

Batería de ejercicios

Teoría de la Computación



Lista de ejercicios 1

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B

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PROGRAMA PROFESIONAL DE CIENCIA DE LA COMPUTACIÓN

Listas de Ejercicios

1) (a) $V_0 \rightarrow V_1 a a V_1$

$V_1 \rightarrow a V_1$

$V_1 \rightarrow b V_1$

$V_1 \rightarrow \lambda$

(b) $V_0 \rightarrow V_0 a V_0 b V_0$

$V_0 \rightarrow V_0 b V_0 a V_0$

$V_0 \rightarrow \lambda$

$$(e) \quad v_0 \rightarrow a v_0 b \mid \lambda$$

$$(f) \quad v_0 \rightarrow a v_0 \mid v_1 \mid \lambda$$

$$v_1 \rightarrow b v_1 \mid \lambda$$

$$(g) \quad v_0 \rightarrow a a v_0 \mid v_1 \mid \lambda$$

$$v_1 \rightarrow b b v_1 \mid \lambda$$

$$(h) \quad v_0 \rightarrow a v_1 \mid a v_2 \mid a v_4 \mid a \mid v_1 b \mid v_3 b \mid b$$

$$v_1 \rightarrow a v_1 b \mid \lambda$$

$$v_2 \rightarrow a v_2 \mid v_1 \mid \lambda$$

$$v_3 \rightarrow v_3 b \mid v_1 \mid b \mid \lambda$$

$$v_4 \rightarrow v_4 v_3 b b \mid \lambda$$

$$2) (a) \quad v_0 \rightarrow a v_0 C \mid a v_1 C \mid b v_1 C \mid \lambda$$

$$v_1 \rightarrow b v_1 C \mid \lambda$$

$$(b) \quad v_0 \rightarrow v_0 C \mid a v_3 C C \mid b v_1 C C \mid C$$

$$v_1 \rightarrow b v_2 C \mid v_1 C \mid \lambda$$

$$v_2 \rightarrow b v_2 C \mid v_2 C \mid \lambda$$

$$v_3 \rightarrow a v_3 C \mid v_1 C \mid \lambda \mid v_2$$

$$(d) \quad \begin{array}{l} V_0 \rightarrow V_0 a V_0 b V_0 \\ V_0 \rightarrow b V_0 a V_0 \end{array} \mid \lambda$$

$$(e) \quad \begin{array}{l} V_0 \rightarrow V_1 (V_1) V_1 \mid \lambda \\ V_1 \rightarrow (X V_1) \mid (Y V_1) \mid X V_1 \mid Y V_1 \mid X Y \mid \lambda \end{array}$$

3)

$$(a) L((0 \vee 1)(0 \vee 1)(0 \vee 1)(0 \vee 1 \vee 0 \vee 0 \vee 1 \vee 1)^*)$$

