

Dr. Balu L. Parne SVNIT is presenting



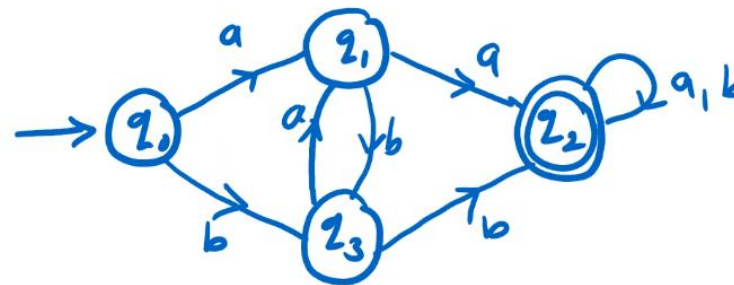
Microsoft Whiteboard



→ Construct the mFA that all the strings of a's & b's where every string contains DSST as a substring.

X aa X
X bb X

aa
bb



B129 K SACHIN NAIK SV...

B122 MADALA PRUDHVI ...

B123 SHISHIR SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

BO96 SNEHARSH BELSA...

Dr. Balu L. Parne SVNIT

20 others

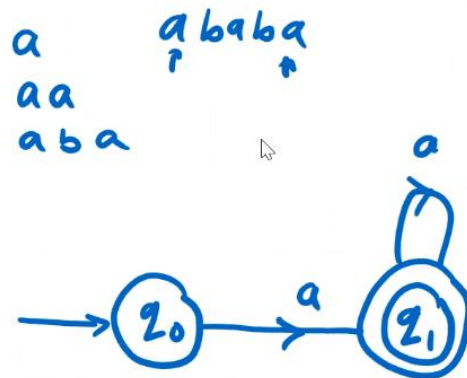
You



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here each string starts and ends with a



11:37 AM | Div-B | CS208 | AFL Theory Class | 25.01.2022 @11:...



B129 K SACHIN NAIK SV...

B122 MADALA PRUDHVI ...

B123 SHISHIR SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

BO96 SNEHARSH BELSA...

Dr. Balu L. Parne SVNIT

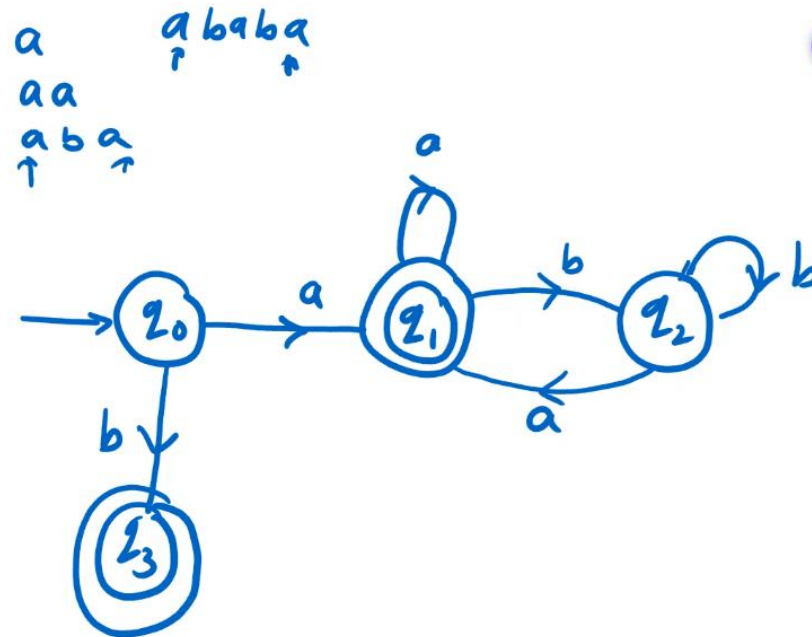
22 others

You



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Participant list:

- B129 K SACHIN NAIK SV...
- B122 MADALA PRUDHVI ...
- B123 SHISHIR SVNIT
- B135 Shivam Mishra SVN...
- U20CS108 OZA DHAIRY...
- BO96 SNEHARSH BELSA...
- Dr. Balu L. Parne SVNIT
- 22 others
- You

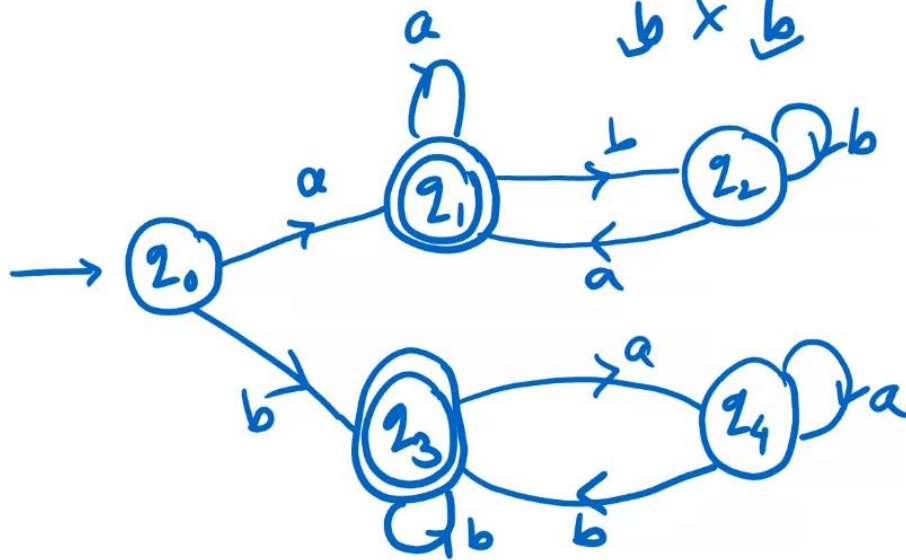
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Symbols.

