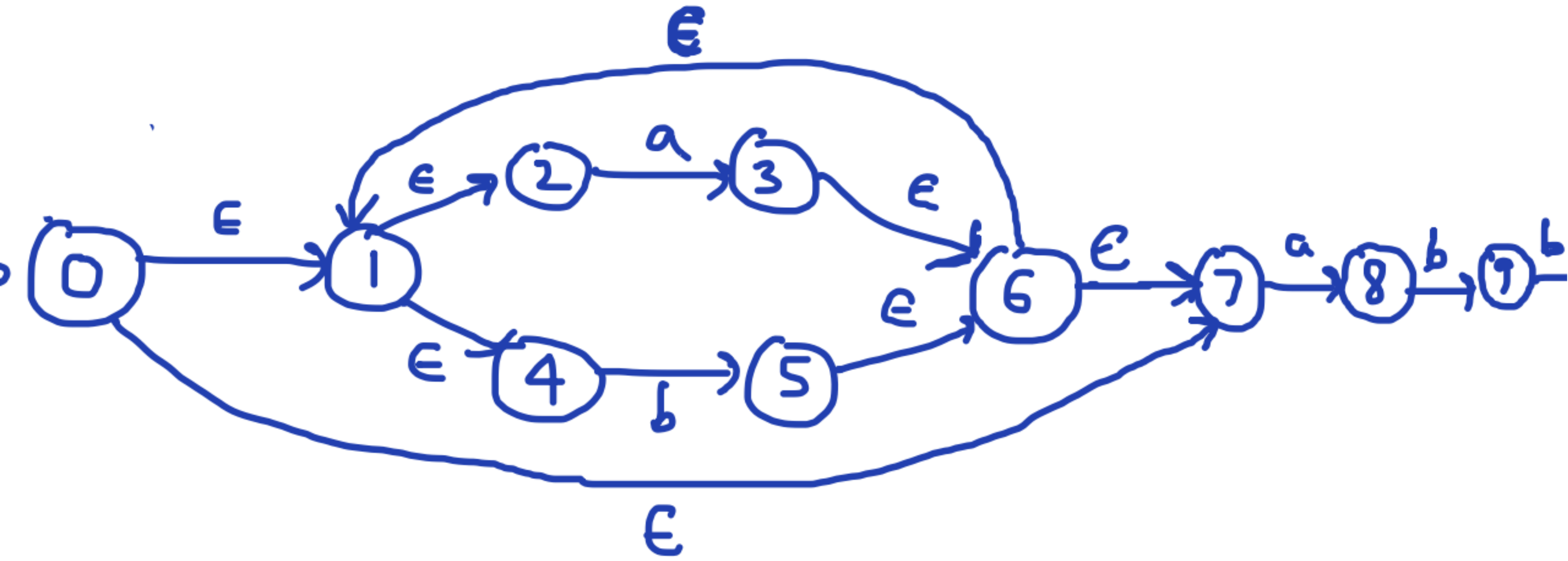
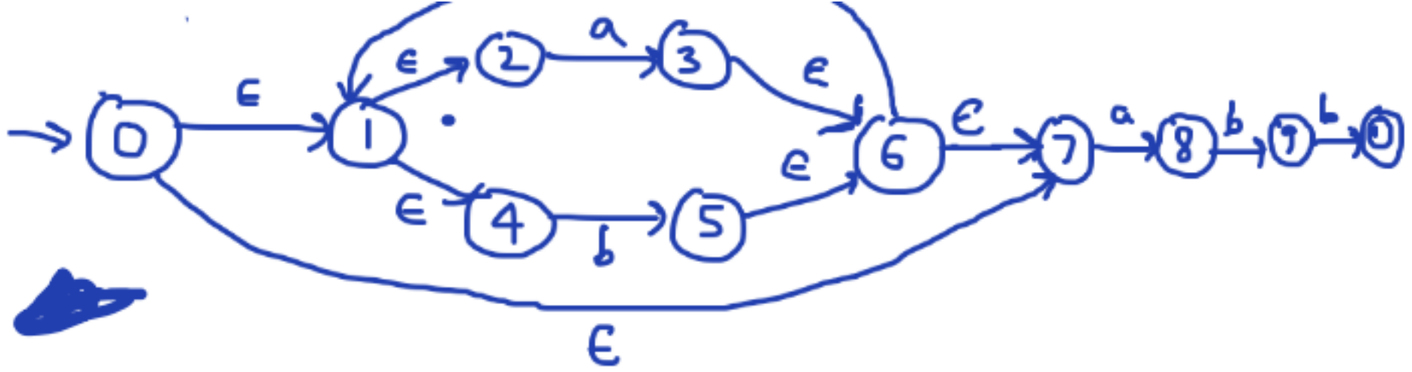


