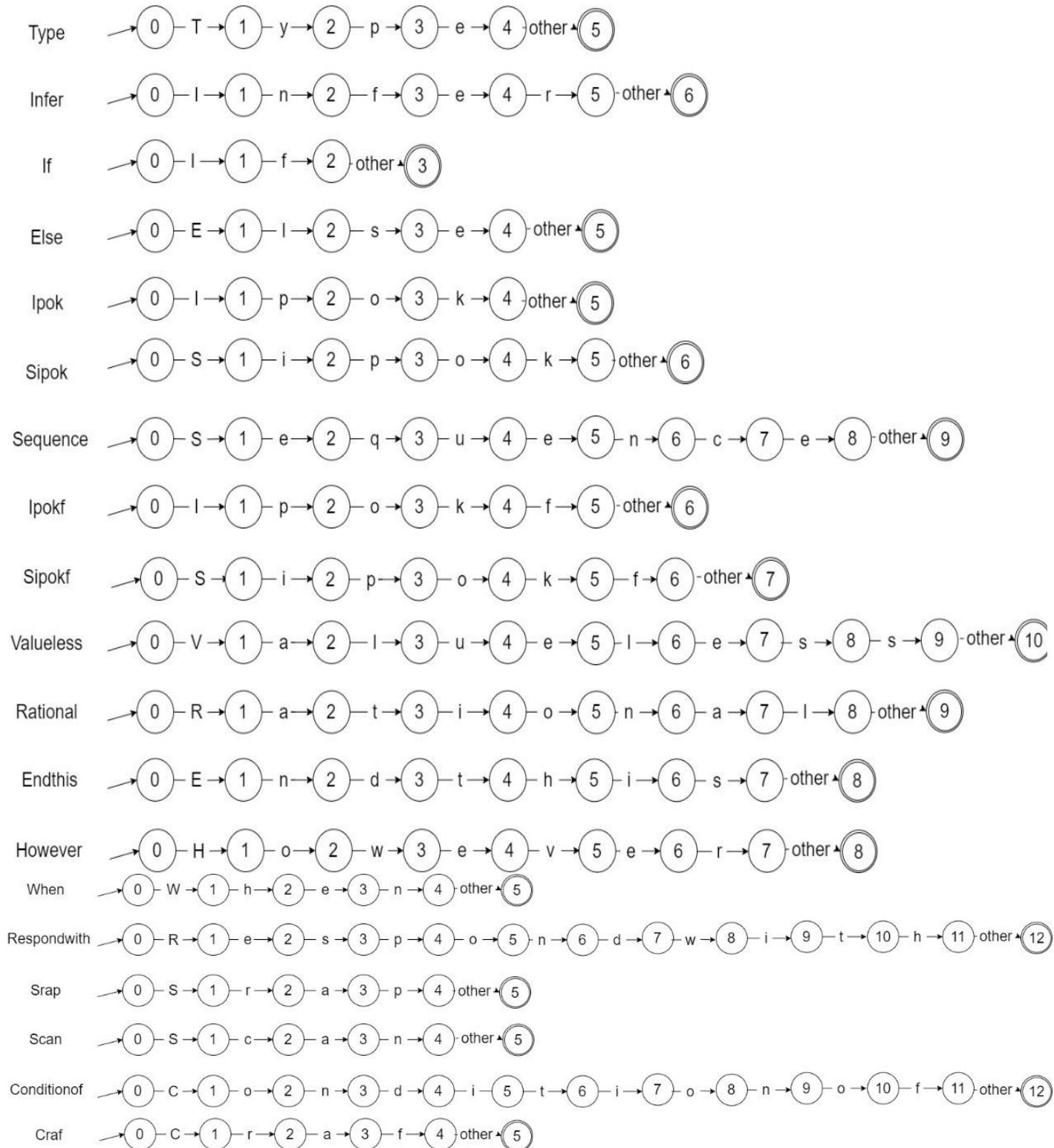


Re---->Nfa



Re---->Dfa

Type

NFA STATE	DFA STATE	TYPE	other	l	e	f	n	r
{0}	A			B				
{1}	B						C	
{2}	C					D		
{3}	D				E			
{4}	E							F
{5}	F		G					
{6}	G	accept						