$$(b) L(1(0 \vee 1 \vee 0 \vee 1 \vee 1 \vee 0 \vee 0)^*(0 \vee 1))$$

$$(c) L((a \vee b)^*(b b)(a \vee b)^*)$$

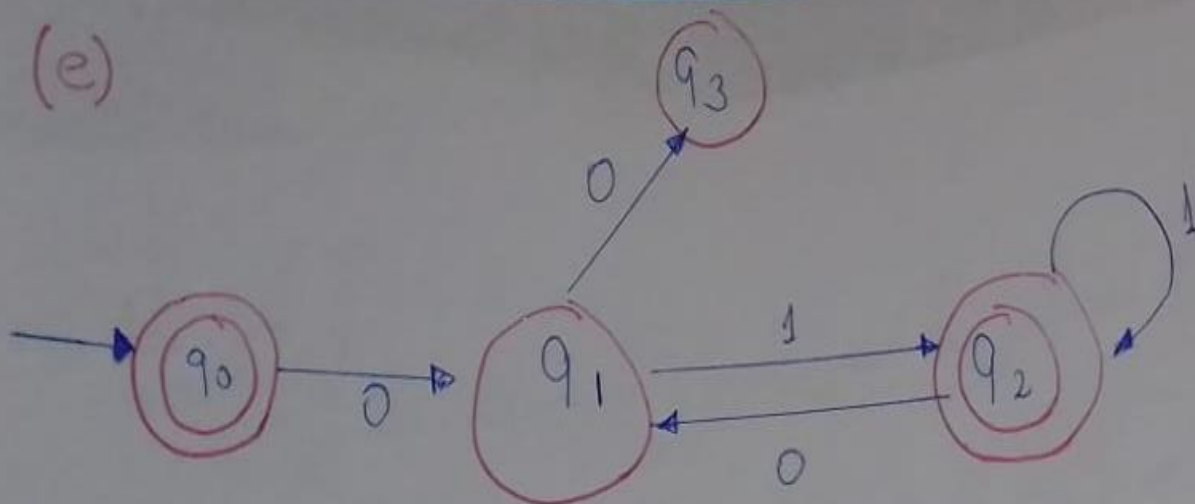
$$(d) L((a a \vee a b a \vee a a b \vee b a a \vee b)^*(a a)^*(a a \vee a b a \vee a a b \vee b a a \vee b)^*)$$

$$(e) L(a^* b a^* \vee a^* b a^* b a^*)$$

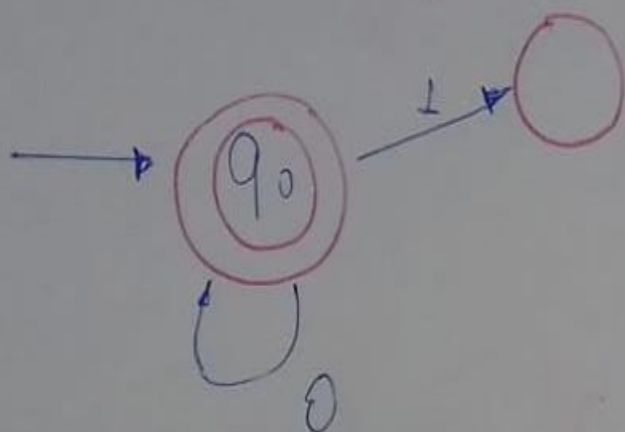
$$(f) L(a^* b^* \vee b)^* (b a^* \vee b)^*$$

$$(g) L((a^* a b a a^*) \vee (a^* a a b a^*) \vee (a^* b a a a^*) \vee (a a a^*))$$

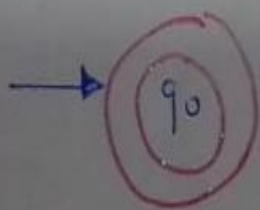
(e)



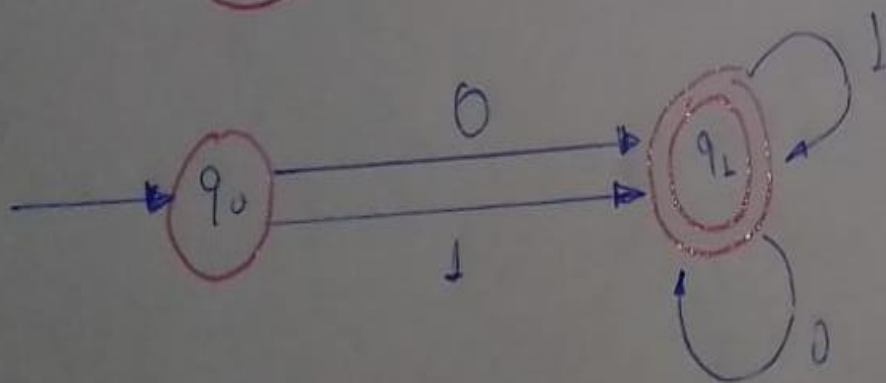
(f)