ϵ-closure(0) = {0, 1, 2, 4, 7} = A



$= \{0,1,2,4,7\}$

$= A$

ll

closure (Move{A, a})

$= \epsilon$-closure(Move{{0,1,2,4,7}, a})

$= \epsilon$-closure(3,8)

$= \epsilon$-closure(3) $\cup$ ϵ-closure(8)

$= \{3,6,7,1,2,4\} \cup \{8\}$

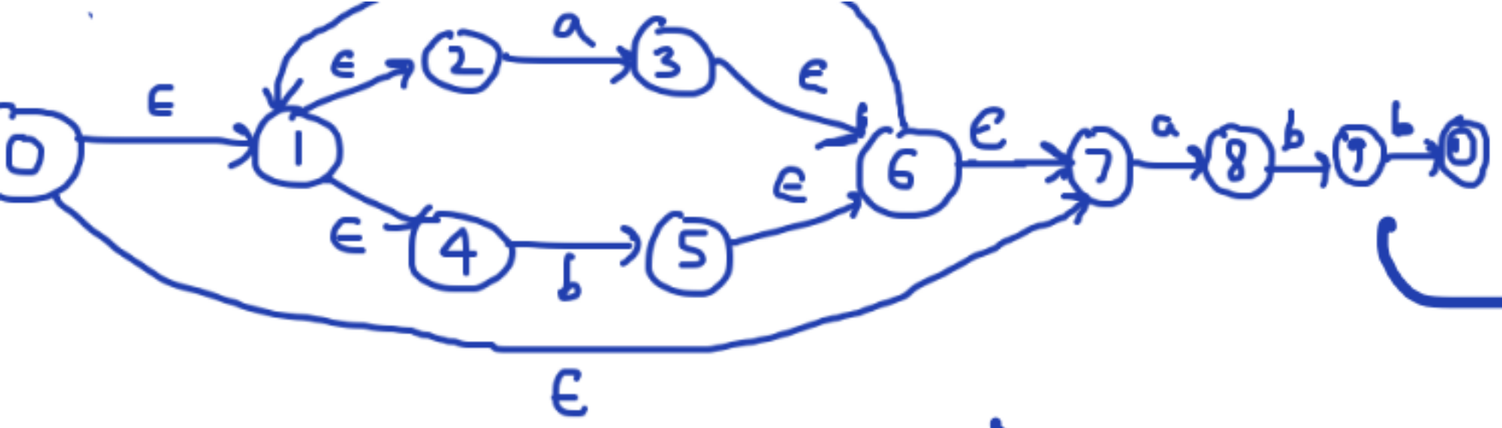
$= \{1,2,3,4,6,7,8\} = B$

Θ	Σ a	b
→A	B	C
B	B	D
C	B	C
D	B	E
*E	B	C

ϵ-closure (Move{A, b})

$= \epsilon$-closure(5)

$= \{5,6,7,1,2,4\}$



C = {1, 2, 4, 5, 6, 7}

Starter

$\epsilon\text{-closure}(\text{Move}\{B, a\}) = \epsilon\text{-closure}(3) \cup \epsilon\text{-closure}(8)$