start

A

B

C

D

E

F

G

l

n

f

e

r

other

If

NFA STATE	DFA STATE	TYPE	other	l	f
{0}	A			B	
{1}	B				C
{2}	C		D		
{3}	D	accept			

start

A

B

C

D

l

f

other

else

NFA STATE	DFA STATE	TYPE	other	e	l	s
{0}	A			B		
{1}	B				C	
{2}	C					D
{3}	D			E		
{4}	E		F			
{5}	F	accept				

start

A

B

C

D

E

F

e

l

s

e

other

Ipok

NFA STATE	DFA STATE	TYPE	other	l	k	o	p
{0}	A			B			
{1}	B						C
{2}	C					D	
{3}	D				E		
{4}	E		F				
{5}	F	accept					

start

A

B

C

D

E

F

l

p

o

k

other

Sipok

NFA STATE	DFA STATE	TYPE	other	S	i	k	o	p
{0}	A			B				
{1}	B				C			
{2}	C							D
{3}	D						E	
{4}	E					F		
{5}	F		G					
{6}	G	accept						

start

A

B

C

D

E

F

G

S

i

p

o

k

other

Craf

NFA STATE	DFA STATE	TYPE	other	C	a	f	r
{0}	A			B			
{1}	B						C
{2}	C				D		
{3}	D					E	
{4}	E		F				
{5}	F	accept					

start

A

B

C

D

E

F

C

r

a

f

other

Sequence

NFA STATE	DFA STATE	TYPE	other	S	c	e	n	q	u
{0}	A			B					
{1}	B				C				
{2}	C						D		
{3}	D							E	
{4}	E				F				
{5}	F					G			
{6}	G		H						
{7}	H					I			
{8}	I		J						
{9}	J	accept							

start

A

B

C

D

E

F

G

H

I

J

S

e

q

u

e

n

c

e

other

Ipokf

NFA STATE	DFA STATE	TYPE	other	I	f	k	o	p
{0}	A			B				
{1}	B							C
{2}	C						D	
{3}	D					E		
{4}	E				F			
{5}	F		G					
{6}	G	accept						

start

A

I

B

p

C

o

D

k

E

f

F

other

G

Sipokf

NFA STATE	DFA STATE	TYPE	other	S	f	i	k	o	p
{0}	A			B					
{1}	B					C			
{2}	C								D
{3}	D							E	
{4}	E						F		
{5}	F				G				
{6}	G		H						
{7}	H	accept							

start

A

s

B

i

C

p

D

o

E

k

F

f

G

other

H

Valueless

NFA STATE	DFA STATE	TYPE	other	V	a	e	I	s	u
{0}	A			B					
{1}	B				C				
{2}	C						D		
{3}	D								E
{4}	E					F			
{5}	F						G		
{6}	G					H			
{7}	H							I	
{8}	I							J	
{9}	J		K						
{10}	K	accept							

start

A

V

B

a

C

I

D

u

E

e

F

I

G

e

H

s

I

s

J

other

K

Rational

NFA STATE	DFA STATE	TYPE	other	R	a	i	l	n	o	t
{0}	A			B						
{1}	B				C					
{2}	C									D
{3}	D					E				
{4}	E								F	
{5}	F							G		
{6}	G					H				
{7}	H						I			
{8}	I		J							
{9}	J	accept								

start

A

B

C

D

E

F

G

H

I

J

R

a

t

i

o

n

a

l

other

Endthis

NFA STATE	DFA STATE	TYPE	other	E	d	h	i	n	s	t
{0}	A			B						
{1}	B							C		
{2}	C				D					
{3}	D									E
{4}	E					F				
{5}	F						G			
{6}	G								H	
{7}	H		I							
{8}	I	accept								

