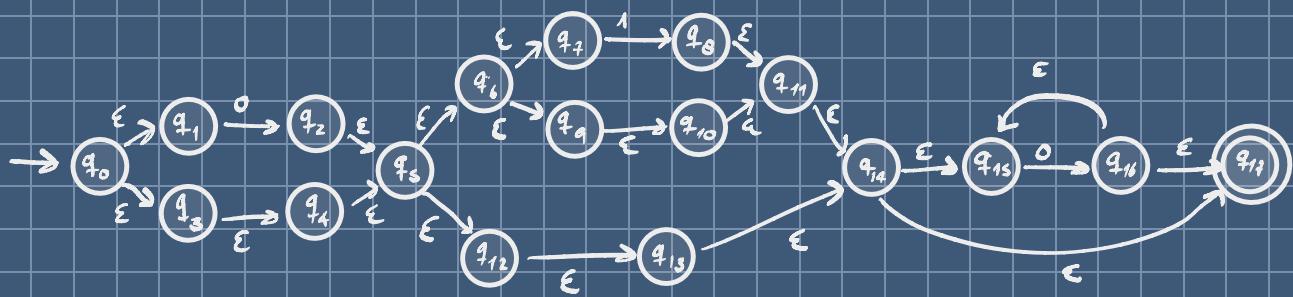


EJERCICIO 2 LAB 3

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$$R = Q + RP$$

$$R = QP^*$$

$$q_0 = \epsilon$$

$$q_1 = \epsilon + \epsilon = \epsilon$$

$$q_2 = q_1 \cdot \epsilon = \epsilon \cdot \epsilon = 0$$

$$q_3 = q_0 \cdot \epsilon = \epsilon$$

$$q_4 = q_3 \cdot \epsilon = \epsilon$$

$$q_5 = q_2 \cdot \epsilon + q_4 \cdot \epsilon = \epsilon (q_2 + q_4) = 0 \cdot \epsilon + \epsilon \cdot \epsilon = \epsilon$$

$$q_6 = q_5 \cdot \epsilon = \epsilon$$

$$q_7 = q_6 \cdot \epsilon = \epsilon$$

$$q_8 = q_7 \cdot 1 = \epsilon \cdot 1 = 1$$

$$q_9 = q_6 \cdot \epsilon = \epsilon$$

$$q_{10} = q_9 \cdot \epsilon = \epsilon$$

$$q_{11} = q_8 \cdot \epsilon + q_{10} \cdot \epsilon = \epsilon (q_8 + q_{10}) = 1 \cdot \epsilon + \epsilon \cdot \epsilon = \epsilon (1 + \epsilon)$$

$$q_{12} = q_5 \cdot \epsilon = \epsilon$$

$$q_{13} = q_{12} \cdot \epsilon = \epsilon$$

$$q_{14} = q_{11} \cdot \epsilon + q_{13} \cdot \epsilon = \epsilon (1 + \epsilon) \cdot \epsilon + \epsilon \cdot \epsilon = \epsilon (\epsilon (1 + \epsilon) + \epsilon) = \epsilon (1 + \epsilon)^2$$

$$q_{15} = q_{14} \cdot \epsilon + q_{16} \cdot \epsilon = \epsilon (1 + \epsilon)^2 \cdot \epsilon + q_{16} \cdot \epsilon$$

$$q_{16} = q_{15} \cdot 0 = (\epsilon (1 + \epsilon)^2 \cdot \epsilon + q_{16} \cdot \epsilon) \cdot 0$$

$$q_{17} = q_{14} \cdot \epsilon + q_{16} \cdot \epsilon = \epsilon (1 + \epsilon)^2 \cdot \epsilon + q_{16} \cdot \epsilon$$

SOLUCIÓN

$$q_{16} = \underbrace{(q_{14} \cdot \epsilon + q_{16} \cdot \epsilon)}_0 = 0$$

$$q_{16} = \underbrace{q_{14} \cdot \epsilon \cdot \epsilon^*}_0 = \epsilon (1 + \epsilon)^2 \cdot \epsilon^* = (1 + \epsilon)^2 \epsilon^*$$

$$\begin{aligned} &= (1 + \epsilon)^2 = 1^2 + 2 \cdot 1 \cdot \epsilon + \epsilon^2 = 1 + 2\epsilon + \epsilon^2 \\ &= 1 + 2\epsilon + \epsilon = 1 + 3\epsilon = 1 + \epsilon \end{aligned}$$

$$(1 + \epsilon) \epsilon = 1 + \epsilon - (1 + \epsilon) 0$$

$$q_{17} = q_{14} \cdot \epsilon + q_{16} \cdot \epsilon = \underbrace{-\epsilon (\epsilon (1 + \epsilon)^2)}_1 + \underbrace{((1 + \epsilon) 0) \epsilon}_2$$

$$\textcircled{1} \quad \epsilon (\epsilon (1 + \epsilon)^2) = \epsilon (\epsilon (1 + \epsilon)) = \epsilon (1 + \epsilon) = 1 + \epsilon$$

$$\textcircled{2} \quad ((1 + \epsilon) 0) \epsilon = 10 + \epsilon 0 = 10 + 0$$

$$(10 + \epsilon) + (10 + 0) = 10(\epsilon + 0) = 10(\epsilon 10)$$

$$\underline{\underline{R = 10(\epsilon 10)}}$$