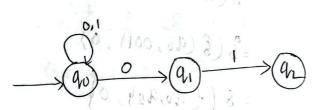
to extended by wastron function of MEA NFA

(0.00,0) = \$ (\$ (a.o.b) }

10107

西 Multiple output possible

NFA for the input 00101 (0,1)*01 states th o



10/100/100/

A Transitio table (1. to100 00 131)

	0	1
-> qo	100,013	1903
91	o di	100 harp
492	14901	1 9

= floodiff fine state

10,00)3 U (0,00)3

PUPILODE A= (0, 2, 8, 40, F) (1. 0.0) = S= (ao, ai, az) 2 = 40,13 40 = 40,13 0 P)

(1 : EN , CO) 3 = 4 = 1 arz)

(1,12) & U (1,01) B = & = \ ((40,0), a0), ((40,0), an)

((q0,1), a0), (q1,1), an))

= 1 20,004

由 Extended I transition function of NFA

$$\hat{s}(a_0, t) = q_0$$

 $\hat{s}(a_0, 0) = \hat{s}(\hat{s}(a_0, t), 0)$
 $= \hat{s}(\hat{q}_0, 0)$
 $= \hat{s}(a_0, 0)$
 $= \hat{s}(a_0, a_1)$

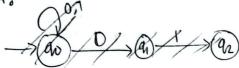
$$\begin{aligned}
\delta(q_0,00) &= \delta(\delta(q_0,0),0) \\
&= \delta(\{q_0,q_1\},0\} \\
&= \delta(q_0,0) \cup \delta(q_1,0)
\end{aligned}$$

$$A = \{ao, an\} \cup \varphi$$

NFA -> DFA

四 (011)*01

NFA:



SN = d ao, a, , a26

bN

DFA:

2=3=80=19 P, (90), (20), (204, 1909, 6, 200, a24, 1909, 6, 20, a1, a24)

FN = { 1923, 190, 423, 191, 423, 190, 01, 423}

10 to 10 to

0 P/

is on though

(16.65.4

440

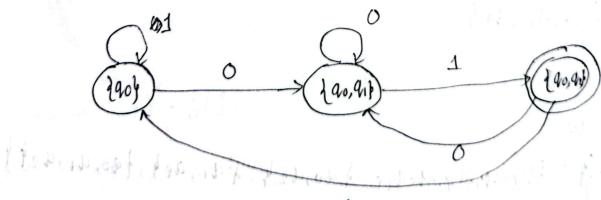
	0	1
φ	φ	API
7 903	1909,413	क्रिको
1 913	9	1 425
* 2 0023	08	φ.
240,913	190,918	dao, 92%
*d 40, 42)	{ao}, an}	990}
* { 9,,92}	P	1923
* \ 90, 91, 92}	190,91}	190,92}

AAM

do ai

90 an

DFA

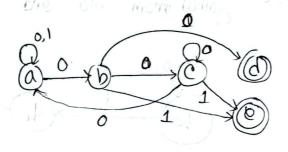


1

Trov. w. op/ Johnson 100 101 1

2.0)

200	<u>C.</u>			_
)		O	1	
	->a	1a,63	das	
	b -	10,0)	10%	NF
	C	lact	10)	The
	*9	Φ.	4	1.2
	*0	1 0	P	40
3/0/2	to W_	٥	0110	Y0(



6. (5.6E)

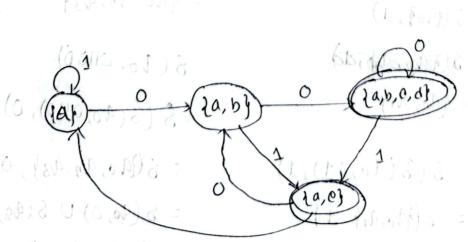
DFA

*	a]	011000) 3
	→a.	20,09	dab
	20,63	la,b,c,d	{a,e}
(0) V 8(411)	Ja, b, e, d}	la,b,e,d	10,0}
\$ 80	* la,e}	la,b}	(Flas

(a,b) v (c,d)

(a) (b) (a, e)

(E ((D () B) B) B () B



= 100g v 103gvq E(20,1) U & (21,0) &

120 July 0 1928

6.0) 回 construct NAA that accept all string over {0,1} where the 3rd symbol ignorn the end is 04100 the states Show toro Q for 0 For 1 + sure 90 For 1 0) 1,0) US(420) for 0 1936 For o 10),0) 43},0}) 8 (92,0) US (93,0) accepted (a360P X OX -> final state Accepted |