start

A

B

C

D

E

F

G

H

I

E

n

d

t

h

i

s

other

However

NFA STATE	DFA STATE	TYPE	other	H	e	o	r	v	w
{0}	A			B					
{1}	B					C			
{2}	C								D
{3}	D				E				
{4}	E							F	
{5}	F				G				
{6}	G						H		
{7}	H		I						
{8}	I	accept							

start

A

B

C

D

E

F

G

H

I

H

e

w

e

v

e

r

other

When

NFA STATE	DFA STATE	TYPE	other	W	e	h	n
{0}	A			B			
{1}	B					C	
{2}	C				D		
{3}	D						E
{4}	E		F				
{5}	F	accept					

start

A

W

B

h

C

e

D

n

E

other

F

Respondwith

NFA STATE	DFA STATE	TYPE	other	R	d	e	h	i	n	o	p	s	t	w
{0}	A			B										
{1}	B					C								
{2}	C										D			
{3}	D											E		
{4}	E									F				
{5}	F									G				
{6}	G				H									
{7}	H													I
{8}	I							J						
{9}	J											K		
{10}	K						L							
{11}	L		M											
{12}	M	accept												

start

A

R

B

e

C

s

D

p

E

o

F

n

G

d

H

w

I

i

J

t

K

h

L

other

M

Srap

NFA STATE	DFA STATE	TYPE	other	S	a	p	r
{0}	A			B			
{1}	B						C
{2}	C				D		
{3}	D						E
{4}	E		F				
{5}	F	accept					

start

A

S

B

r

C

a

D

p

E

other

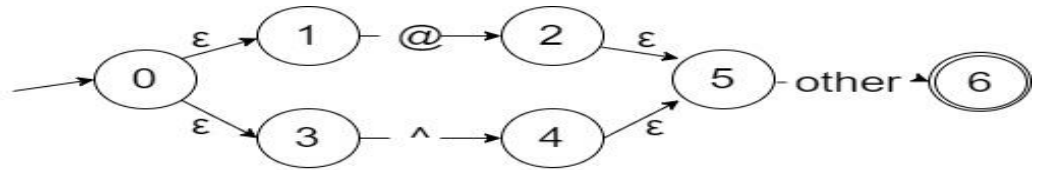
F

Condition of

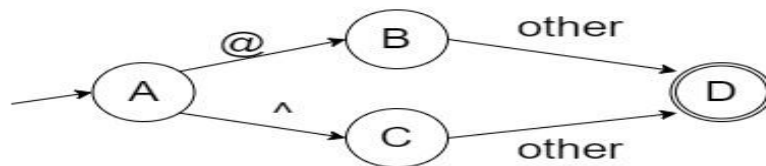
NFA STATE	DFA STATE	TYPE	other	C	d	f	i	n	o	t
{0}	A			B						
{1}	B								C	
{2}	C							D		
{3}	D				E					
{4}	E						F			
{5}	F									G
{6}	G						H			
{7}	H								I	
{8}	I							J		
{9}	J								K	
{10}	K					L				
{11}	L		M							
{12}	M	accept								

```

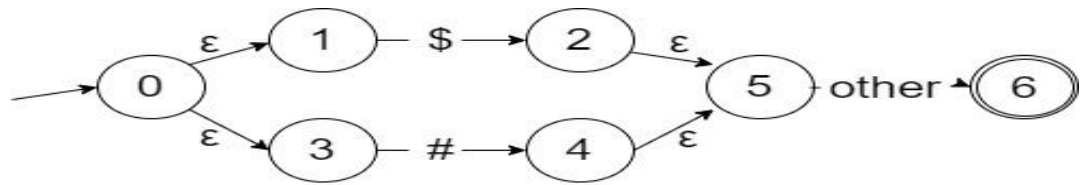
graph LR
    start((start)) --> A((A))
    A -- c --> B((B))
    B -- o --> C((C))
    C -- n --> D((D))
    D -- d --> E((E))
    E -- i --> F((F))
    F -- t --> G((G))
    G -- i --> H((H))
    H -- o --> I((I))
    I -- n --> J((J))
    J -- o --> K((K))
    K -- f --> L((L))
    L -- other --> M(((M)))
    
```



