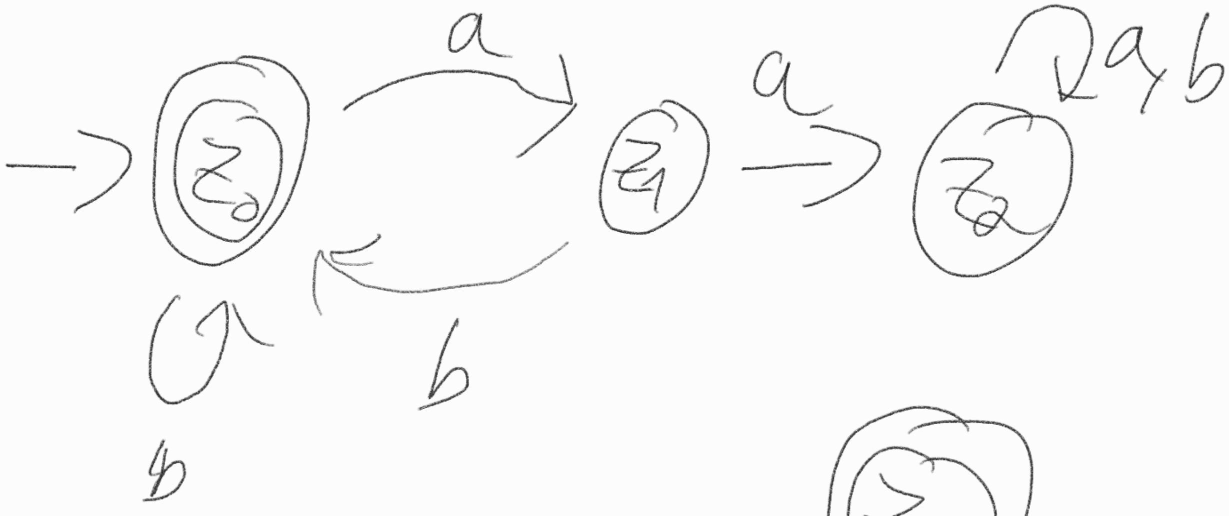
es gilt $|w|_a = 2$

<u>und</u> $|w|_b \geq 2 \}$



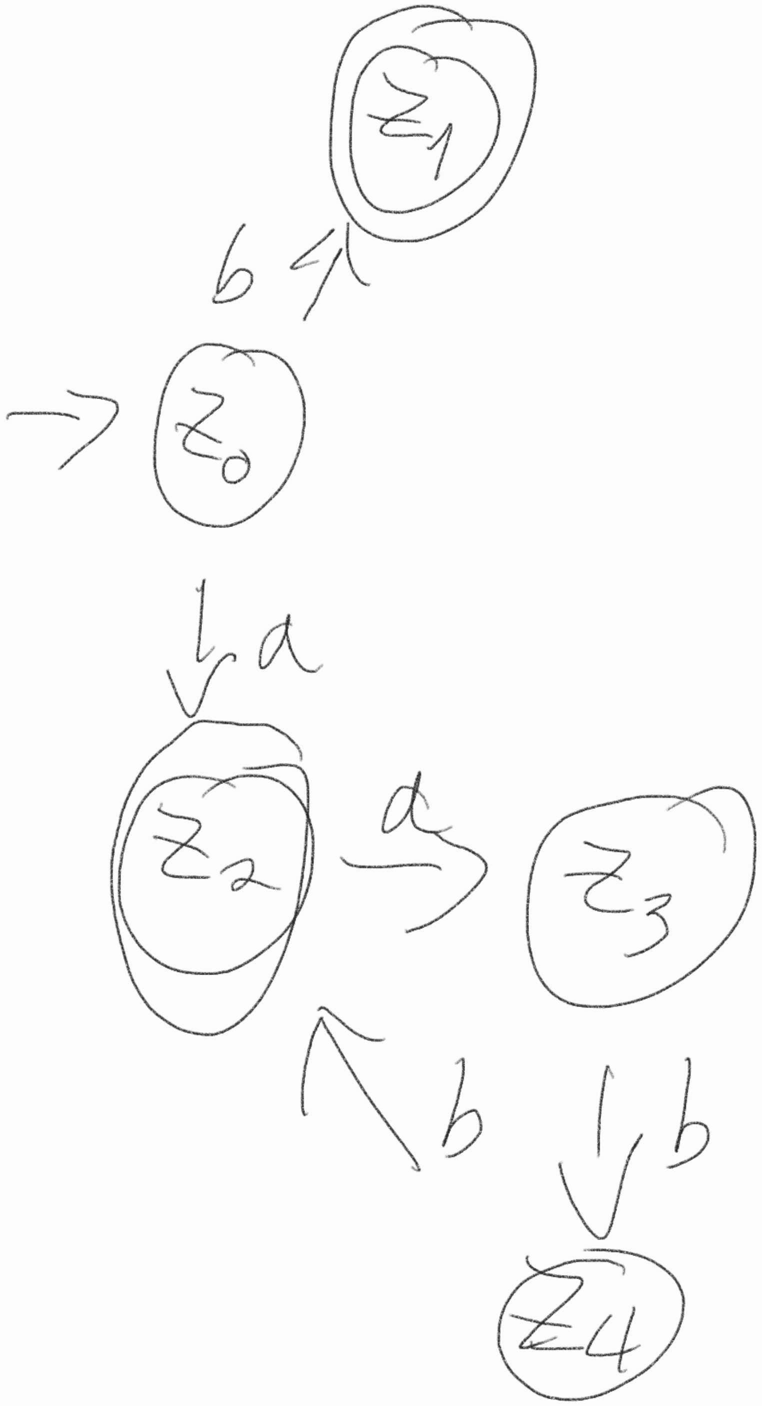
L_4:



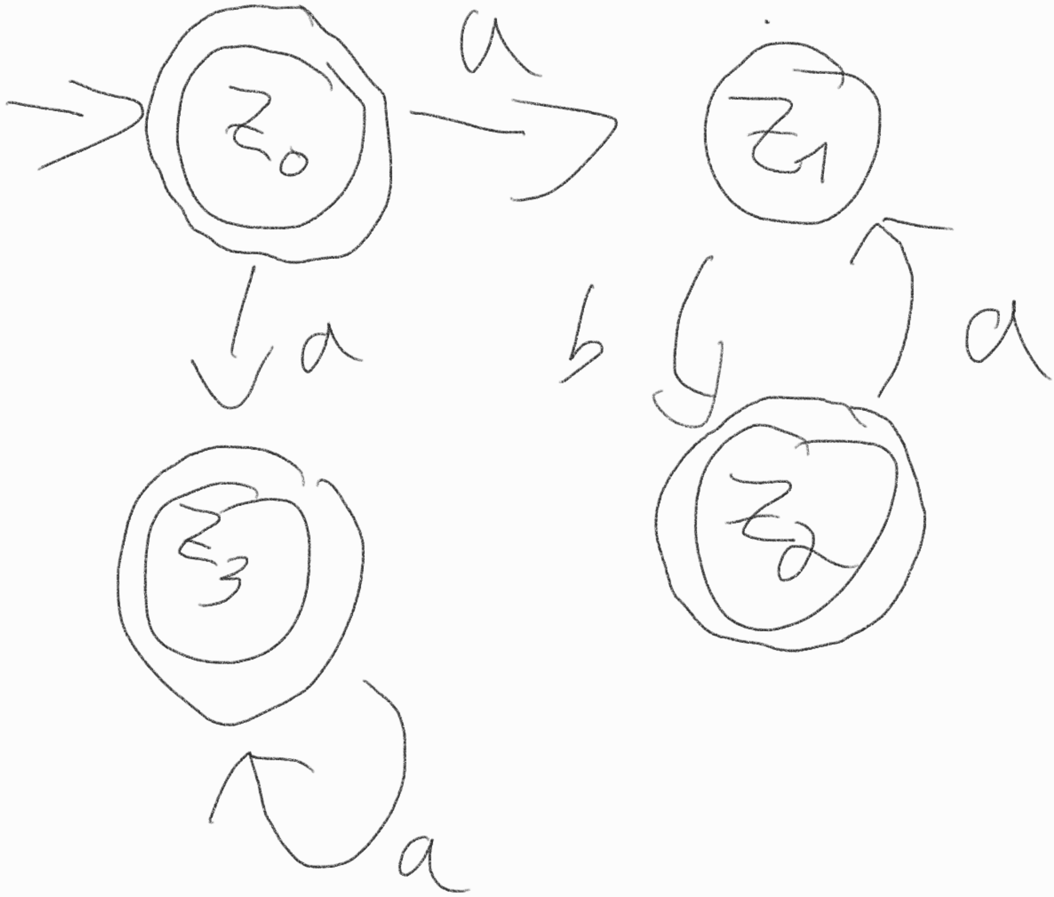


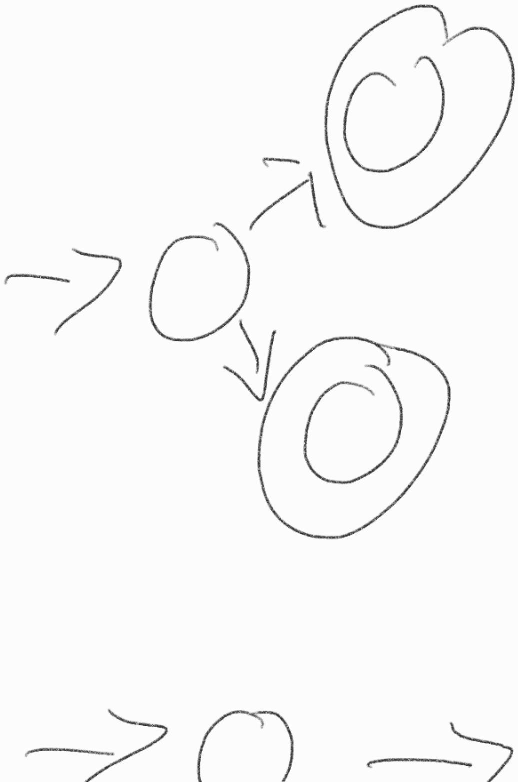
4)

M_{y_1}:



Myze:



a|b ≙ 

a^+ ≙ 

$(abb)^* \triangleq$