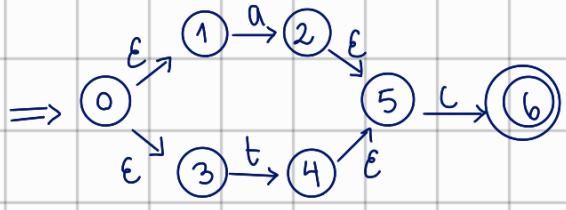
1. (a|t)c



AFN → AFD

$\Sigma = \{a, t, c\}$

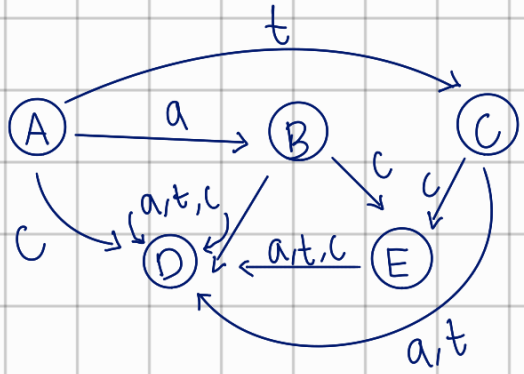
$S = \{0, 1, 2 \dots, 6\}$

$S_0 = 0$

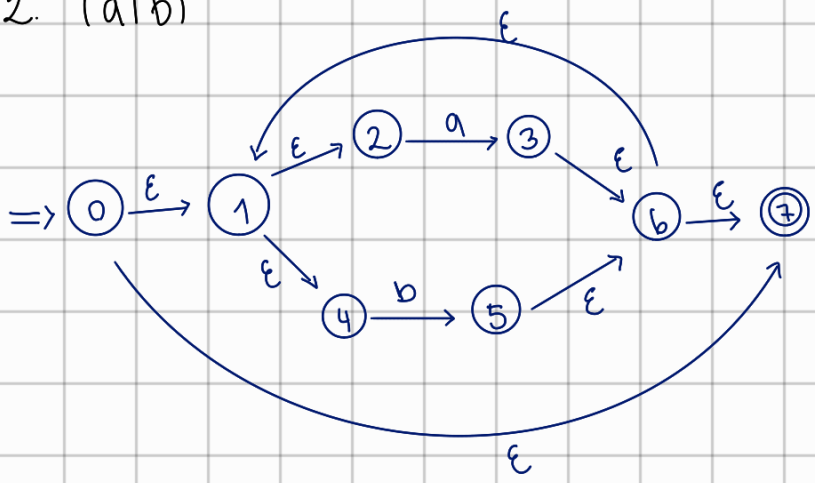
$F = \{6\}$

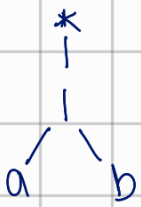
	a	t	c	ε*
0	∅	∅	∅	{0,1,3}
1	2	∅	∅	{1}
2	∅	∅	∅	{2,5}
3	∅	4	∅	{3}
4	∅	∅	∅	{4,5}
5	∅	∅	6	{5}
6	∅	∅	∅	{6}

estados	aε*	tε*	cε*
{0,1,3} = A	{2,5} = B	{4,5} = C	{} = D
{2,5} = B	{} = D	{} = D	{6} = E
{4,5} = C	{} = D	{} = D	{6} = E
{} = D	{} = D	{}	{} = D
{6} = E	{} = D	{}	{} = D



