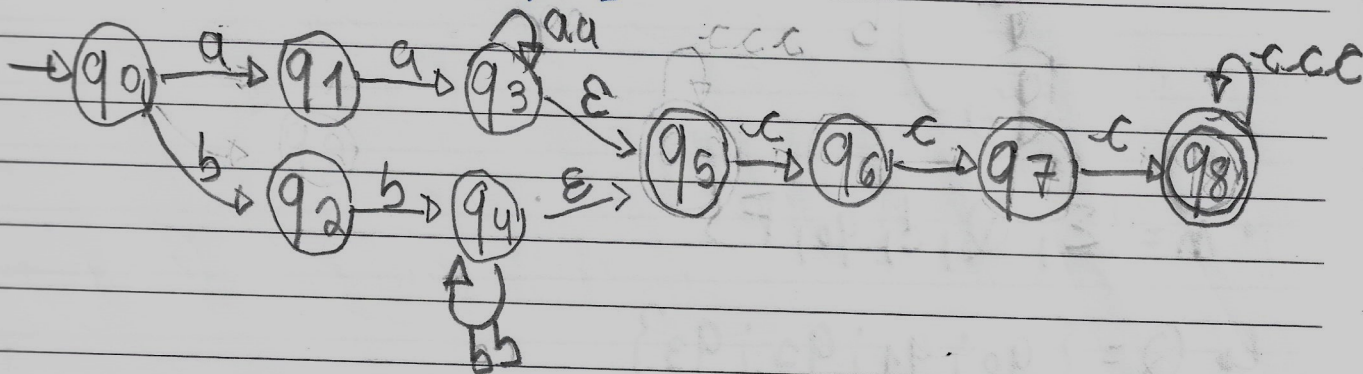


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Lista de Exercícios 4

① a) $L = \{w \mid \text{tal que } aa \text{ ou } bb \text{ é subpalavra e } ccc \text{ é sufixo de } w\}$ sobre o alfabeto $\Sigma = \{a, b, c\}$



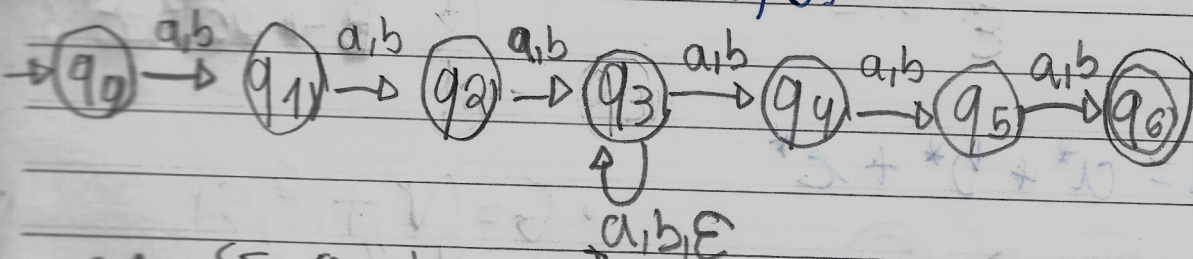
$M = \{\Sigma; Q, \delta, q_0; F\}$

$Q = \{q_0, q_1, q_2, q_3, q_4, q_5, q_6, q_7, q_8\}$

$q_0 = \{q_0\}$

$F = \{q_8\}$

b) $L = \{w_1 w_2 w_1 \mid \text{tal que } w_2 \text{ é qualquer e } |w_1| = 3\}$ sobre o alfabeto $\Sigma = \{a, b\}$



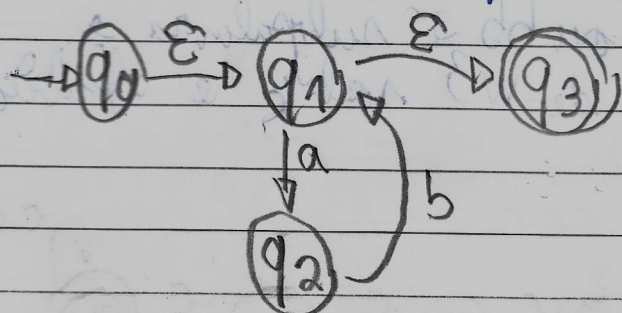
$M = \{\Sigma, Q, \delta, q_0, F\}$

$Q = \{q_0, q_1, q_2, q_3, q_4, q_5, q_6\}$

$q_0 = \{q_0\}$

$F = \{q_6\}$

c) $L = \{w \mid \text{tal que } w \text{ possui o mesmo número de símbolos } a \text{ e } b\}$ sobre a alfabeto $\Sigma = \{a, b\}$



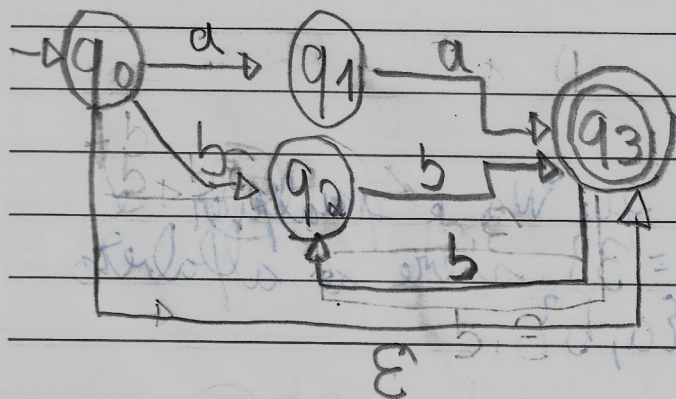
• $M = \{\Sigma, Q, \delta, q_0, F\}$

↳ $Q = \{q_0, q_1, q_2, q_3\}$

↳ $q_0 = \{q_0\}$

↳ $F = \{q_3\}$

② a) $L = (aa)^* + (bb)^*$



• $G = (V, \vdash, P, S)$

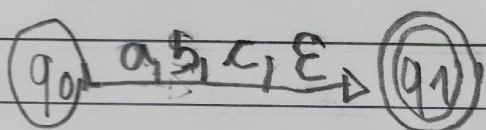
↳ $V = \{A, B\}$

↳ $S = \{A\}$

↳ $\vdash = \{a, b\}$

↳ $P = \{A \rightarrow AB \mid aa \mid \epsilon; B \rightarrow bbB \mid \epsilon\}$

b) $L = a^* + b^* + c^*$



• $G = (V, \vdash, P, S)$

↳ $V = \{A\}$

↳ $S = \{A\}$

↳ $\vdash = \{a, b, c\}$

↳ $P = \{A \rightarrow \epsilon A \mid a \mid b \mid c \mid \epsilon\}$