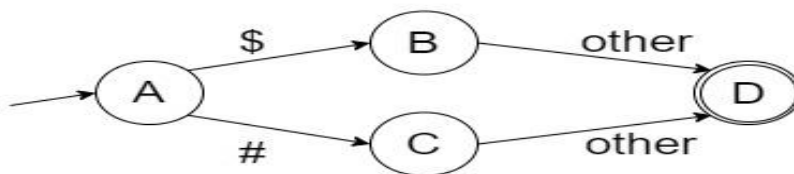
		NFA State	DFA State
[A,@] [A,^]	{0}	{0,1,3}	A
	{2}	{2,5}	B
	{4}	{4,5}	C
	{6}	{6}	D



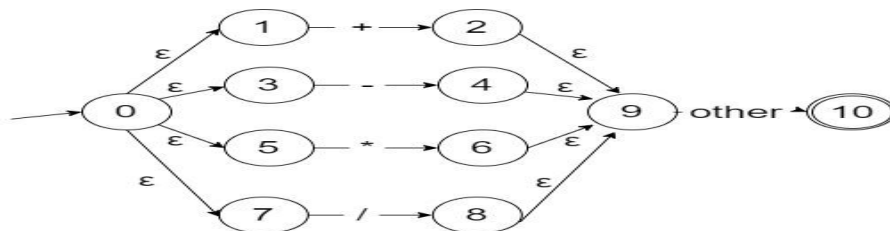
$\$| \#$



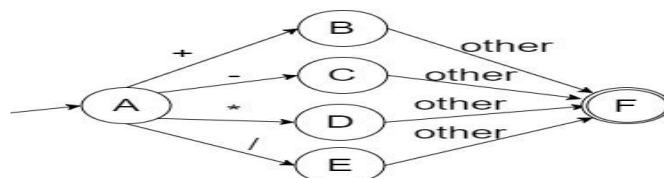
	NFA State	DFA State
[A,\$]	{0,1,3}	A
[A,#]	{2,5}	B
	{4,5}	C
	{6}	D

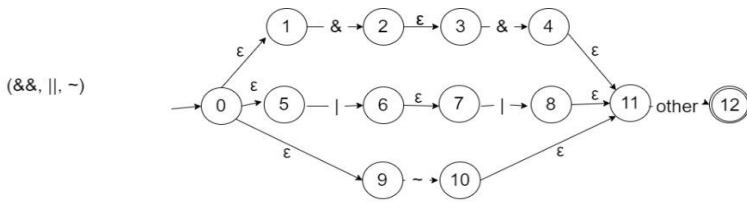


$(+,-,*,/)$



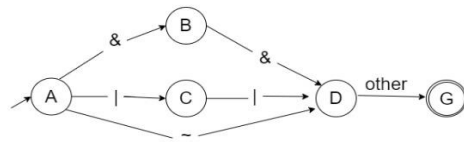
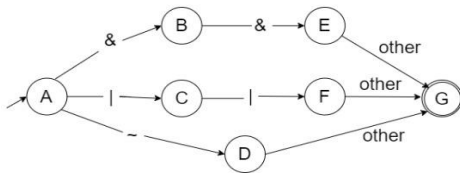
	NFA State	DFA State
{0}	{0,1,3,5,7}	A
{2}	{2,9}	B
{4}	{4,9}	C
{6}	{6,9}	D
{8}	{8,9}	E
{10}	{10}	F