$= B$

$\epsilon\text{-closure}(\text{Move}\{B, b\}) = \epsilon\text{-closure}(5) \cup \epsilon\text{-closure}(9)$

$= \{5, 6, 1, 2, 4, 7\} \cup \{9\}$

$= \{1, 2, 4, 5, 6, 7, 9\} = D$

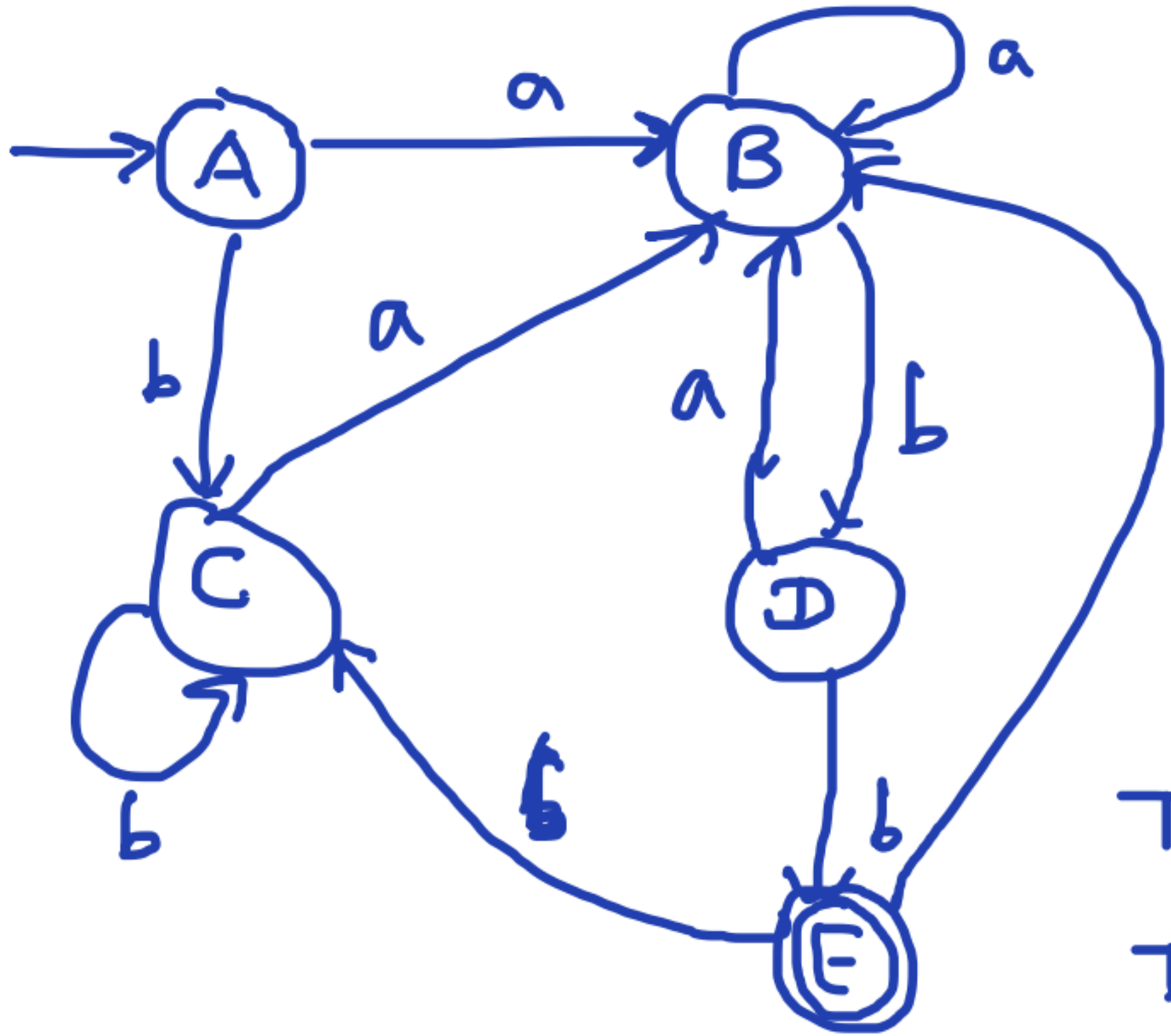
$\epsilon\text{-closure}(\text{Move}\{C, a\}) = B$