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

$a \times a$
 $b \times b$



B129 K SACHIN NAIK SV...

B122 MADALA PRUDHVI ...

B123 SHISHIR SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

BO96 SNEHARSH BELSA...

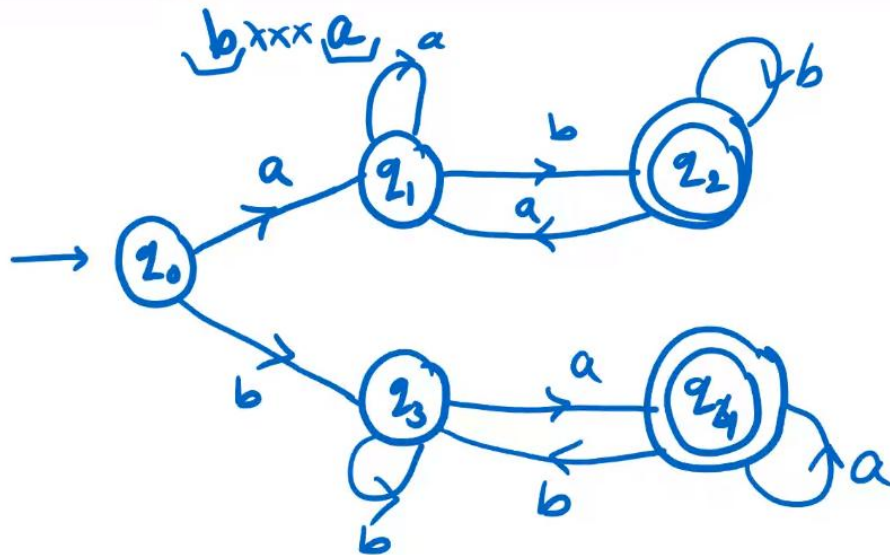
Dr. Balu L. Parne SVNIT

31 others

You

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Windows taskbar showing system tray icons (network, volume, battery), language (ENG IN), and time (11:45 AM 1/25/2022).

Zoom meeting controls: mute, video, chat, share screen, and end call.

Participant grid showing avatars and names:

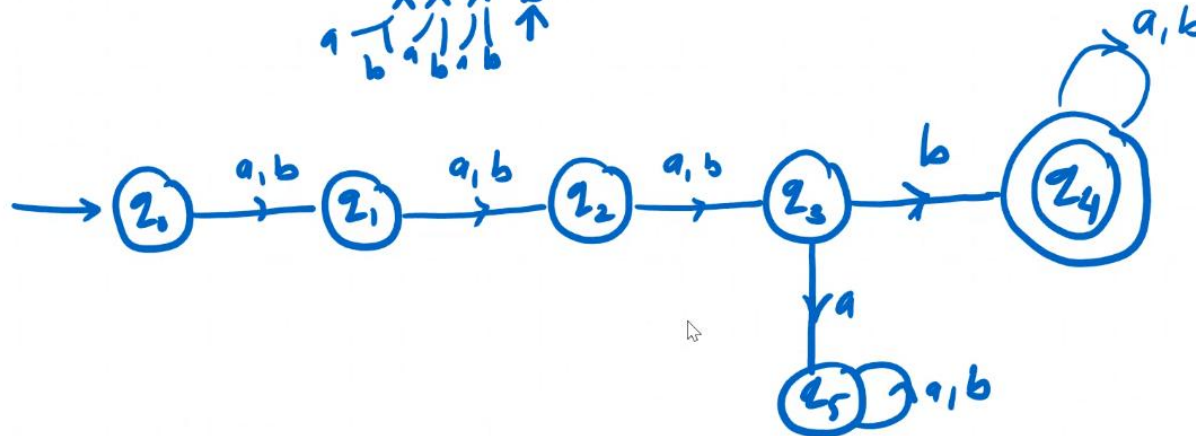
- B134 KOLA ANU SRI SVN...
- B122 MADALA PRUDHVI ...
- B123 SHISHIR SVNIT
- B135 Shivam Mishra SVN...
- U20CS108 OZA DHAIRY...
- BO96 SNEHARSH BELSA...
- Dr. Balu L. Parne SVNIT (active)
- 33 others
- You

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where the 4th symbol from left end is always b

$\begin{matrix} & x & x & x & b \\ a & \swarrow & \downarrow & \downarrow & \uparrow \\ b & a & b & a & b \end{matrix}$



Are you talking? Your mic is off.
Click the mic to turn it on.

11:47 AM | Div-B | CS208 | AFL Theory Class | 25.01.2022 @11:...

B

B134 KOLA ANU SRI SVN...

P

B122 MADALA PRUDHVI ...

B

B123 SHISHIR SVNIT

SHIVAM

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

U20CS108 OZA DHAIRY...

sudh

BO96 SNEHARSH BELSA...

Dr. Balu L. Parne SVNIT

Dr. Balu L. Parne SVNIT

B

34 others

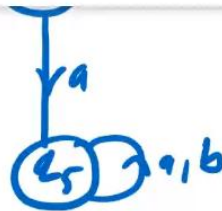


You



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→ minimal FA that accepts all the strings of a's & b's
where nth symbol from left end is fixed then it
contains exactly " $n+2$ " states.



Windows taskbar showing system tray icons (network, volume, battery), language (ENG IN), and date/time (11:49 AM 1/25/2022).

Zoom meeting controls: mute/unmute, video on/off, chat, hand raise, screen share, and end call.



B098 Neelagiri Vijay



B122 MADALA PRUDHVI ...



B123 SHISHIR SVNIT



B135 Shivam Mishra SVNIT



U20CS108 OZA DHAIRY ...



B096 SNEHARSH BELSA ...



Dr. Balu L. Parne SVNIT



35 others



You



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Minimal FA that accepts all the strings of 9^n where n th symbol from left end is fixed then it contains exactly " $n+2$ " states.