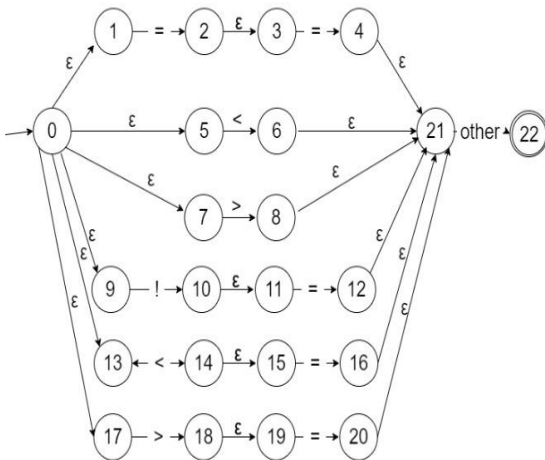


	NFA State	DFA State
[A,&]	{0}	{0,1,5,9} A
[A,]	{2}	{2,3} B
[A,~]	{6}	{6,7} C
[B,&]	{4}	{4,,11} E
[C,]	{8}	{8,11} F
	{12}	{12} G

Minimizing the Number of States

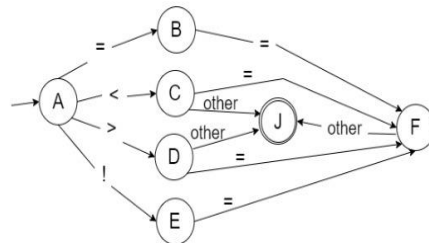
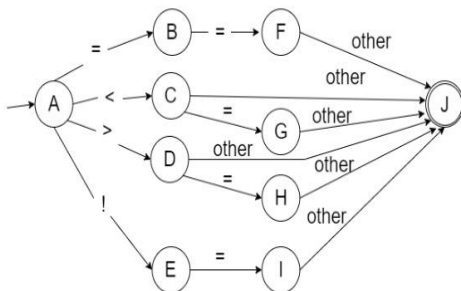


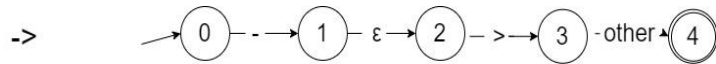
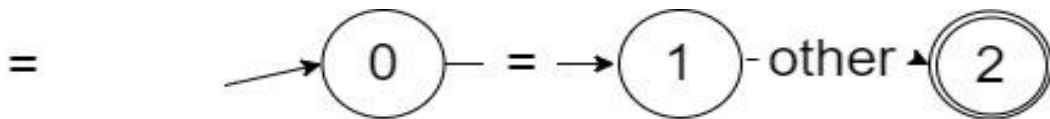
(==, <, >, !=, <=, >=)



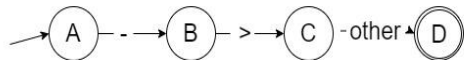
	NFA State	DFA State
[A,=]	{0}	{0,1,5,7,9,13,17} A
[A,<]	{2}	{2,3} B
[A,>]	{6,14}	{6,14,15,21} C
[A,!]	{10}	{10,,11} D
[B,=]	{4}	{4,21} E
[C,=]	{16}	{16,21} F
[D,=]	{20}	{20,,21} H
[E,=]	{12}	{12,21} I
	{22}	{22} J