$\epsilon\text{-closure}(\text{Move}\{C, b\}) = C$

$\epsilon\text{-closure}(\text{Move}\{D, a\}) = B$

$\epsilon\text{-closure}(\text{Move}\{D, b\}) =$

ϵ-closure(Move $\{E, b\}$) = C

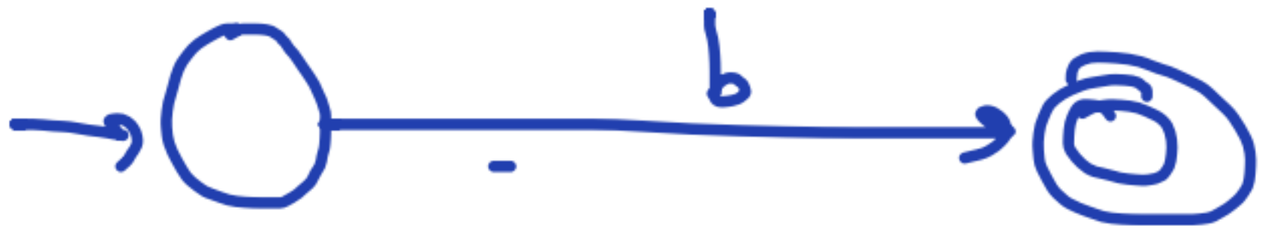