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B098 Neelagiri Vijay

B122 MADALA PRUDHVI ...

B123 SHISHIR SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

BO96 SNEHARSH BELSA...

Dr. Balu L. Parne SVNIT

35 others

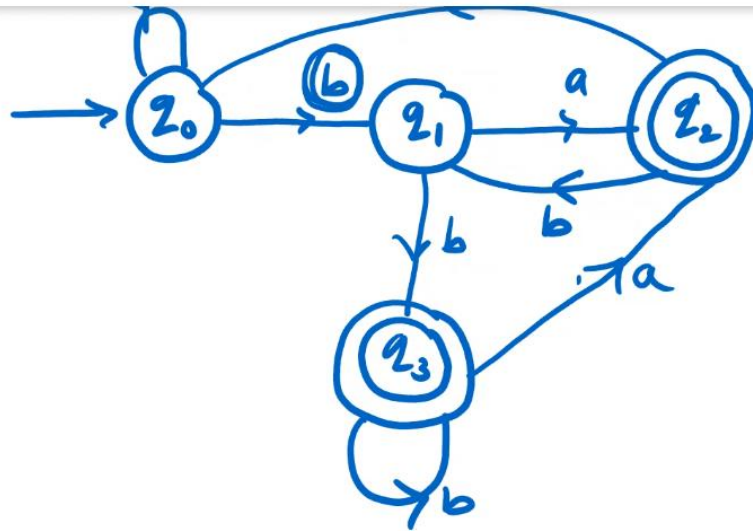
You





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11:53 AM | Div-B | CS208 | AFL Theory Class | 25.01.2022 @11:...



B
B098 Neelagiri Vijay

B110 KRISHNA PANDEY ...

B
B123 SHISHIR SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

BO96 SNEHARSH BELSA...

Dr. Balu L. Parne SVNIT

36 others

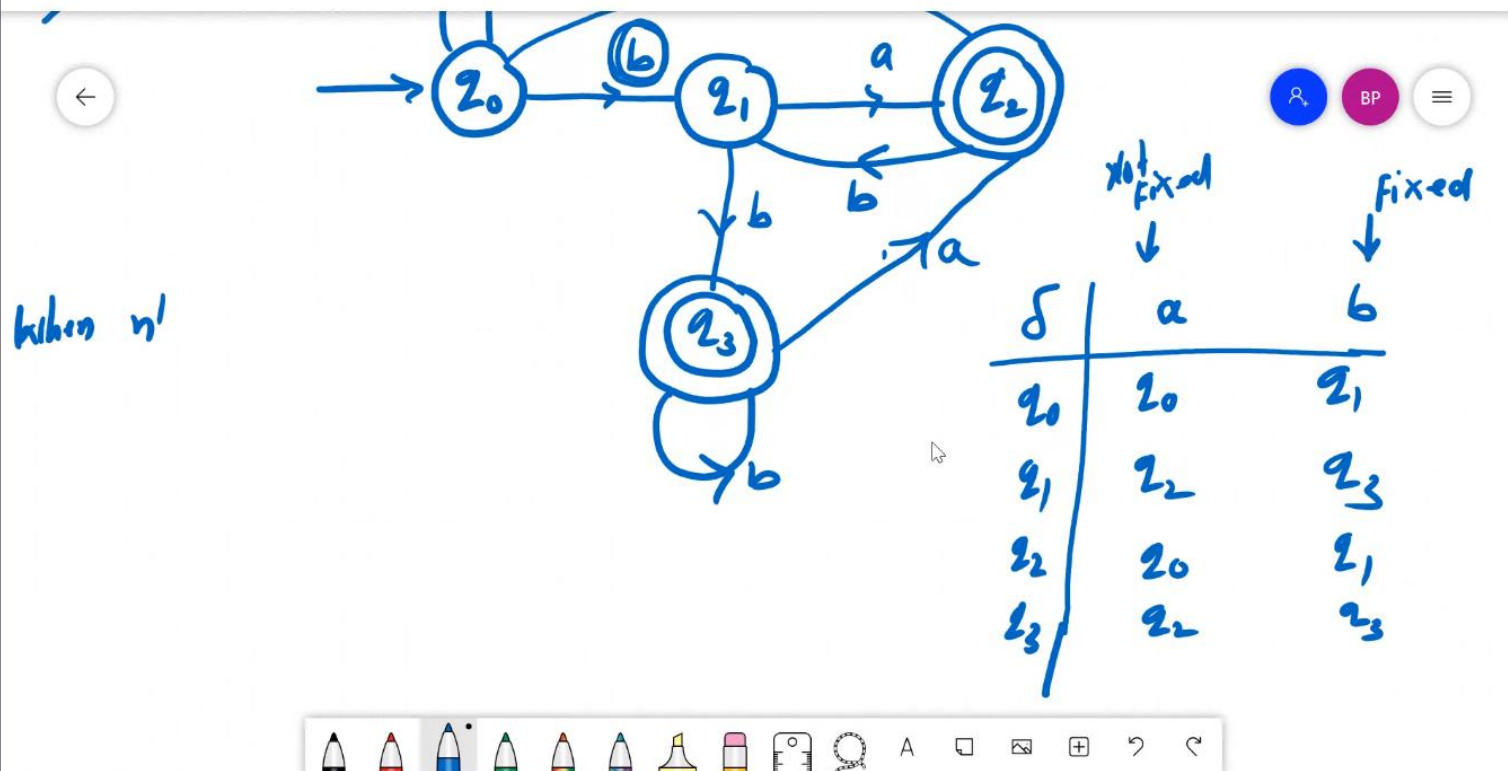
You





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B098 Neelagiri Vijay



B110 KRISHNA PANDEY ...



B123 SHISHIR SVNIT



B135 Shivam Mishra SVNIT



U20CS108 OZA DHAIRY ...



B096 SNEHARSH BELSA ...



