Ejercicio 3.5 NDA → DFA

a) $(a|b)^*$

ε-closure($\{0\}$) = $\{0, 1, 2, 4, 7\}$ => A

move(A, a) = $\{3\}$

move(A, b) = $\{5\}$

ε-closure($\{3\}$) = $\{3, 6, 7, 1, 2, 4\}$

= $\{1, 2, 3, 4, 6, 7\}$ => B

ε-closure($\{5\}$) = $\{5, 6, 7, 1, 2, 4\}$

= $\{1, 2, 4, 5, 6, 7\}$

=> C

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move(B, a) = $\{3\}$ => B

move(B, b) = $\{5\}$ => C

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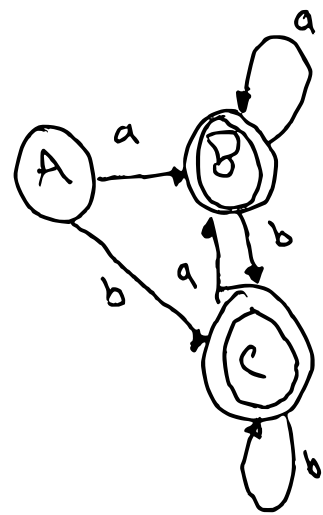
move(C, a) = $\{3\}$ => B

move(C, b) = $\{5\}$ => C

	a	b
A	B	C
B	B	C
C	B	C



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

ε-closure($\{1\}$) = $\{1,2,3,4,7,8,\cancel{6},10,11,12\}$

$= \{1,2,3,4,6,7,8,10,11,12\}$

$\Rightarrow A$

move(A, a) = $\{5\}$

move(A, b) = $\{9\}$

ε-closure($\{5\}$) = $\{5,\cancel{6},11,2,3,7,4,8,10,12\}$

$= \{2,3,4,5,6,7,8,10,11,12\}$

$\Rightarrow B$

ε-closure($\{9\}$) = $\{9,10,11,12,2,3,4,6,7,8\}$

$= \{2,3,4,6,7,8,9,10,11,12\}$

$\Rightarrow C$

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move(B, a) = $\{5\} \Rightarrow B$

move(B, b) = $\{9\} \Rightarrow C$

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move(C, a) = $\{5\} \Rightarrow B$

move(C, b) = $\{9\} \Rightarrow C$

	a	b
A	B	C
B	B	C
C	B	C