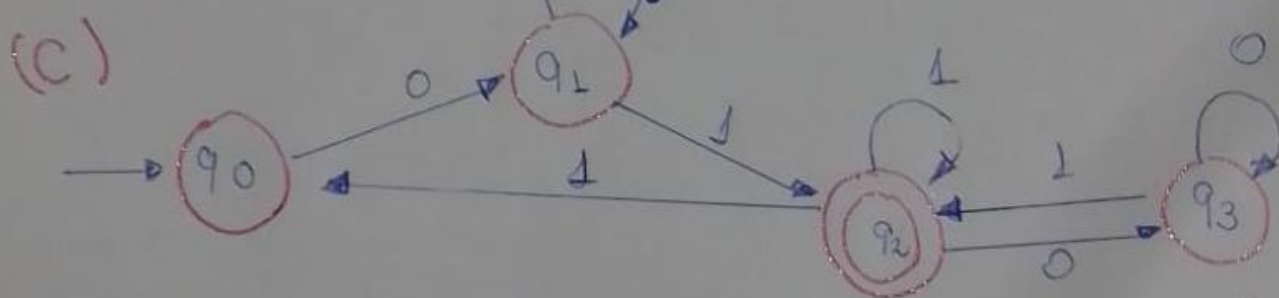
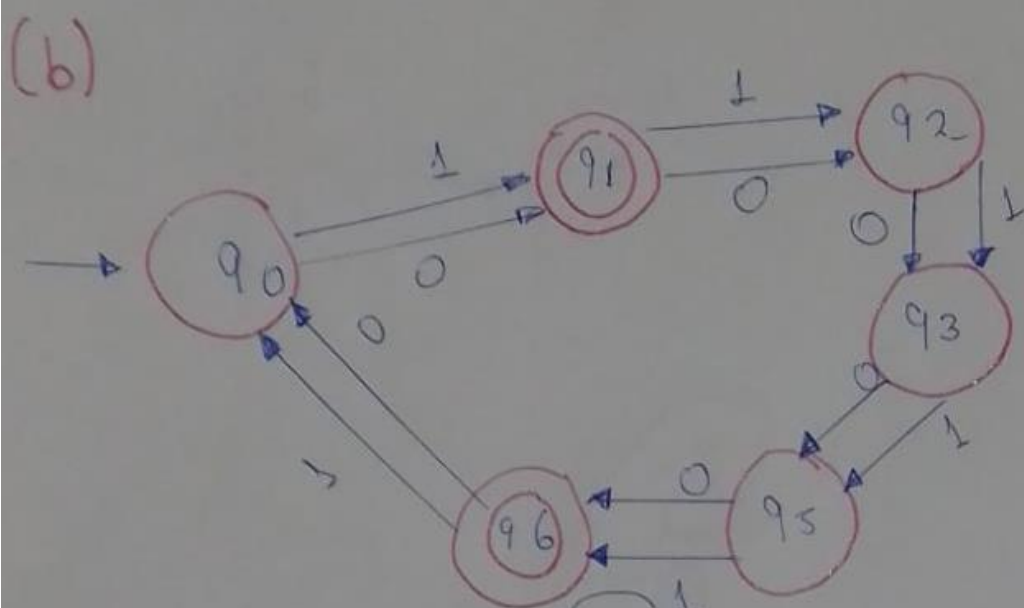
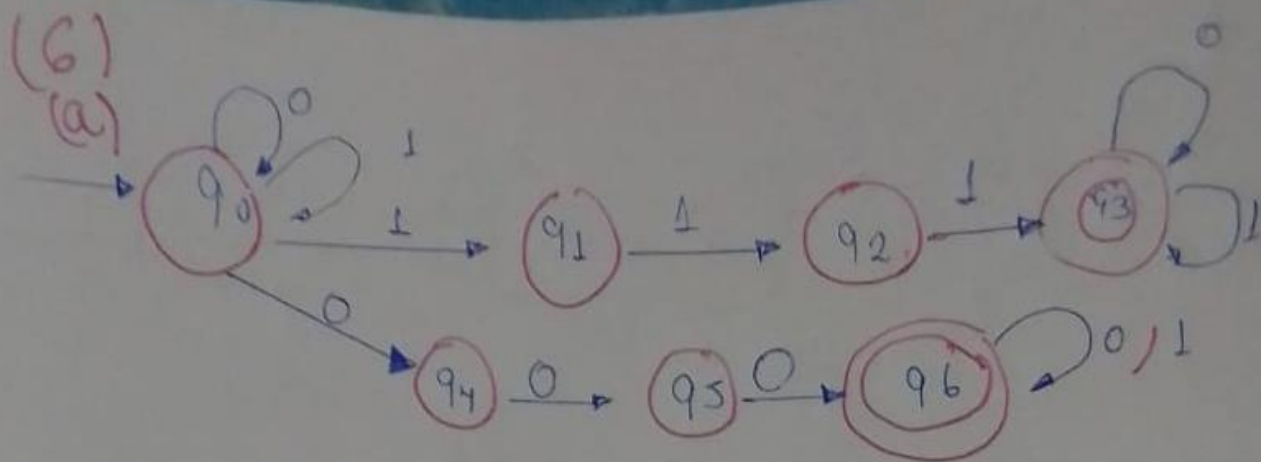