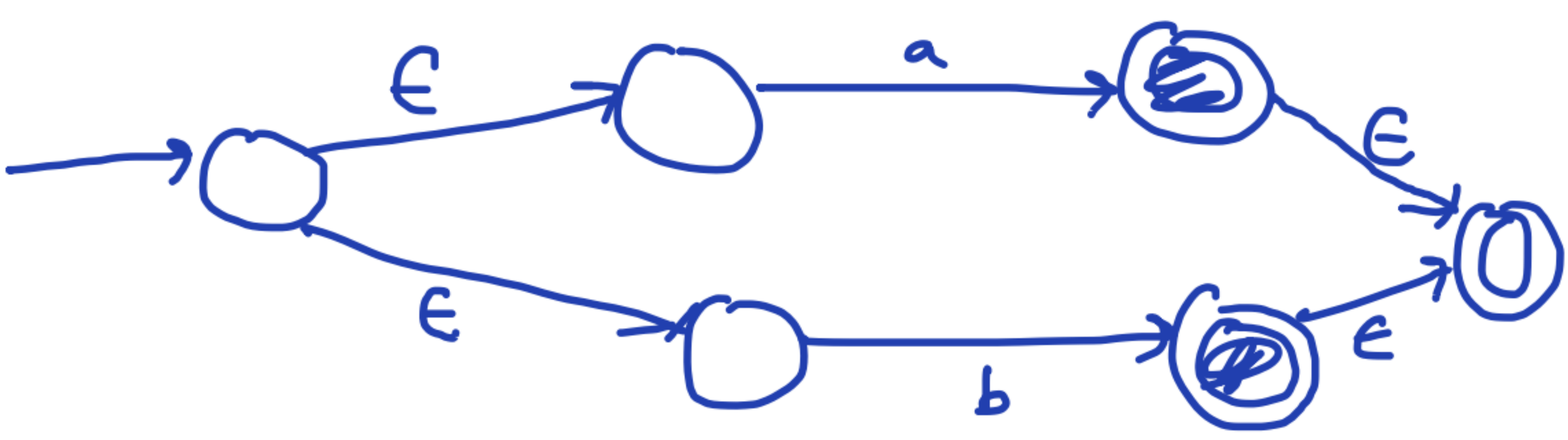
	a	b
→A	B	C
↙ B	B	D
C	B	C
D	B	E
*E	B	

$\pi_0 = \{ \{E\}, \{A, B, C, D\} \}$

$\pi_1 = \{\{E\}, \{A, B, C\}, \{D\}\}$

a + b



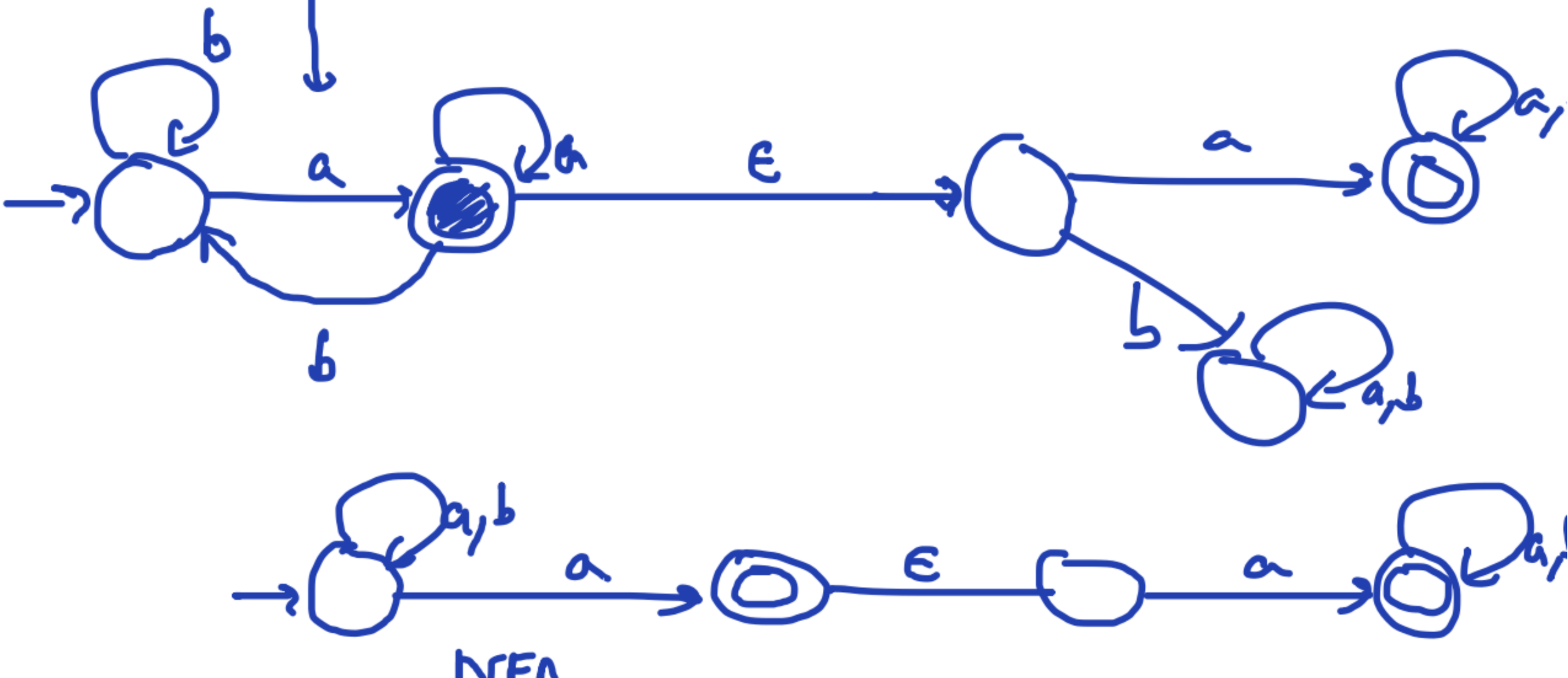


$r_1 = (a+b)^* a$ $\quad r_2 = a(a+b)$

ab