Dr. Balu L. Parne SVNIT



38 others

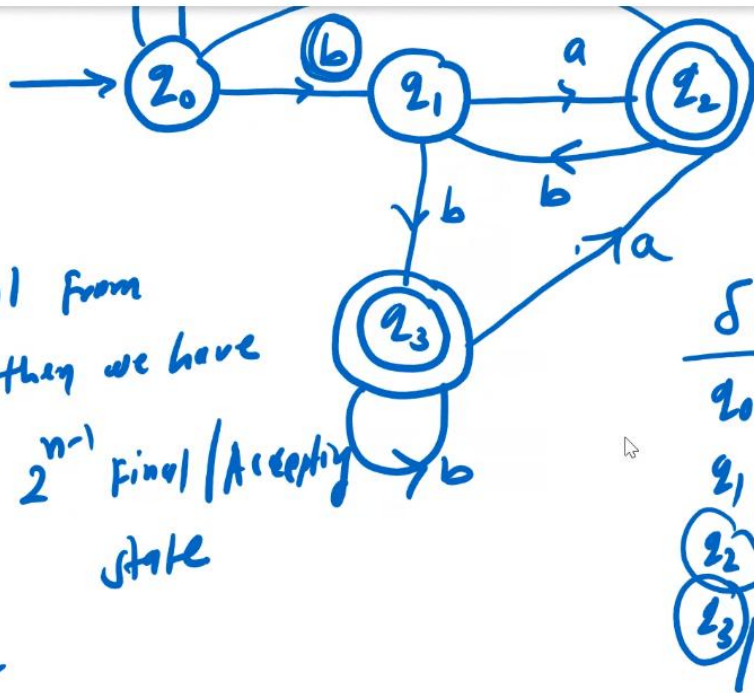


You



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Microsoft Whiteboard



When n^{th} symbol from
R.H.S. is fixed then we have
 2^n states & 2^{n-1} Final/Accepting
state

$$2^2 = 4$$
$$2^{2-1} = 2$$

δ		
	Not Fixed ↓ a	Fixed ↓ b
q_0	q_0	q_1
q_1	q_2	q_3
q_2	q_0	q_1
q_3	q_2	q_3



B098 Neelagiri Vijay

B110 KRISHNA PANDEY ...

B123 SHISHIR SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

BO96 SNEHARSH BELSA...