2. $(a|b)^*$





$\Sigma = \{a, b\}$

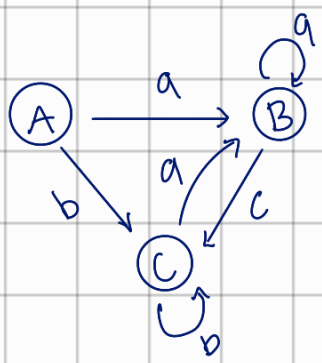
$S = \{0, 1, 2, 3 \ldots 8\}$

$S_0 = 0$

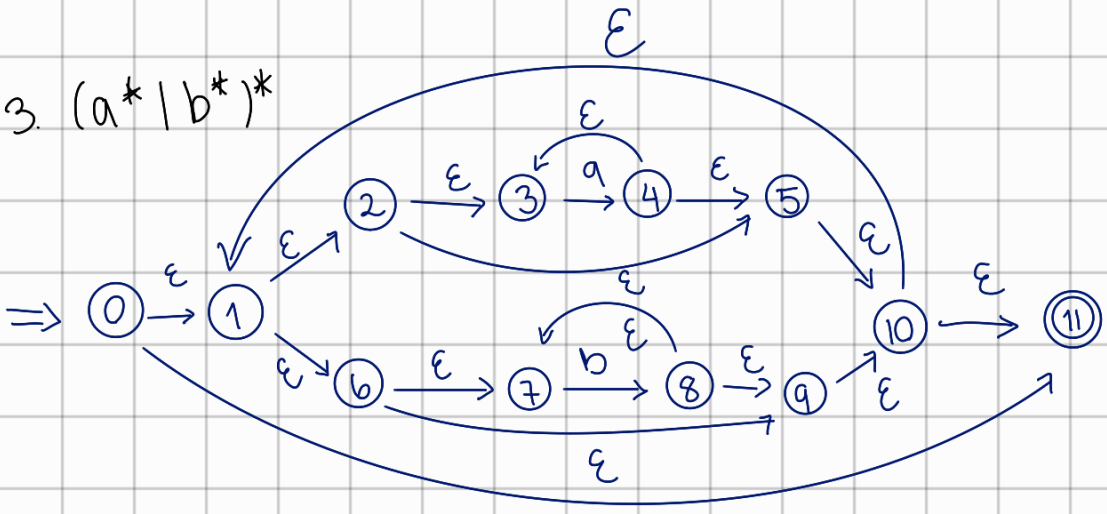
$F = \{7\}$

	a	b	ε^*
0	∅	∅	{0,1,2,4,7}
1	∅	∅	{1,2,4}
2	3	∅	{2}
3	∅	∅	{1,2,3,4,6,7}
4	∅	5	{4}
5	∅	∅	{5,6,1,2,4,7} → {1,2,4,5,6,7}
6	∅	∅	{6,1,2,4,7} → {1,2,4,6,7}
7	∅	∅	{7}

estados	$a\varepsilon^*$	$b\varepsilon^*$
⇒ {0,1,2,4,7} = A	{1,2,3,4,6,7} = B	{1,2,4,5,6,7} = C
{1,2,3,4,6,7} = B	{1,2,3,4,6,7} = B	{1,2,4,5,6,7} = C
{1,2,4,5,6,7} = C	B	C