Minimizing the Number of States

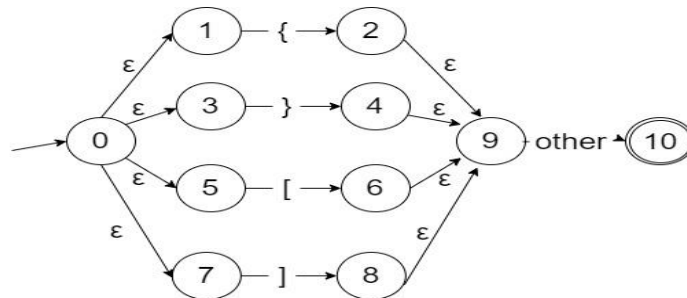




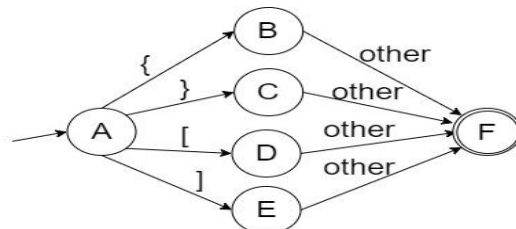
	NFA State	DFA State
{0}	{0}	A
[A,-]	{1}	B
[A,>]	{3}	C
{4}	{4}	D



{,},[,]

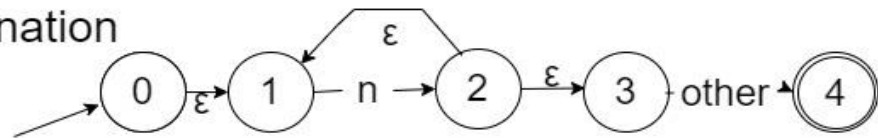


	NFA State	DFA State
{0}	{0,1,3,5,7}	A
{2}	{2,9}	B
{4}	{4,9}	C
{6}	{6,9}	D
{8}	{8,9}	E
{10}	{10}	F

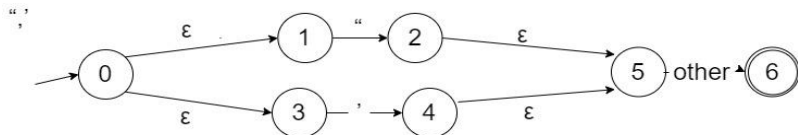
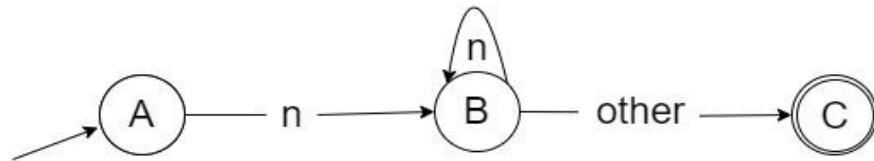


