Práctica 4

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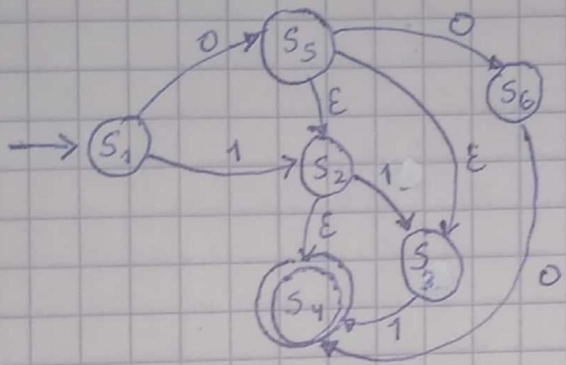
ⓐ

		0	1	ε
⟹	s_1	$\{s_5\}$	$\{s_2\}$	$\emptyset$
	s_2	$\emptyset$	$\{s_3\}$	$\{s_4\}$
	s_3	$\emptyset$	$\{s_4\}$	$\emptyset$
*	s_4	$\emptyset$	$\emptyset$	$\emptyset$
	s_5	$\{s_6\}$	$\emptyset$	$\{s_2, s_3\}$
	s_6	$\{s_4\}$	$\emptyset$	$\emptyset$



ⓑ $w = \underbrace{w_1}_{a}\underbrace{w_2 w_3 w_4}_{u}$

0 ε 1 1

tenemos 2^4 combinaciones.

0 0 0 0	$\emptyset$
0 0 0 1	$\emptyset$
0 0 1 0	$\emptyset$
0 1 0 0	$\emptyset$
1 0 0 0	$\emptyset$
0 0 1 1	$\emptyset$
0 1 1 0	$\emptyset$
1 1 0 0	$\emptyset$
0 1 1 1	$\emptyset$
1 1 1 0	$\emptyset$
1 1 1 1	$\emptyset$
0 1 0 1	$\emptyset$
1 0 1 0	$\emptyset$
1 0 0 1	$\emptyset$
1 0 1 1	$\emptyset$
1 1 0 1	$\emptyset$

usando definición.

$$\hat{\delta}(\{s_1\}, w_1 w_2 w_3 w_4) = \hat{\delta}(\delta(s_1, w_1), w_2 w_3 w_4)$$

$$\hat{\delta}(\delta(s_1, 0), \varepsilon 1 1) = \hat{\delta}(\{s_5\}, \varepsilon 1 1)$$
$$= \hat{\delta}(\delta(s_5, \varepsilon), 1 1)$$
$$= \hat{\delta}(\{s_2\}, 1 1)$$
$$= \hat{\delta}(\delta(s_2, 1), 1)$$
$$= \hat{\delta}(\{s_3\}, 1)$$
$$= \{s_4\} \in F$$

∴ Notamos que solo para la cadena $w = 111$, $w \in L(M)$

$w = 1$

$w = 0$

$w = 01$

$w = 011 \equiv 0\varepsilon 11$

$w = 000$

$w = 0\varepsilon 11$.

No existe $w \,/\, |w| = 4$.