$$r = (a+b)^* a a (a+b)^*$$

a+b



NFA

$r_1 r_2 = (a+b)^* aa (a+b)^*$

$L_1 = \{ w \in \{a,b\}^* \}$ Starts with 'a' $\}$ $\quad r_1 = a(a+b)^*$

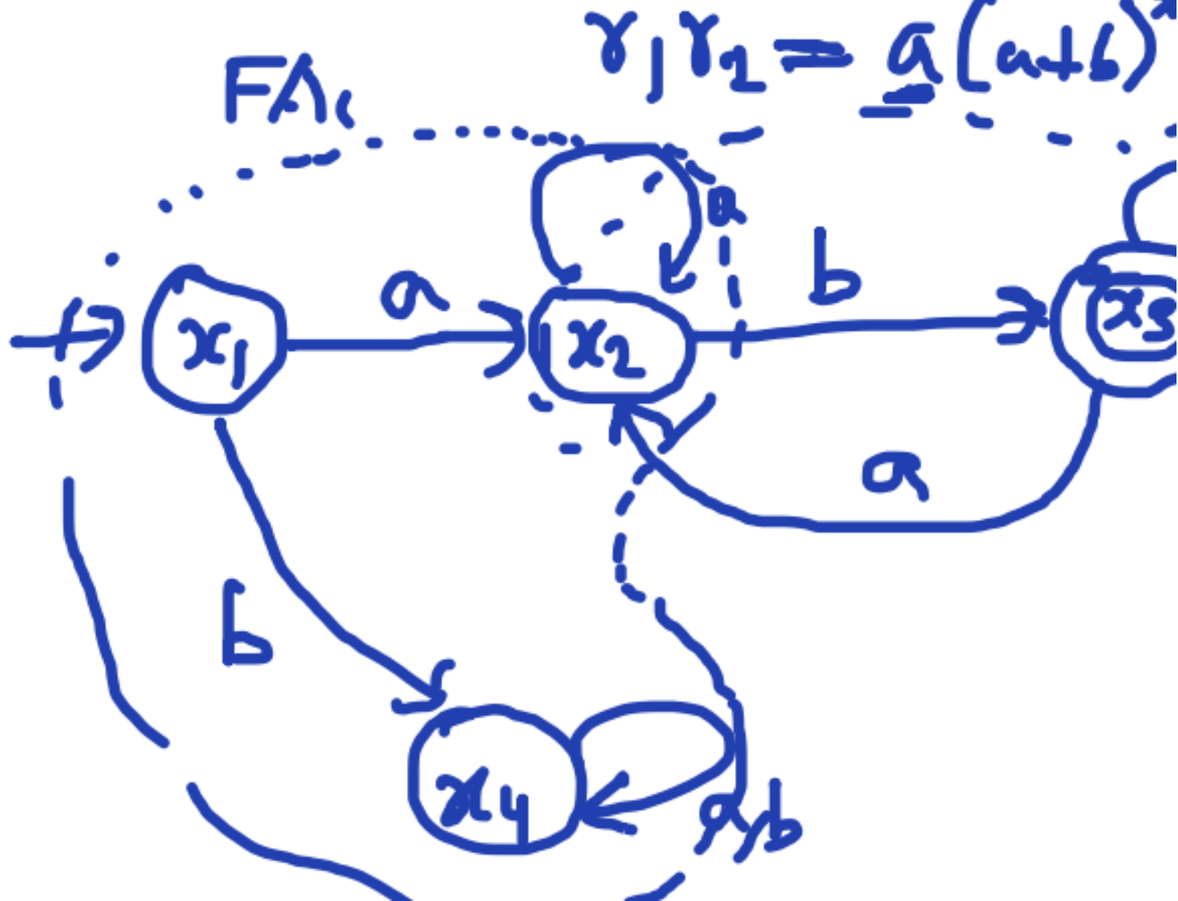
$L_2 = \{ w \in \{a,b\}^* \}$ ends with 'b' $\}$ $\quad r_2 = (a+b)^*$

