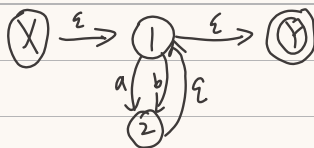


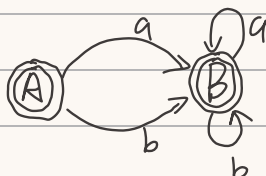
(1) $(a|b)^*$

NFA:



	a	b
A	$\{x, 1, y\}$	$\{2, 1, y\}$
B	$\{2, 1, y\}$	$\{2, 1, y\}$

DFA:



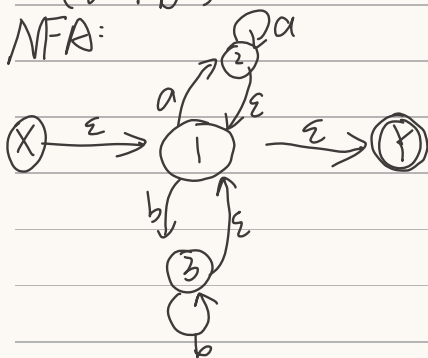
	a	b
A	B	B
B	B	B

最小化 DFA =



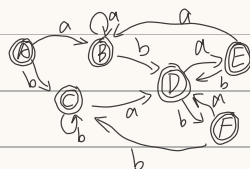
(2) $(a^*|b^*)^*$

NFA:



	a	b
A	$\{x, 1, y\}$	$\{2, 1, y\}$
B	$\{2, 1, y\}$	$\{2, 1, y\}$
C	$\{3, 1, y\}$	$\{3, 1, y\}$
D	$\{3, 1, y\}$	$\{3, 1, y\}$
E	$\{2, 1, y\}$	$\{2, 1, y\}$
F	$\{3, 1, y\}$	$\{3, 1, y\}$

DFA:



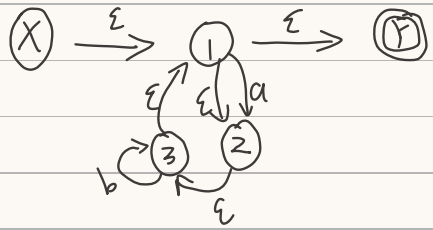
	a	b
A	B	C
B	B	D
C	C	E
D	D	F
E	E	G
F	F	G

最小化 DFA:



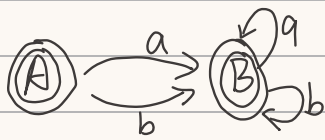
(3) $((\epsilon|a)b^*)^*$

NFA:



a b
 $A \{x, 1, 2, 3\}$ $\{2, 1, 3\}$ $B \{3, 1, 2\}$ B
 $B \{2, 1, 3, Y\}$ $\{2, 3, 1, Y\}$ $B \{3, 1, 2, Y\}$ B

DFA:



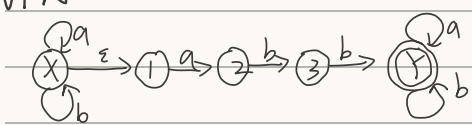
$\{A \ B\}$
 $a: B \ B$
 $b: B \ B$

最小 DFA -



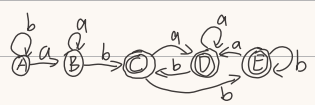
(4) $(a|b)^*abb(a|b)^*$

NFA:



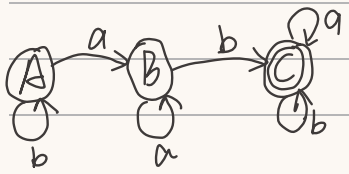
a b
 $A \{x, 1\}$ $\{x, 2, 1\}$ $B \{x, 1\}$ A
 $B \{x, 2, 1\}$ $\{x, 2, 1\}$ $B \{x, 3, Y\}$ C
 $C \{x, 3, Y\}$ $\{x, Y, 2, 1\}$ $D \{x, Y, 1\}$ E
 $D \{x, Y, 2, 1\}$ $\{x, Y, 2, 1\}$ $D \{x, Y, 3, Y\}$ C
 $E \{x, Y, 1\}$ $\{x, Y, 2, 1\}$ $D \{x, Y, 1\}$ E

DFA:



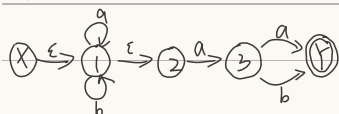
$\{A \ B\}$ $\{C \ D \ E\}$
 $a: B \ B$ DDD
 $\{A \ B\}$ $\{C \ D \ E\}$
 $b: A \ C$ $E \ C \ E$
 $\{A\} \{B\}$ $\{C \ D \ E\}$

最小 DFA:



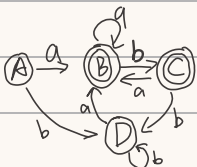
(5) $(a|b)^* a(a|b)$

NFA:



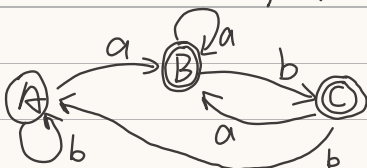
	a	b
A {1, 2}	{1, 3, 4, 2}	B {1, 2} D
B {1, 3, 4, 2}	{1, 4, 3, 2}	B {1, 4, 2} C
C {1, 4, 2}	{1, 3, 4, 2}	B {1, 2} D
D {1, 2}	{1, 3, 4, 2}	B {1, 2} D

DFA:



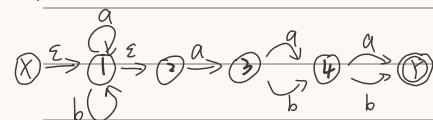
	a	b
{A D}	{B C}	
a: B B	B B	
b: D D	C D	
{A D}	{B}	{C}

Minimal DFA:



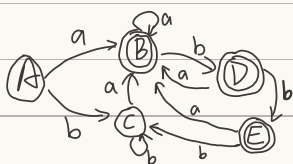
(6) $(a|b)^* a(a|b)(a|b)$

NFA:



	a	b
A {1, 2}	{1, 3, 4, 2}	B {1, 2} C
B {1, 3, 4, 2}	{1, 4, 3, 2}	B {1, 4, 2} D
C {1, 2}	{1, 3, 4, 2}	B {1, 2} C
D {1, 4, 2}	{1, 3, 4, 2}	B {1, 2} E
E {1, 2}	{1, 3, 4, 2}	B {1, 2} C

DFA:



	a	b
{A C}	{B D E}	
a: B B	B B B	
b: C C	D E C	

Minimal DFA:



	a	b
{A C}	{B D}	{E}
b: C C	D E C	
{A C}	{B}	{D}