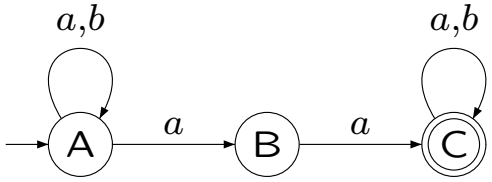
$$(a \cup b)^* aa (a \cup b)^*$$

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

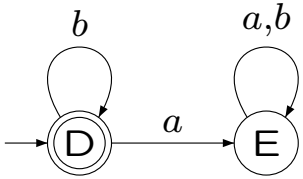
com δ_1 representada no diagrama de estados:



$$b^*$$

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

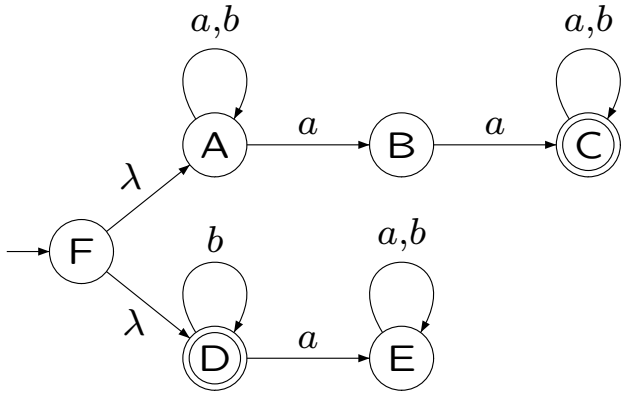
com δ_2 representada no diagrama de estados:



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

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

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

λ-fecho$(A) = \{A\}$ $\quad$ λ-fecho$(B) = \{B\}$
λ-fecho$(C) = \{C\}$ $\quad$ λ-fecho$(D) = \{D\}$
λ-fecho$(E) = \{E\}$ $\quad$ λ-fecho$(F) = \{F, A, D\}$

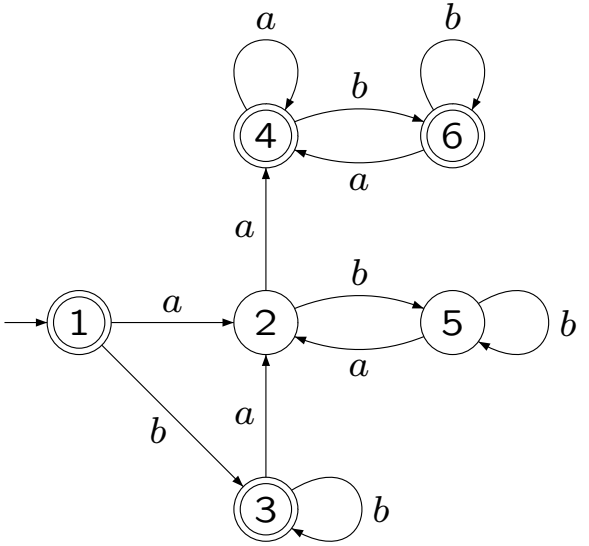
t_{12}	a	b
A	$\{A, B\}$	$\{A\}$
B	$\{C\}$	$\emptyset$
C	$\{C\}$	$\{C\}$
D	$\{E\}$	$\{D\}$
E	$\{E\}$	$\{E\}$
F	$\{A, B, E\}$	$\{A, D\}$

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

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:



1 $\equiv$ $\{A, D, F\}$ $\quad$ 4 $\equiv$ $\{A, B, C, E\}$
2 $\equiv$ $\{A, B, E\}$ $\quad$ 5 $\equiv$ $\{A, E\}$
3 $\equiv$ $\{A, D\}$ $\quad$ 6 $\equiv$ $\{A, C, E\}$

Minimização do AFD

		a	b
I	2	II	I
	5	I	I
II	1	I	II
	3	I	II
	4	II	II
	6	II	II

		a	b
I	2	IV	II
II	5	I	II
III	1	I	III
	3	I	III
IV	4	IV	IV
	6	IV	IV

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