3. $(a^* | b^*)^*$



$\Sigma = \{a, b\}$

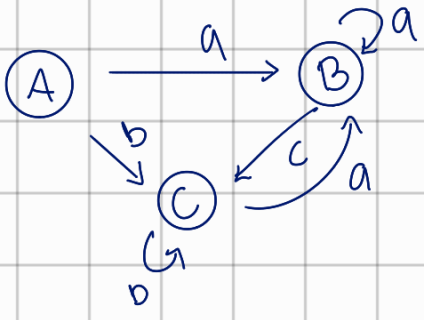
$S = \{0, 1, 2, 3, \ldots, 11\}$

$s_0 = 0$

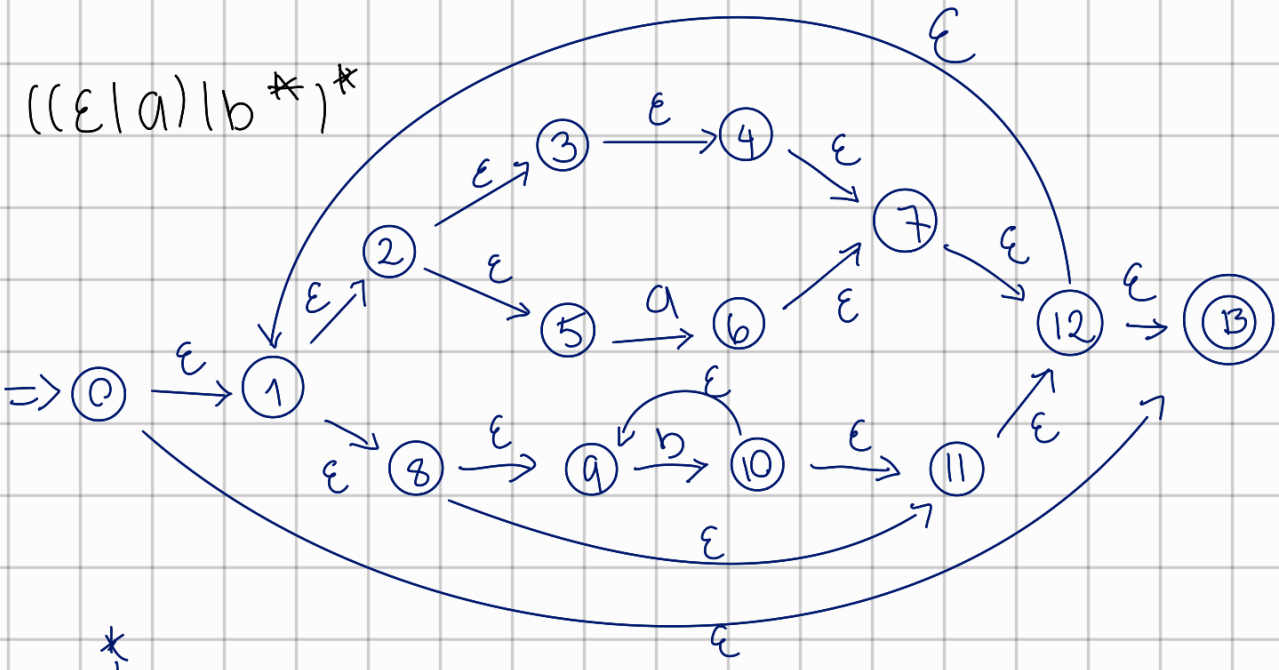
$F = 11$

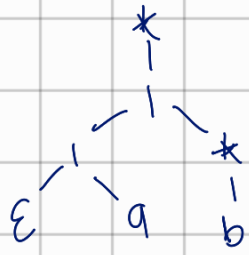
	a	b	ε*
0	∅	∅	{0,1,2,6,3,5,10,7,9,11}
1	∅	∅	{1,2,3,5,10,11,6,7,9}
2	∅	∅	{2,3,5,10,11,1,6,7,9}
3	4	∅	{3}
4	∅	∅	{4,3,5,10,1,11,6,7,9,2}
5	∅	∅	{10,11,1,2,3,5,6,7,9}
6	∅	∅	{6,7,9,10,11,1,2,3,5,6,7,9}
7	∅	8	{7}
8	∅	∅	{8,9,10,1,2,3,5,11,6,7}
9	∅	∅	{9,10,11,1,2,3,5,6,7}
10	∅	∅	{10,11,1,2,3,5,6,7,9}
11	∅	∅	{11}

estados	aε*	bε*
⇒ {0,1,2,3,5,6,7,9,10,11} = A	{1,2,3,4,5,6,7,9,10,11} = B	{1,2,3,5,6,7,8,9,10,11} = C
B	B	C
C	B	C



4. $((\varepsilon|a)|b^*)^*$





$\Sigma = \{a, b\}$

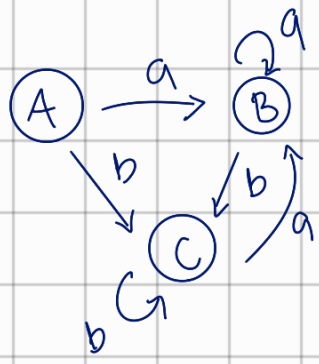
$S = \{0, 1, 2, \ldots 13\}$

$S_0 = 0$

$F = \{13\}$

	a	b	ε^*
0	∅	∅	{0,1,2,3,4,5,7,8,9,11,12,13}
1	∅	∅	{1,2,3,4,5,7,8,9,11,12,13}
2	∅	∅	{1,2,3,4,5,7,8,9,11,12,13}
3	∅	∅	{1,2,3,4,5,7,8,9,11,12,13}
4	∅	∅	{1,2,3,4,5,7,8,9,11,12,13}
5	6	∅	{5}
6	∅	∅	{1,2,3,4,5,6,7,8,9,11,12,13}
7	∅	∅	{1,2,3,4,5,7,8,9,11,12,13}
8	∅	∅	{1,2,3,4,5,7,8,9,11,12,13}
9	∅	10	{9}
10	∅	∅	{1,2,3,4,5,7,8,9,10,11,12,13}
11	∅	∅	{1,2,3,4,5,7,8,9,11,12,13}
12	∅	∅	{1,2,3,4,5,7,8,9,11,12,13}
13	∅	∅	{13}

estados	ac^*	$b\varepsilon^*$
{0,1,2,3,4,5,7,8,9,11,12,13} = A	{1,2,3,4,5,6,7,8,9,11,12,13} = B	{1,2,3,4,5,7,8,9,10,11,12,13} = C
B	B	C
C	B	C


A
B
C
a
a
b
b
b
a