PC4)

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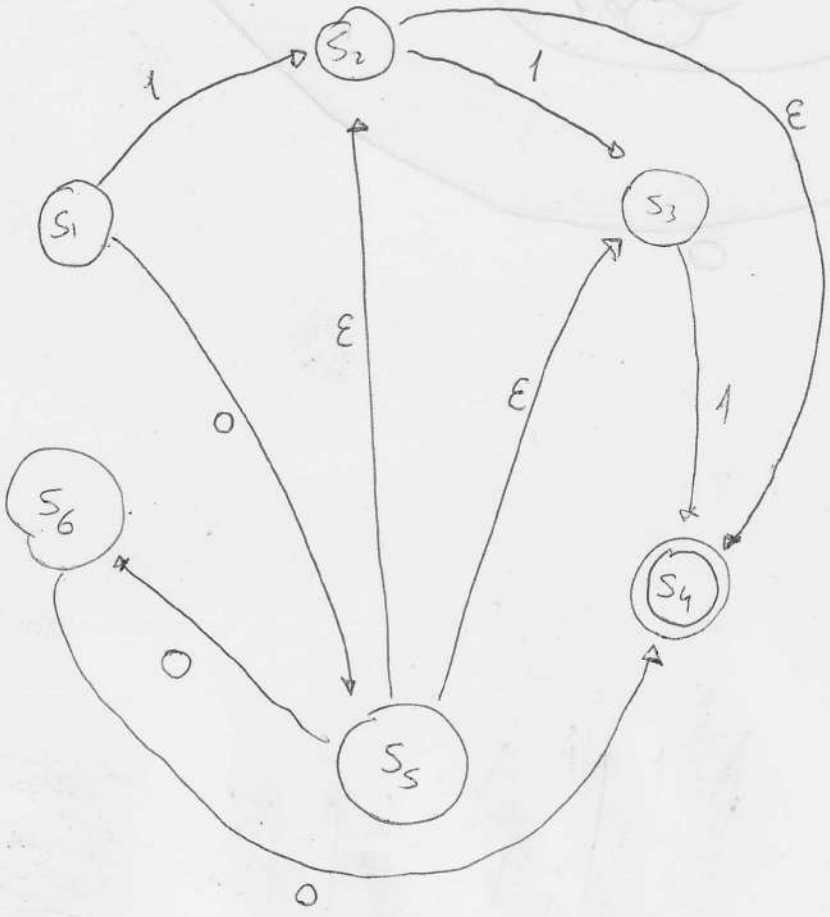
a)

	0	1	ε
S_1	$\{S_5\}$	$\{S_2\}$	ϕ
S_2	ϕ	$\{S_3\}$	$\{S_4\}$
S_3	ϕ	$\{S_4\}$	ϕ
S_4	ϕ	ϕ	ϕ
S_5	$\{S_6\}$	ϕ	$\{S_2, S_3\}$
S_6	$\{S_4\}$	ϕ	ϕ



b)

$$w = w_1\ w_2\ w_3\ w_4$$

w_1: a

$w_2\ w_3\ w_4$: u

0 ε 1 1

Para el cual sus posibles Combinaciones son:

1 1 1 1	ϕ
1 1 1 0	ϕ
1 1 0 1	ϕ
1 0 1 1	ϕ
0 1 1 1	ϕ
0 0 1 1	ϕ
0 1 1 0	ϕ
1 1 0 0	ϕ
1 0 0 1	ϕ
1 0 1 0	ϕ
0 1 0 1	ϕ
0 0 0 1	ϕ
0 0 1 0	ϕ
0 1 0 0	ϕ
1 0 0 0	ϕ
0 0 0 0	ϕ

Sus combinaciones son:

$2^4 = 16$ →

$$\hat{\delta}(\{s_1\}, \omega_1\omega_2\omega_3\omega_4) = \hat{\delta}(\delta(s_1, \omega_1), \omega_2\omega_3\omega_4)$$

$$\hat{\delta}(\delta(s_1, 0), \varepsilon_{11}) = \hat{\delta}(\{s_3\}, \varepsilon_{11})$$

$$= \hat{\delta}(\delta(s_3, \varepsilon), 11)$$

$$= \hat{\delta}(\{s_2\}, 11)$$

$$= \hat{\delta}(\delta(s_2, 1), 1)$$

$$= \hat{\delta}(\{s_3\}, 1)$$

$$= \{s_4\} \in F$$

Ahora, por esto decimos que:

$\omega = 11$ $\quad$ $\omega = 01$

$\omega = 1$ $\quad$ $\omega = 011$ $\quad \Rightarrow \quad 1130$

$\omega = 0$ $\quad$ $\omega = 000$

$1130 = \omega$

No existe ω tal que $|\omega| = 4$

c) $Clausura_{\varepsilon}(S_1) = \{S_1\} = q_0$

$\delta(q_0, 0) = Clausura_{\varepsilon}(mover(q_0, 0))$

$(mover(S_1, 0))$

$\delta(q_0, 0) = Clausura_{\varepsilon}(\{S_5\}) = \{S_2, S_3, S_5\}$

$\delta(q_0, 0) = \{S_2, S_3, S_5\} = q_1$

$\delta(q_0, 1) = Clausura_{\varepsilon}(mover(q_0, 1))$

$= Clausura_{\varepsilon}(mover(S_1, 1))$

$\delta(q_0, 1) = clausura_{\varepsilon}(S_2) = \{S_2, S_4\} = q_2$

$\delta(q_1, 0) = clausura_{\varepsilon}(mover(\{S_2, S_3, S_5\}, 0))$

$\delta(q_1, 0) = clausura_{\varepsilon}(S_6) = \{S_6\} = q_3$

$\delta(q_1, 1) = clausura_{\varepsilon}(mover(\{S_2, S_3, S_5\}, 1))$

$= clausura_{\varepsilon}(S_3, S_4) = \{S_3, S_4\} = q_4$

$\delta(q_2, 0) = clausura_{\varepsilon}(mover(\{S_2, S_4\}, 0))$

$\delta(q_2, 0) = clausura_{\varepsilon}(\phi) = \phi = q_5$

$\delta(q_2, 1) = clausura_\varepsilon(mover(\{S_2, S_4\}, 1))$

$\delta(q_2, 1) = clausura_\varepsilon(S_3) = \{S_3\} = q_6$

$\delta(q_3, 0) = clausura_\varepsilon(mover(S_6, 0))$