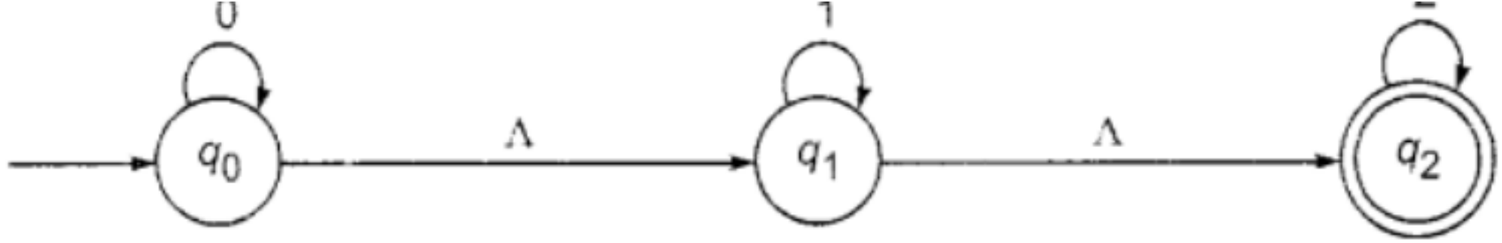
$L_1 = \{ a, ab, aa, aaa, \ldots \}$

$L_2 = \{ b, ab, bb, aab, \ldots \}$

$L_1 L_2 = \{ ab, aab, abb, aaab, \ldots \}$

$r_1 r_2 = a(a+b)^*$

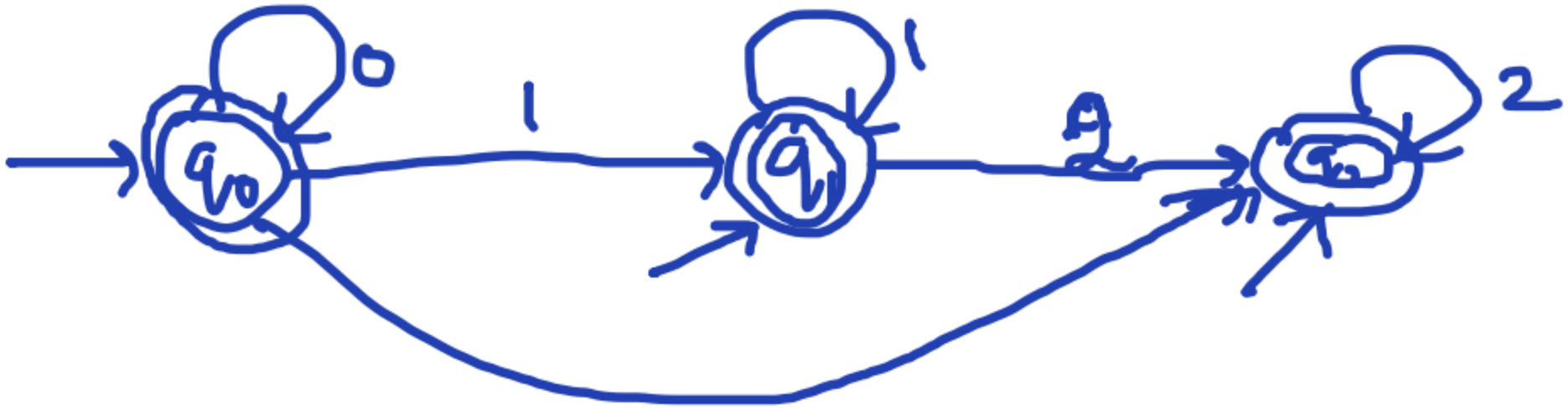




$q_0 \xrightarrow{\varepsilon} q_1$

$q_1 \xrightarrow{1} q_1$

$q_1 \xrightarrow{\wedge} q_2$



TG

FA → RE