(g)

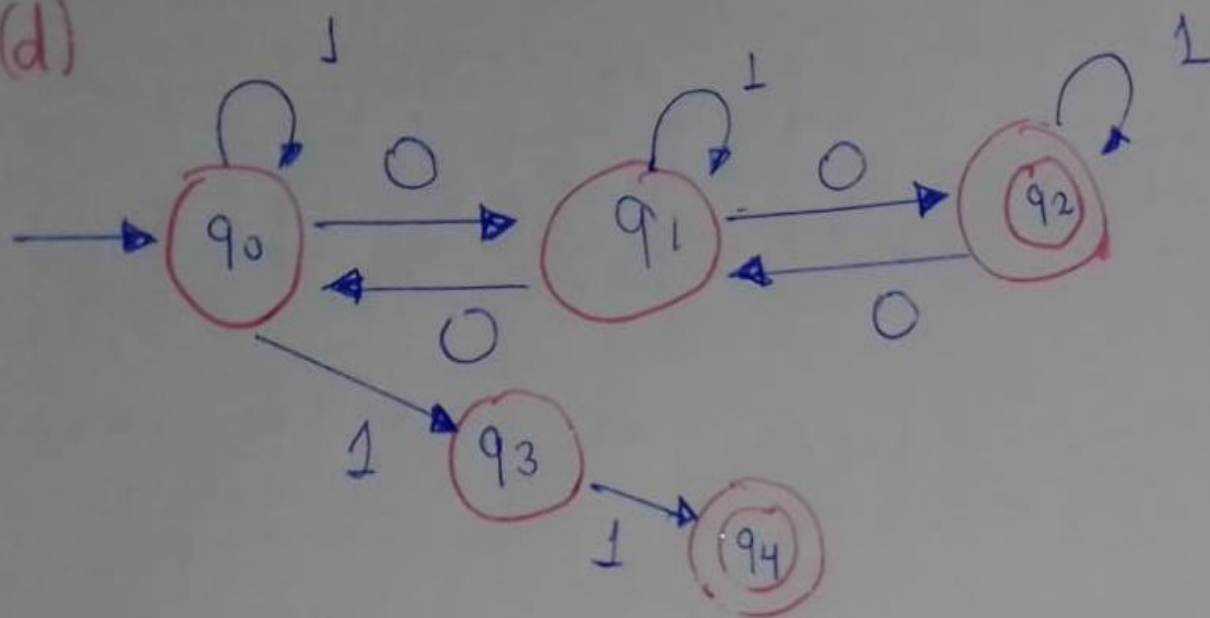


(h)





(d)



(e)