$= clausura_\varepsilon(S_4) = \{S_4\} = q_7$

$\delta(q_3, 1) = clausura(mover(S_6, 1))$

$= clausura_\varepsilon(\emptyset) = q_5$

$\delta(q_4, 0) = clausura_\varepsilon(mover(\{S_3, S_4\}, 0))$

$\delta(q_4, 0) = clausura_\varepsilon(\emptyset) = \emptyset = q_5$

$\delta(q_4, 1) = clausura_\varepsilon(mover(\{S_3, S_4\}, 1))$

$= clausura_\varepsilon(S_4) = \{S_4\} = q_7$

$\delta(q_5, 0) = clausura_\varepsilon(mover(\emptyset, 0))$

$\delta(q_5, 0) = clausura_\varepsilon(\emptyset) = q_5$

$\delta(q_5, 1) = clausura_\varepsilon(\emptyset) = q_5$

$\delta(q_6, 0) = \text{clausura}_\varepsilon(\text{mover}(S_3, 0))$

$\delta(q_6, 0) = \emptyset = q_5$

$\delta(q_6, 1) = \text{clausura}_\varepsilon(\text{mover}(S_3, 1))$

$= \text{clausura}_\varepsilon(S_4)$

$\delta(q_6, 1) = \{S_4\} = q_7$

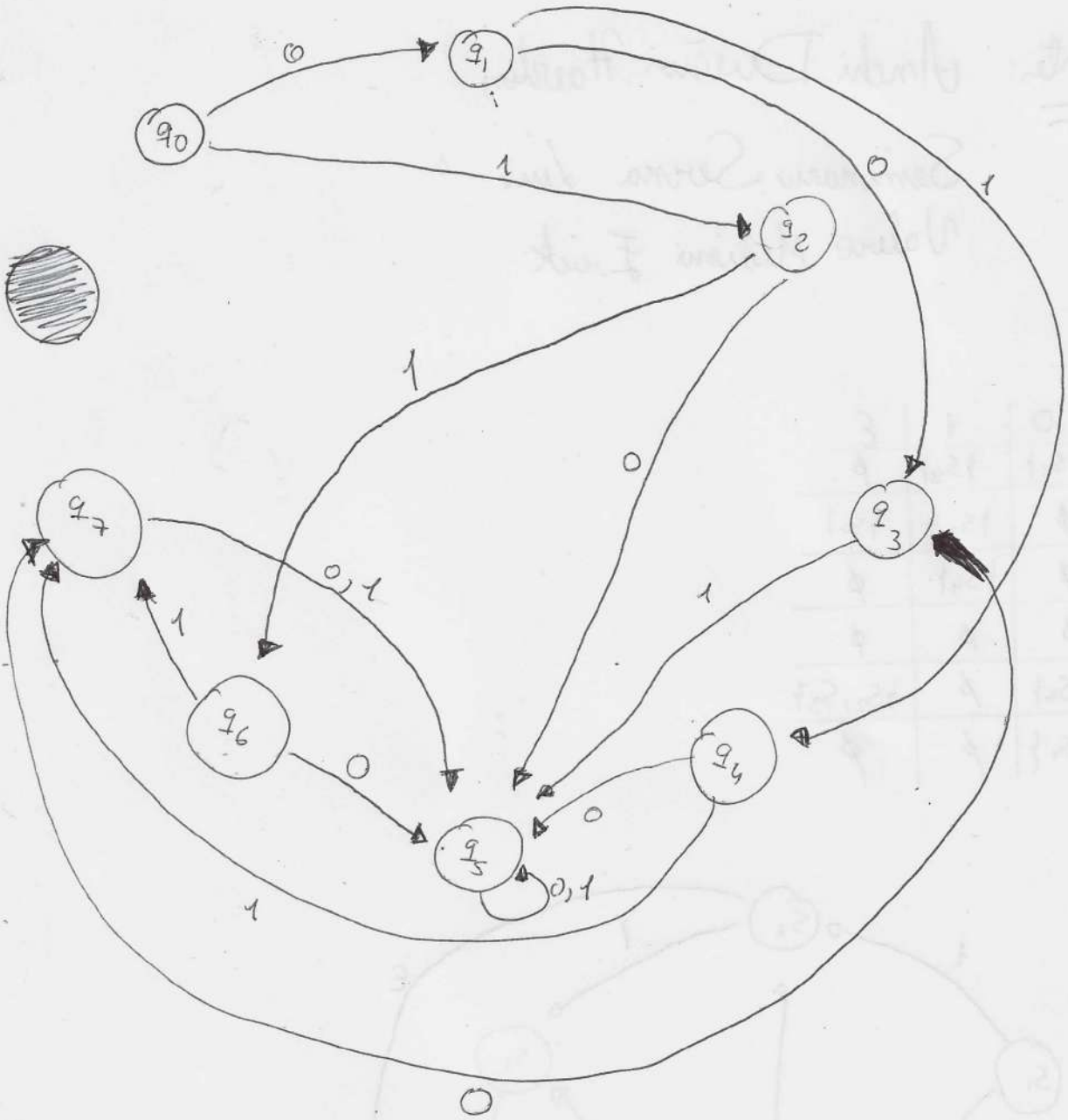
$\delta(q_7, 0) = \text{clausura}_\varepsilon(\text{mover}(S_4, 0))$

$\delta(q_7, 0) = \emptyset = q_5$

$\delta(q_7, 1) = \text{clausura}_\varepsilon(\text{mover}(S_4, 1))$

$\delta(q_7, 1) = \text{clausura}_\varepsilon(\emptyset) = q_5$

d)



S	0	1
q_0	q_1	q_2
q_1	q_3	q_4
q_2	q_5	q_6
q_3	q_7	q_5
q_4	q_5	q_7
q_5	q_5	q_5
q_6	q_5	q_7
q_7	q_5	q_5