[0-9]
and any combination

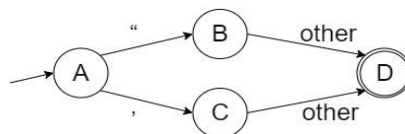
$n \rightarrow [0-9]$

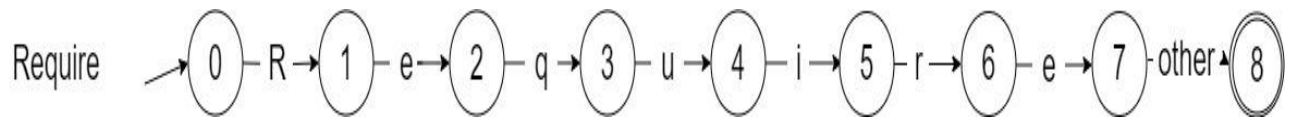


	NFA State	DFA State
{0}	{0,1}	A
{2}	{1,2,3}	B
{4}	{4}	C

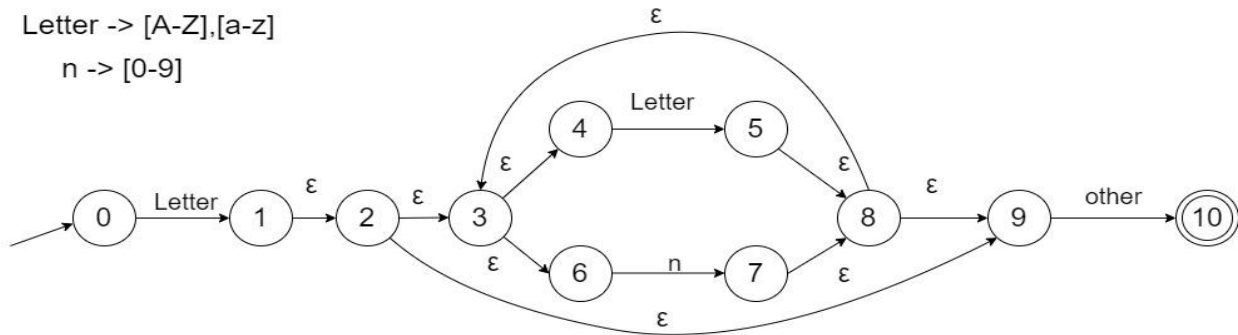


	NFA State	DFA State
{0}	{0,1,3}	A
{2}	{2,5}	B
{4}	{4,5}	C
{6}	{6}	D

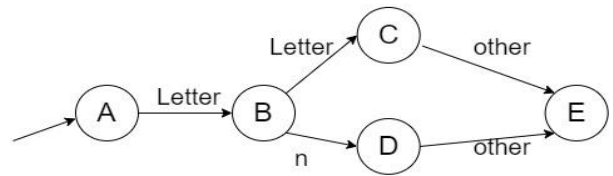




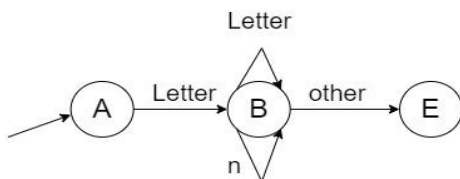
Identifier
 Letter -> [A-Z],[a-z]
 n -> [0-9]



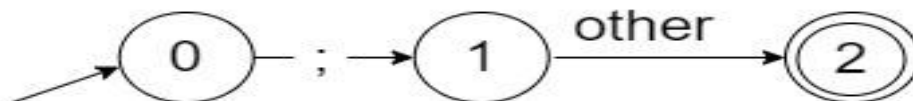
	NFA State	DFA State
{0}	{0}	A
{1}	{1,2,3,4,6,9}	B
{5}	{5,8,9}	C
{7}	{7,8,9}	D
{10}	{10}	E



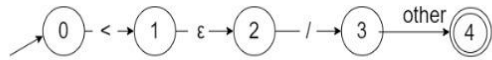
Minimizing the Number of States



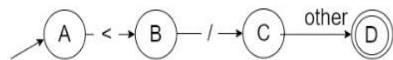
;



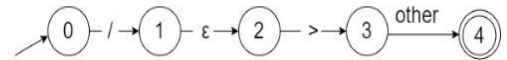
</



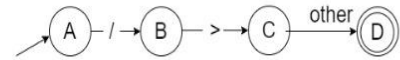
	NFA State	DFA State
{0}	{0}	A
{1}	{1,2}	B
{3}	{3}	C
{4}	{4}	D

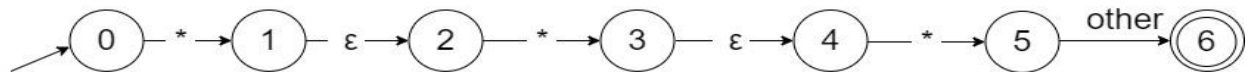


/>

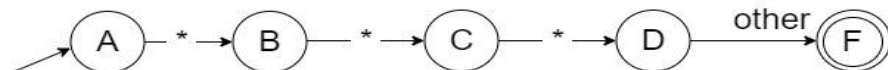


	NFA State	DFA State
{0}	{0}	A
{1}	{1,2}	B
{3}	{3}	C
{4}	{4}	D





	NFA State	DFA State
{0}	{0}	A
{1}	{1,2}	B
{3}	{3,4}	C
{5}	{5}	D
{6}	{6}	F



Big Dfa