Dr. Balu L. Parne SVNIT

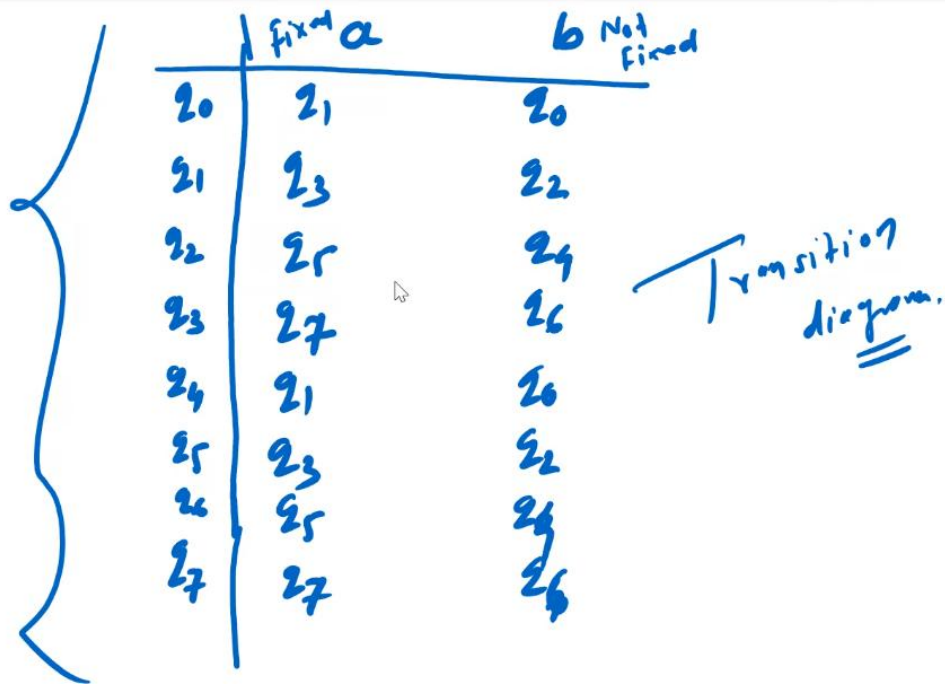
38 others

You



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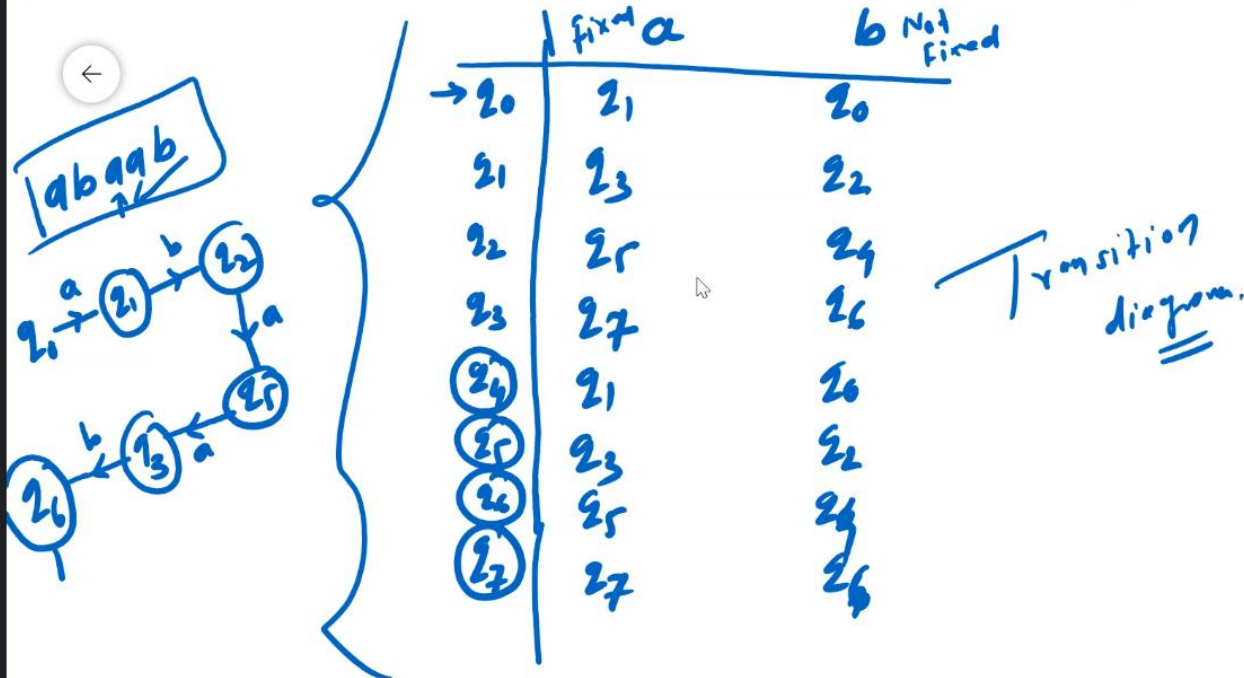
Participant list on the right side of the Zoom window:

- B098 Neelagiri Vijay
- B110 KRISHNA PANDEY ...
- B123 SHISHIR SVNIT
- B135 Shivam Mishra SVN...
- U20CS108 OZA DHAIRY...
- BO96 SNEHARSH BELSA...
- Dr. Balu L. Parne SVNIT (Active)
- 40 others
- You



Dr. Balu L. Parne SVNIT is presenting

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Participant list:

- B098 Neelagiri Vijay
- B110 KRISHNA PANDEY ...
- B123 SHISHIR SVNIT
- B135 Shivam Mishra SVN...
- U20CS108 OZA DHAIRY...
- BO96 SNEHARSH BELSA...
- Dr. Balu L. Parne SVNIT (Active)
- 41 others

You (Self-view)



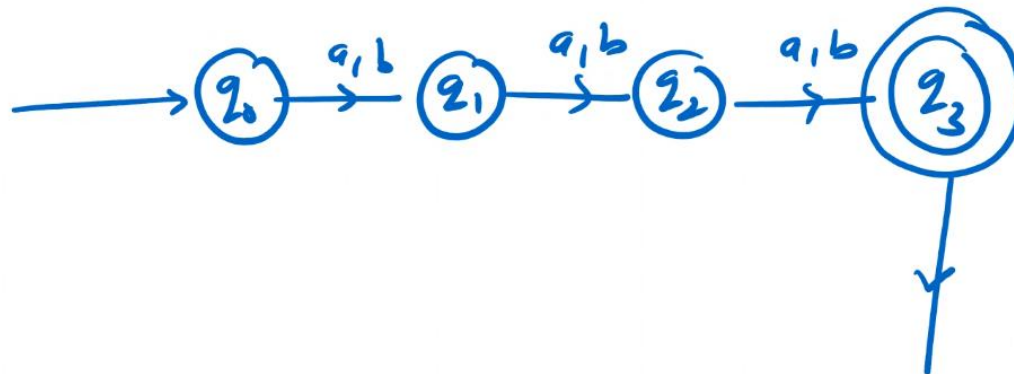
Dr. Balu L. Parne SVNIT is presenting

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where the length of string is even / 2



x x x
a b b
b b b



12:10 PM | Div-B | CS208 | AFL Theory Class | 25.01.2022 @11:...



B098 Neelagiri Vijay

B110 KRISHNA PANDEY ...

B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVNIT

U20CS108 OZA DHAIRY ...

B123 SHISHIR SVNIT

Dr. Balu L. Parne SVNIT

40 others

You





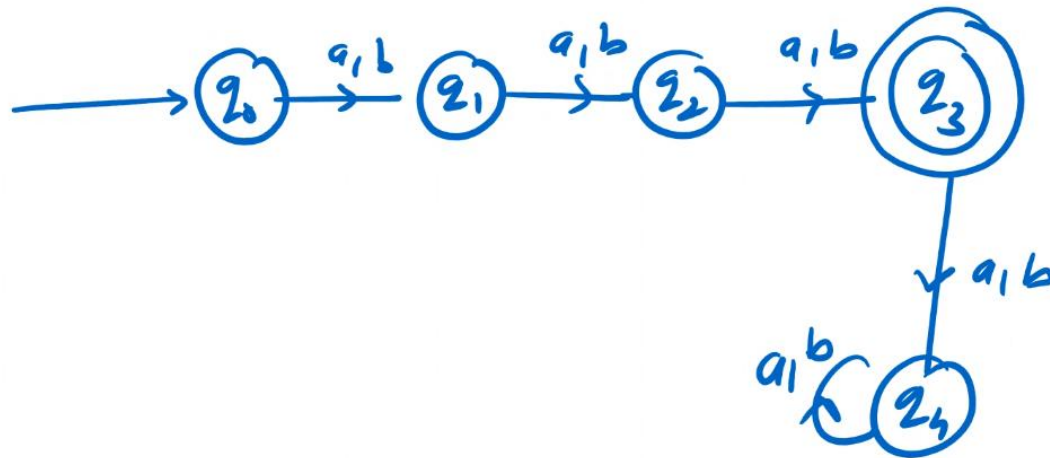
Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

where the length of string is even / 2



x x x
a b b
b b b



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B
B098 Neelagiri Vijay

B110 KRISHNA PANDEY ...