$\text{clausura}_\varepsilon(S_1) = \{S_1\} = q_0$

() marcamos q_0

$\text{Dtran}(q_0, 0) = \text{clausura}_\varepsilon(\text{mover}(q_0, 0))$

$= (\text{mover}(S_1, 0))$

$= \text{clausura}_\varepsilon(\{S_5\})$

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

$\text{Dtran}(q_0, 1) = \text{clausura}_\varepsilon(\text{mover}(q_0, 1))$

$= \text{clausura}_\varepsilon(\text{mover}(S_1, 1))$

$= \text{clausura}_\varepsilon(S_2)$

$\text{Dtran}(q_0, 1) = \{S_4; S_2\} = q_2$

$\text{Dtran}(q_1, 0) = \text{clausura}_\varepsilon(\text{mover}(q_1, 0))$

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

$clausura_\varepsilon(S_6\}$

$Dtran(q_1, 0) = \{S_6\} = q_3$

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

$= clausura_\varepsilon(S_3, S_4)$

$Dtran(q_1, 1) = \{S_3, S_4\} = q_4$

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

$= clausura_\varepsilon(\phi)$

$Dtran(q_2, 0) = \phi = q_5$

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

$= clausura_\varepsilon(S_3)$

$= \{S_3\} = q_6$

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

$= clausura_\varepsilon(S_4)$

$Dtran(q_3, 0) = \{S_4\}$

$Dtran(q_3, 9) = clausura_\varepsilon(mover(S_6, 1))$

$= clausura_\varepsilon(\phi)$

$Dtran(q_3, 1) = \phi = q_5$

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

$= clausura_{\varepsilon}(\phi)$

$Dtran(q_4, 0) = \phi = q_5$

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

$= clausura_{\varepsilon}(S_4)$

$Dtran(q_4, 1) = \{S_4\} = q_7$

$Dtran(q_5, 0) = clausura_{\varepsilon}(mover(\phi, 0))$

$Dtran(q_5, 0) = \phi = q_5$

$Dtran(q_5, 1) = \phi = q_5$

$Dtran(q_6, 0) = clausura_{\varepsilon}(mover(S_3, 0))$

$Dtran(q_6, 0) = \phi = q_5$

$Dtran(q_6, 1) = clausura_{\varepsilon}(mover(S_3, 1))$

$= clausura_{\varepsilon}(S_4)$

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

$Dtran(q_7, 0) = clausura_{\varepsilon}(mover(S_4, 0))$

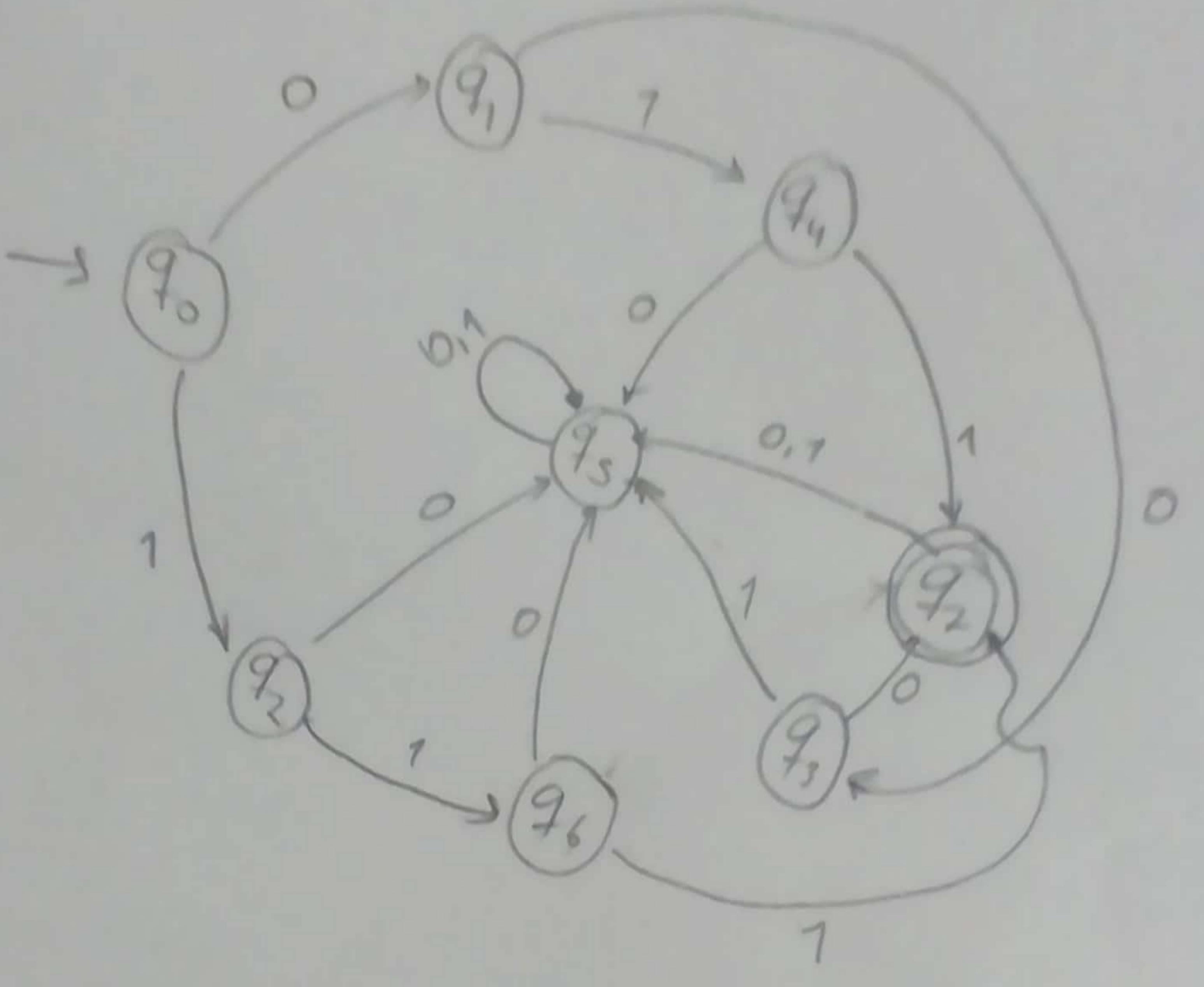
$Dtran(q_7, 0) = \phi = q_5$

$Dtran(q_7, 1) = clausura_{\varepsilon}(mover(S_4, 1))$

$= clausura_{\varepsilon}(\phi)$

$Dtran(q_7, 1) = \phi = q_5$

→ AFD



S	0	1
$\rightarrow q_0$	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
$* q_2$	q_5	q_5

$\rightarrow$ AFD