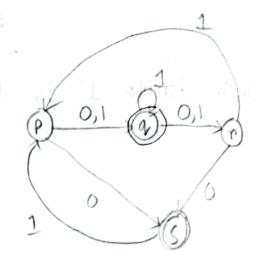
= 1 90.91, 90.4

Spring 2020:
3. a) which double '1' is followed by 0 at the end

. ٧٠

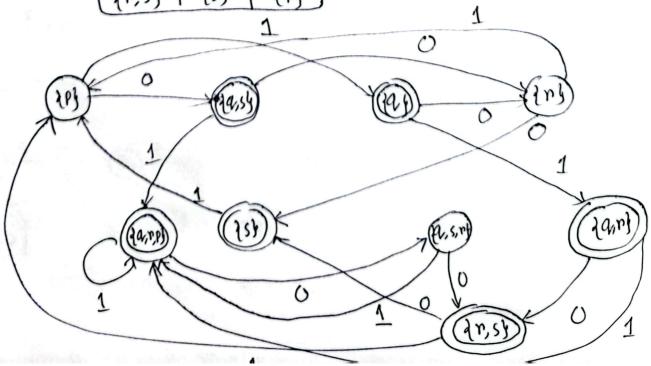
0

		0A20
	0	1
->P //	19,5}	193
*9	ર્વજ	da, n}
Υ	{ s}	103
*5	P	104
	,	



	0	1
Qr-	40,53	493
*{a,s}	923	2a, 10, P}
*103	1n}	19,73
17}	ે કે કે	4 P}
*20,7,0}	d a, s, ry	(4,r,P)
*15}	φ	1P3
*{ q,s,r}	17,53	1P,9,7)
(*{a,r}	10,53	19,9,0)
* 10,53	1 253	(P)

 $\mathbf{r} \circ (q, r) \cup P$ $\mathbf{q}, r, p \circ \mathbf{q}$

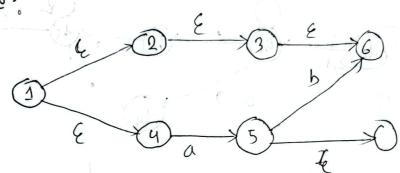


999 ST 999

149-35379]

Epsilon NFA

A Epsilon alosure:



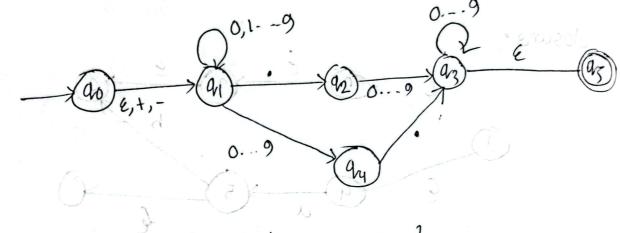
tangle they

ECLOSE 3 = 2,6}

ECLOSE 1 = 2,2,4,3,6}

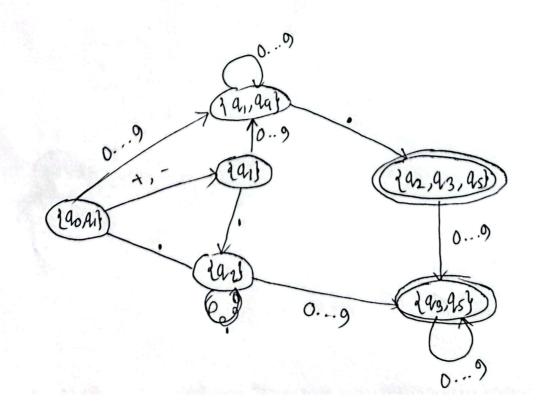
ECLOSE 2 = 2,3,6}

ENFA to DFA



ECLOSE (20) =
$$da_0$$
, a_1 , $b = d_1$, a_0 , a_1 , a_0 , a_1 , a_0 , a_1 , a_0 , a_1 , $a_$

fedose dan



incompios of u

 $\{a_{1}\} \rightarrow \{e = \{0, -9, \cdot\} \}$ $= \{a_{1}, a_{4}\}, a_{2}\}$ $= \{a_{2}, a_{4}\}, a_{2}\}$ $= \{a_{3}, a_{4}\}, a_{4}\}$ $= \{a_{4}, a_{4}\}, a_{5}\}$ $= \{a_{5}, a_{7}\}, a_{7}\}$

= a, ay anay

a,, ay x an, an

an, ay x an, an

an, ay x an, an

an, ay x an

an

an, ay x an

a

 $\{a_{2}, a_{3}, a_{5}\} \rightarrow \{a_{2}, a_{3}, a_{5}\}$ $\{a_{2}, a_{3}, a_{5}\} \rightarrow \{a_{2}, a_{3}, a_{5}\}$ $\{a_{2}, a_{3}, a_{5}\} \rightarrow \{a_{2}, a_{3}, a_{5}\}$ $\{a_{3}, a_{5}\} \rightarrow \{a_{3}, a_{5}\}$

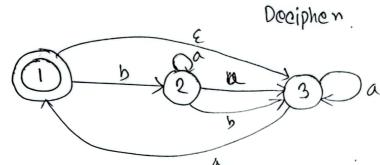
 $\{a_{2}\} \longrightarrow \xi = \{0...9\}$ $= a_{1}$ a_{3} a_{3} a_{3}

1		4	-	09.	,
	>290,913	2919	વેવ ₁ યુ	da, au}	mail s
	d 913	φ	φ	10,94}	19/12/
	201, au}	P	P	291,943	192,83
1	7923	9	P	93,95	P
1	193,953	P	9	423,957	P
	(A2, a3, a5)	9	P	[43,45]	9









$$\frac{E(1) = \{1, 3\}}{1,3} \rightarrow e = \{a, b\}$$
 $\frac{1,3}{1,3}$
 $\frac{1}{1,3}$
 $\frac{1}{1,3}$
 $\frac{1}{1,3}$
 $\frac{1}{1,3}$
 $\frac{1}{1,3}$

1 000 } -> E= {a,b}
$=$ $\stackrel{\downarrow}{\varrho}$,
٤,

	a	b
* 1,33	1,33	12}
223	d 2,34	43}
{2,3}	(1,2,3)	2 33
11,2,33	1 \$ 2,3}	2,3}
133	21,33	P
	-	