#CAMPUS4UG
B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B123 SHISHIR SVNIT

Dr. Balu L. Parne SVNIT

40 others

You

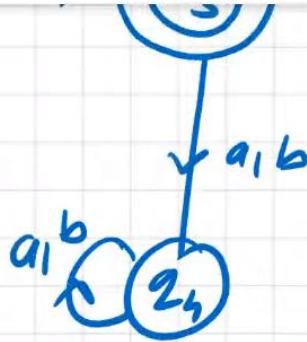
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←
aag
bab
abg

a^2b^2a

length = n
"n+2" states



Windows taskbar showing system tray icons: network, volume, and a clock displaying 12:11 PM on 1/25/2022.

Zoom meeting controls: mute/unmute, video on/off, chat, help, and a red call button.

B098 Neelagiri Vijay

B110 KRISHNA PANDEY ...

B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B123 SHISHIR SVNIT

Dr. Balu L. Parne SVNIT

40 others

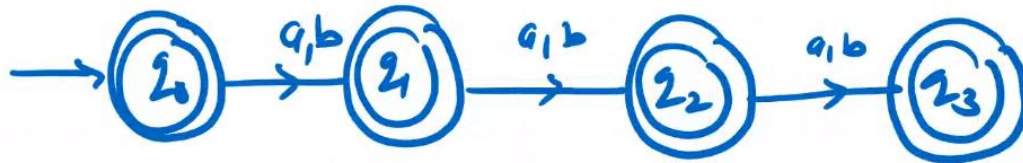
You

Zoom meeting controls: info, participants (49), chat, and a screen share icon.

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

← here length of string is ≤ 3
 $\Sigma = \{a, b\} = |W| = 0, 1, 2, 3$
 $\in \begin{matrix} \wedge & \wedge & \wedge \\ a & b & a & b \end{matrix}$



B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

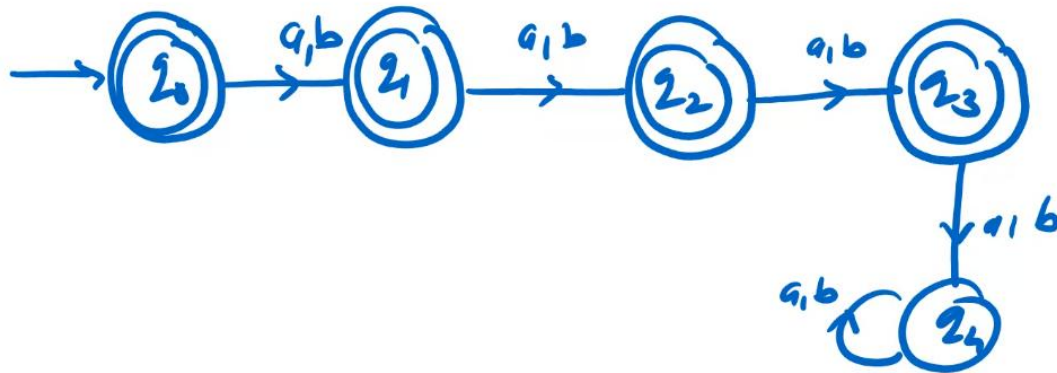
40 others

You

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← here length of string is ≤ 3
 $\Sigma = \{a, b\} = |W| = 0, 1, 2, 3$
 $\in \begin{matrix} \wedge & \wedge & \wedge \\ a & b & a & b \end{matrix}$



B
B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

#CAMPUS4UG
B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

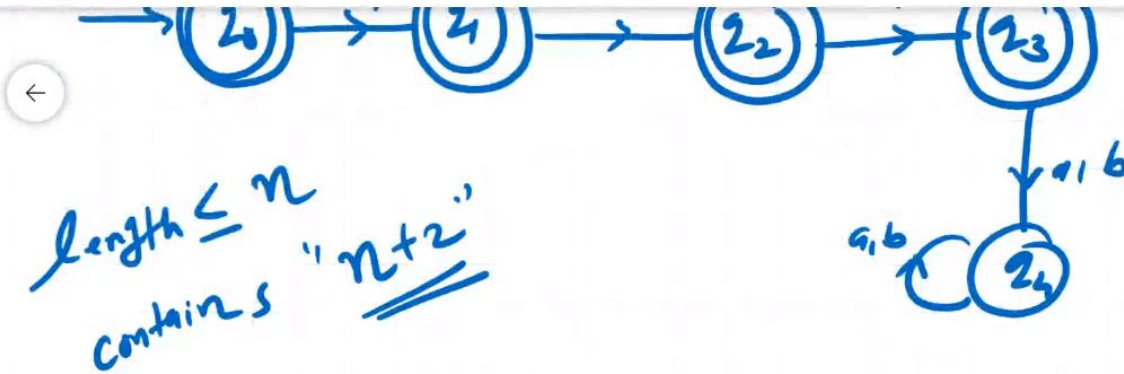
B
40 others

You

49
Zoom meeting controls including mute, video, chat, and screen share buttons.

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Windows taskbar showing various application icons and system status (12:13 PM, 1/25/2022).

Zoom meeting controls: mute, video, chat, share screen, etc.

Participant list showing avatars and names of attendees, including Dr. Balu L. Parne SVNIT and 40 others.

Zoom meeting controls: info, participants, chat, etc.

