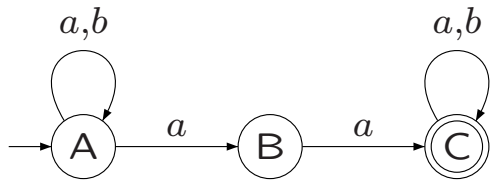


$$(a \cup b)^*aa(a \cup b)^*$$

$$M_1 = (\{A, B, C\}, \{a, b\}, \delta_1, A, \{C\})$$

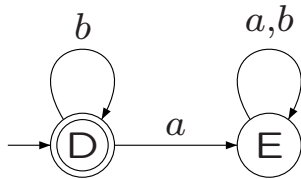
com δ_1 representada no diagrama de estados:



b^*

$$M_2 = (\{D, E\}, \{a, b\}, \delta_2, D, \{D\})$$

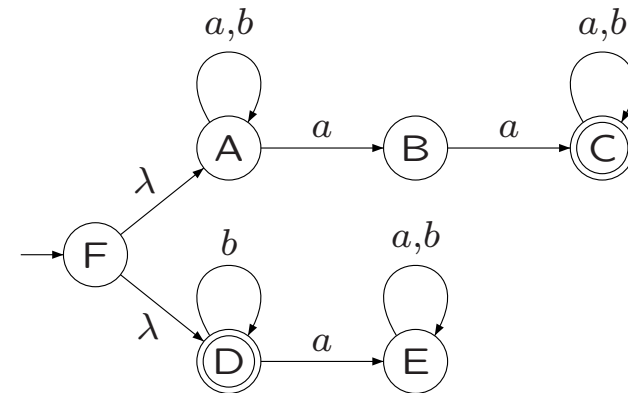
com δ_2 representada no diagrama de estados:



$$(a \cup b)^*aa(a \cup b)^* \cup b^*$$

$$M_{12} = (\{A, B, C, D, E, F\}, \{a, b\}, \delta_{12}, F, \{C, D\})$$

δ_{12}	a	b	λ
A	{A, B}	{A}	
B	{C}	\emptyset	
C	{C}	{C}	
D	{E}	{D}	
E	{E}	{E}	
F			{A, D}



Eliminação do não determinismo

$$\begin{aligned} \lambda\text{-fecho}(A) &= \{A\} & \lambda\text{-fecho}(B) &= \{B\} \\ \lambda\text{-fecho}(C) &= \{C\} & \lambda\text{-fecho}(D) &= \{D\} \\ \lambda\text{-fecho}(E) &= \{E\} & \lambda\text{-fecho}(F) &= \{F, A, D\} \end{aligned}$$

t_{12}	a	b
A	$\{A, B\}$	$\{A\}$
B	$\{C\}$	\emptyset
C	$\{C\}$	$\{C\}$
D	$\{E\}$	$\{D\}$
E	$\{E\}$	$\{E\}$
F	$\{A, B, E\}$	$\{A, D\}$

δ_{12D}	a	b
$\{A, D, F\}$	$\{A, B, E\}$	$\{A, D\}$
$\{A, B, E\}$	$\{A, B, C, E\}$	
$\{A, D\}$		

(Cálculo de t_{12})

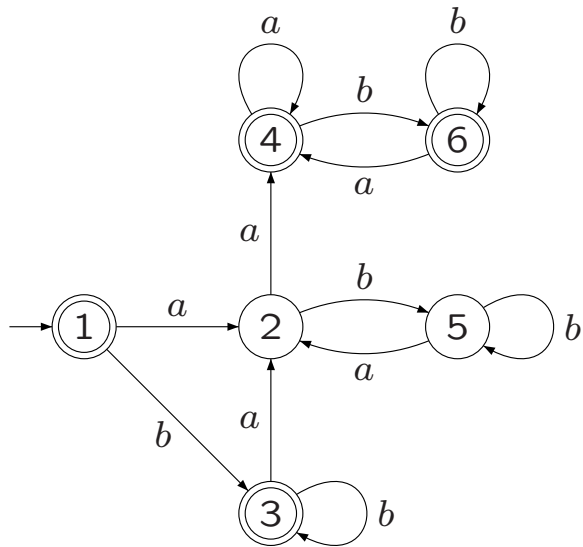
$$t(q, a) = \bigcup_{q' \in \lambda\text{-fecho}(q)} \lambda\text{-fecho}(\delta(q', a))$$

q	a	$q' \in \lambda\text{-fecho}(q)$	$\delta(q', a)$	$\lambda\text{-fecho}(\delta(q', a))$	$t(q, a)$
A	a	A	A	A	$\{A, B\}$
			B	B	
B	b	A	A	A	$\{A\}$
			B	\emptyset	
C	a	B	C	C	$\{C\}$
			B	\emptyset	
D	a	C	C	C	$\{C\}$
			C	C	
E	a	D	E	E	$\{E\}$
			D	D	
F	a	E	E	E	$\{E\}$
			E	E	
F	a	F			$\{A, B, E\}$
			A	A	
			D	E	
	b	F	F		$\{A, D\}$
			A	A	
			D	D	

AFD equivalente

$$M_{12_D} = (\{1, 2, 3, 4, 5, 6\}, \{a, b\}, \delta_{12_D}, 1, \{1, 3, 4, 6\})$$

com δ_{12_D} representada no diagrama de estados:



$$\begin{array}{ll}
 1 \equiv \{A, D, F\} & 4 \equiv \{A, B, C, E\} \\
 2 \equiv \{A, B, E\} & 5 \equiv \{A, E\} \\
 3 \equiv \{A, D\} & 6 \equiv \{A, C, E\}
 \end{array}$$

Minimização do AFD

		<i>a</i>	<i>b</i>
<i>I</i>	2	<i>II</i>	<i>I</i>
	5	<i>I</i>	<i>I</i>
<i>II</i>	1	<i>I</i>	<i>II</i>
	3	<i>I</i>	<i>II</i>
	4	<i>II</i>	<i>II</i>
	6	<i>II</i>	<i>II</i>

		<i>a</i>	<i>b</i>
<i>I</i>	2	<i>IV</i>	<i>II</i>
<i>II</i>	5	<i>I</i>	<i>II</i>
<i>III</i>	1	<i>I</i>	<i>III</i>
	3	<i>I</i>	<i>III</i>
<i>IV</i>	4	<i>IV</i>	<i>IV</i>
	6	<i>IV</i>	<i>IV</i>

AFD mínimo

$$M_{12_M} = (\{I, II, III, IV\}, \{a, b\}, \delta_{12_M}, III, \{III, IV\})$$

δ_{12_M}	a	b
I	IV	II
II	I	II
III	I	III
IV	IV	IV

