Determinización

b. $M_2 = \langle \{0,1,2,3,4,5,6\}, \{a,b\}, \delta_2, 0, \{6\} \rangle$

$\delta_2 =$

	a	b	λ
0	$\{1\}$	$\{2\}$	$\{4\}$
1	$\varnothing$	$\varnothing$	$\{0,3\}$
2	$\varnothing$	$\varnothing$	$\{0,3\}$
3	$\{4\}$	$\varnothing$	$\varnothing$
4	$\varnothing$	$\varnothing$	$\{5\}$
5	$\{6\}$	$\{6\}$	$\varnothing$
6	$\varnothing$	$\varnothing$	$\{5\}$

$C\lambda : P(Q) \to P(Q)$ Clausura-λ

$C\lambda(K) = \{ x \in Q : \exists q \in K \wedge (q,\lambda) \vdash^{*} (x,\lambda) \}$

Construimos $M = (Q, \Sigma, \delta, Mq_0, F)$ tq $L(M) = L(M_2)$

$Q \subseteq P(\{0,1,2,3,4,5,6\})$ $\Sigma = \{a,b\}$ $Mq_0 = C\lambda(\{0\}) = \{0,4,5\}$

δ	a	b
$\{0,4,5\}$	$C\lambda(\{1,6\}) = \{0,1,3,4,5,6\}$	$C\lambda(\{2,6\}) = \{0,2,3,4,5,6\}$
$\{0,1,3,4,5,6\}$	$C\lambda(\{1,4,6\}) = \{0,1,3,4,5,6\}$	$C\lambda(\{2,6\}) = \{0,2,3,4,5,6\}$
$\{0,2,3,4,5,6\}$	$C\lambda(\{1,4,6\}) = \{0,1,3,4,5,6\}$	$C\lambda(\{2,6\}) = \{0,2,3,4,5,6\}$

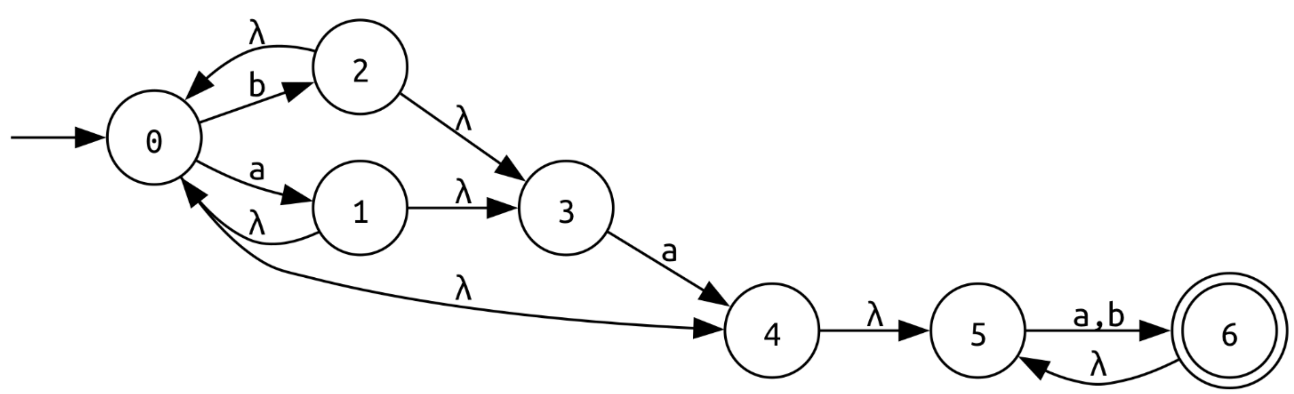
Renombramos los estados por comodidad

$A = \{0,4,5\}$ $B = \{0,1,3,4,5,6\}$ $C = \{0,2,3,4,5,6\}$

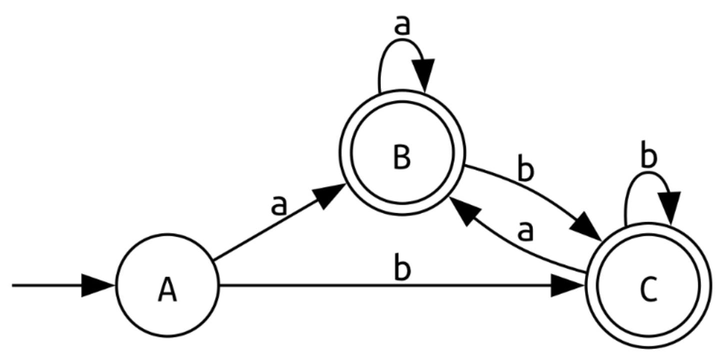
$Q = \{A, B, C\}$

$F = \{ q \in Q : q \cap \{6\} \neq \varnothing \} = \{B, C\}$

M_2 AFND-λ



M AFD



$A = \{0,4,5\}$

$B = \{0,1,3,4,5,6\}$

$C = \{0,2,3,4,5,6\}$

Minimización

Estados	$\equiv_0$	a	b	$\equiv_1$	a	b	$\equiv_2$
A	NF	F	F	$\diamond$	$\circ$	$\circ$	$\square$
B	F	F	F	$\circ$	$\circ$	$\circ$	$\triangle$
C	F	F	F	$\circ$	$\circ$	$\circ$	$\triangle$

Terminamos porque $(\equiv_1) = (\equiv_2)$

En realidad ya habíamos terminado porque $(\equiv_0) = (\equiv_1)$

M' AFD mínimo tq $L(M') = L(M)$

$M' = (\{\square, \triangle\}, \{a,b\}, \delta', \square, \{\triangle\})$

$\delta(\square, a) = \triangle$ $\quad$ $\delta(\triangle, a) = \triangle$

$\delta(\square, b) = \triangle$ $\quad$ $\delta(\triangle, b) = \triangle$