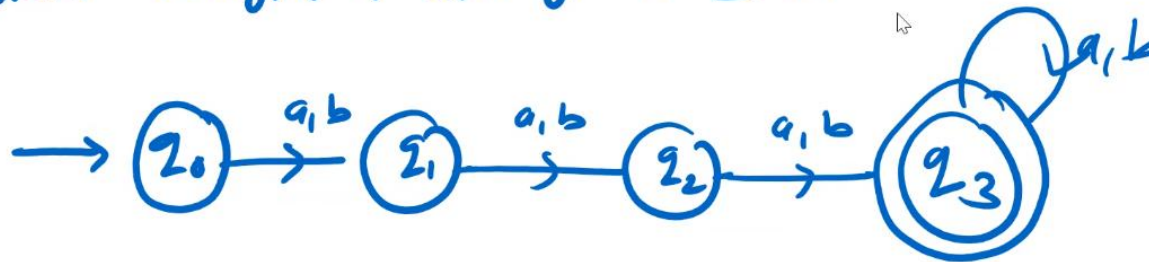
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length $\leq n$
contains " $n+2$ "



→ where length of string is ≥ 3



B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

41 others

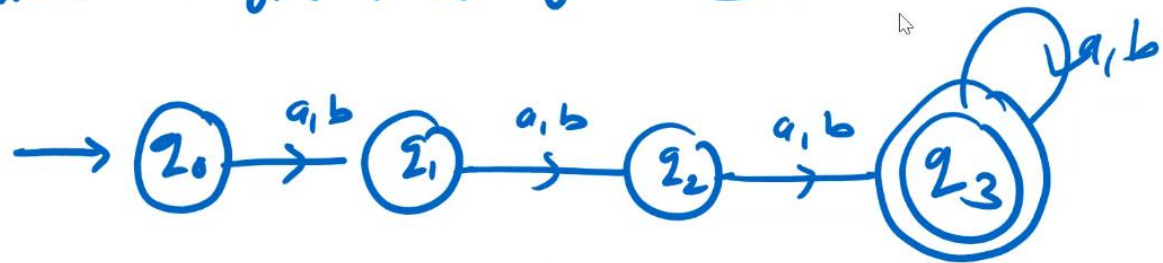
You

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contains

→ where length of string is ≥ 3



length $\geq n$ contains $n+1$ states



B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

41 others

You

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have the length of string is divisible by 3

$$|w| \equiv 0 \pmod{3}$$

$$|w| = 0, 3, 6, 9, 12, \dots$$



Windows taskbar showing various application icons (File Explorer, Edge, etc.) and system tray icons (network, volume, date/time: 12:15 PM 1/25/2022)

Zoom meeting controls: mute/unmute, video on/off, chat, hand raise, share screen, and end meeting

B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

41 others

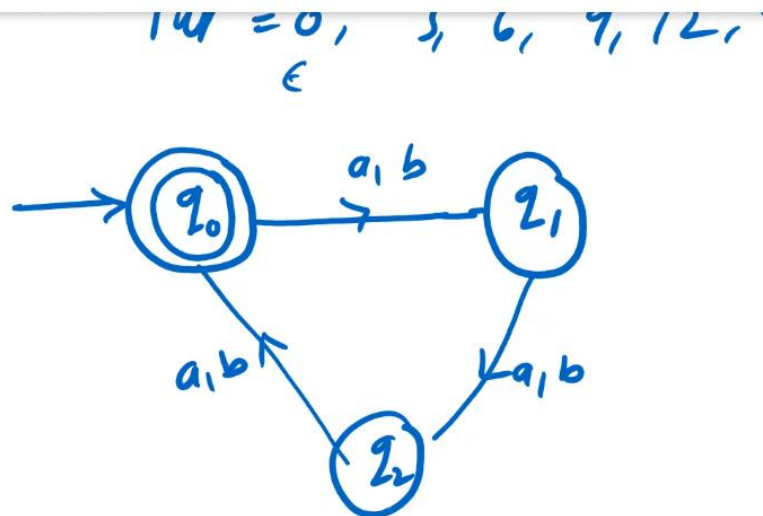
You

Zoom status bar: 50 participants, chat icon, and other controls



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B
B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

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B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

B
41 others



You



Dr. Balu L. Parne SVNIT is presenting

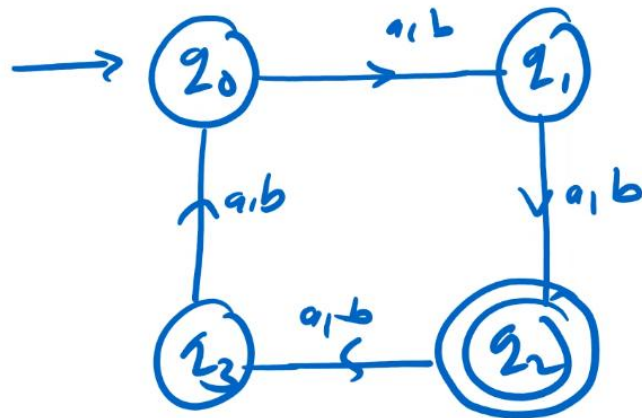
Microsoft Whiteboard



Length of string is congruent to $2 \pmod{4}$



BP



B123 SHISHIR SVNIT



B110 KRISHNA PANDEY ...



B109 CH ADITHYA SVNIT



B135 Shivam Mishra SVN...



U20CS108 OZA DHAIRY...



B122 MADALA PRUDHVI ...



Dr. Balu L. Parne SVNIT



41 others



You



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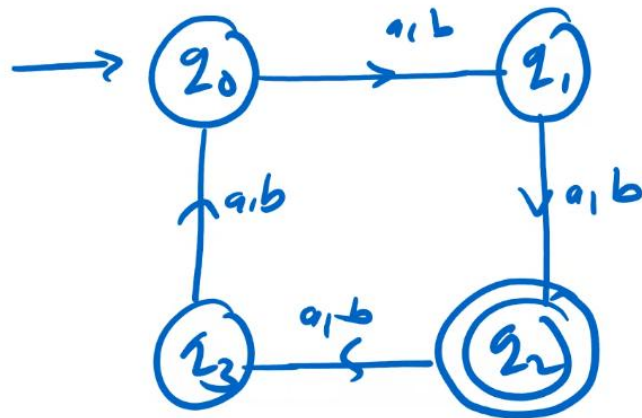
Microsoft Whiteboard



Length of string is congruent to $2 \pmod{4}$



BP



$$|w| = x \pmod{n}$$



n states
 q_2 final / Accept



B123 SHISHIR SVNIT



B110 KRISHNA PANDEY ...



B109 CH ADITHYA SVNIT



B135 Shivam Mishra SVN...



U20CS108 OZA DHAIRY...



B122 MADALA PRUDHVI ...



Dr. Balu L. Parne SVNIT



41 others



You

50



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← $|w| = 0 \pmod 2 \ \& \ |w| = 0 \pmod 3$

$$|w| = 0 \pmod 6$$

2.)



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B
B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

#CAMPUS4UG
B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

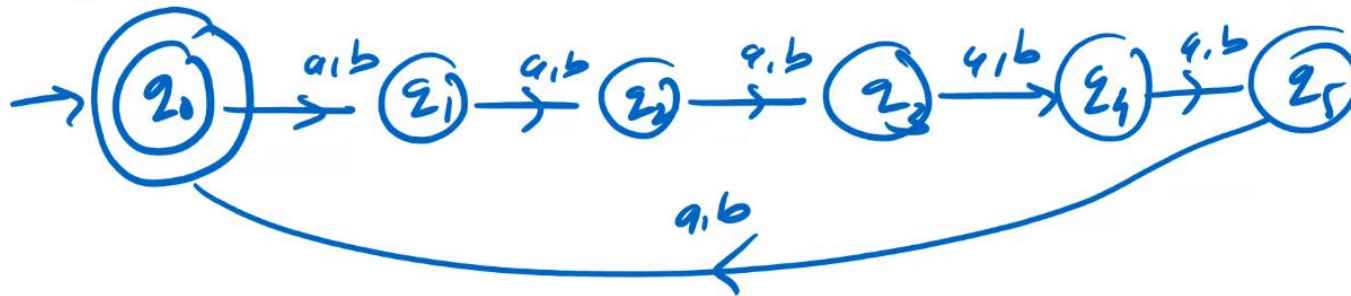
41 others

You

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$$|w| = 0 \pmod 6$$



→ where, the length of string is divisible by 2
[or] divisible by 3



B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

41 others

You



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→ where, the length of string is divisible by 2
[or] divisible by 3



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B
B123 SHISHIR SVNIT

B110 KRISHNA PANDEY ...

#CAMPUS4UG
B109 CH ADITHYA SVNIT

B135 Shivam Mishra SVN...

U20CS108 OZA DHAIRY...

B122 MADALA PRUDHVI ...

Dr. Balu L. Parne SVNIT

41 others

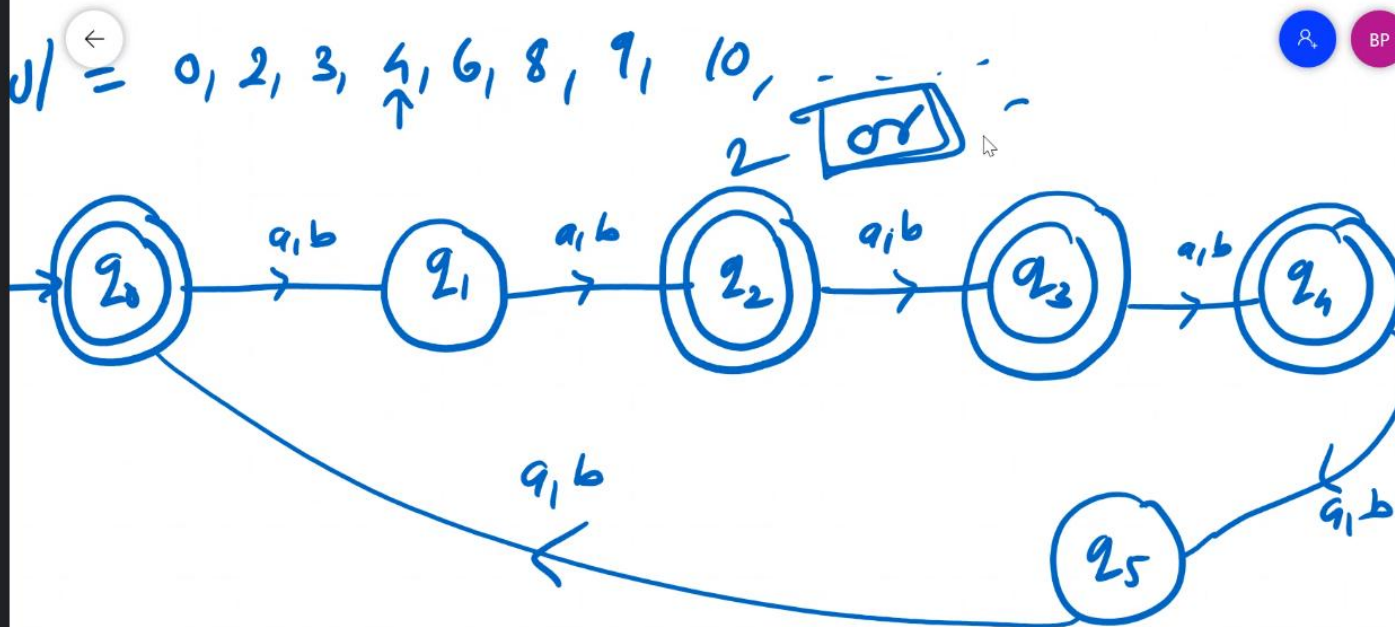
You





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B123 SHISHIR SVNIT



B110 KRISHNA PANDEY ...



B109 CH ADITHYA SVNIT



B135 Shivam Mishra SVNIT



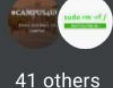
U20CS108 OZA DHAIRY...



B122 MADALA PRUDHVI ...



Dr. Balu L. Parne SVNIT



41 others



You

