

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

fixed

2^{n-1} states

Table

length = $n \rightarrow \underline{n+2}$ states

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

length $\leq n \rightarrow n+2$ states.

B126 TANGUDU V...

B097 GUNJAN S...

B081 ADITYA YA...

B135 Shivam Mis...

B117 NEELAV BHA...

Dr. Balu L. Parne ...

U20CS084 AMA...

19 others

You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

$\left\{ \begin{array}{l} \text{length} \geq n \\ \text{length} \leq n \end{array} \right\} \rightarrow \text{"n+2" states.}$

If string of a's and b's is
starting with substring of $\text{length} = 'm'$
and also $|string| = \gamma \bmod n$

$\left. \begin{array}{l} \text{length} = 'm' \\ \text{and also } |string| = \gamma \bmod n \end{array} \right\} \rightarrow \text{m+1+n states}$



8:38 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B090 Gami Hardik SVNIT



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



20 others



You



Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

$\left\{ \begin{array}{l} \text{length} \geq n \\ \text{length} \leq n \end{array} \right\} \rightarrow \text{"n+2" states.}$

If string of a's and b's is
starting with substring of $\boxed{\text{length} = 'm'}$
and also $|string| = x \bmod n$

$\left. \vphantom{\begin{array}{l} \text{starting with substring of length = 'm'} \\ \text{and also } |string| = x \bmod n \end{array}} \right\} \boxed{\begin{array}{l} m+1+n \\ \text{states} \end{array}}$



B090 Gami Hardik SVNIT has left the meeting

8:38 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

B081 ADITYA YADAV SV...

B135 Shivam Mishra SVN...

B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

U20CS084 AMANKUMA...

19 others

You

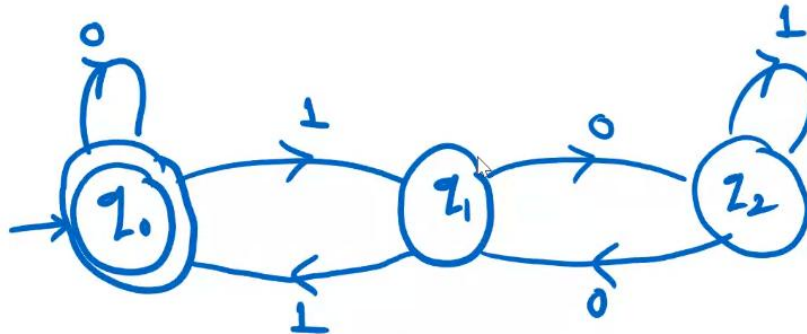


Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ Construct the mFA that accepts all the binary num
whose integer equivalent is divisible by 3.

0000 → 10
01 → 1
10 → 2
11 → 3
0110 → 6
1001 → 9
1100 → 12



You



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



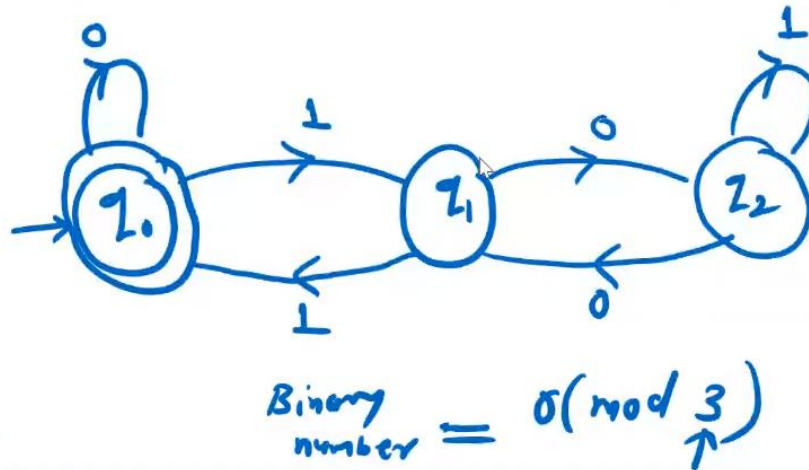
26 others

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ Construct the mFA that accepts all the binary num
whose integer equivalent is divisible by 3.

0000 → 10
01 → 1
10 → 2
11 → 3
0110 → 6
1001 → 9
1100 → 12



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



26 others



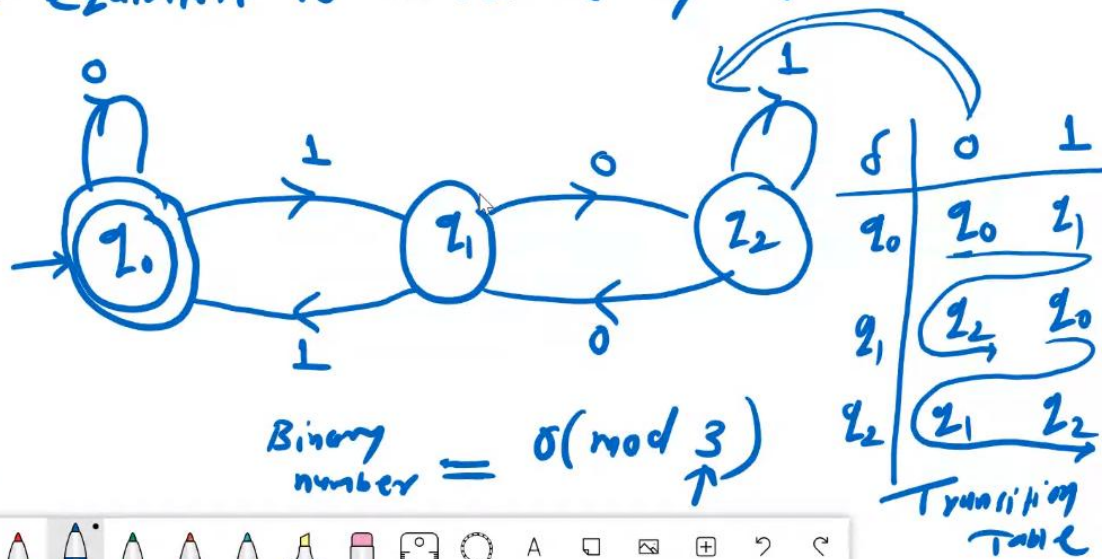
You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ Construct the mFA that accepts all the binary num
whose integer equivalent is divisible by 3.

0000 → 10
01 → 1
10 → 2
11 → 3
0110 → 6
1001 → 9
1100 → 12



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



27 others

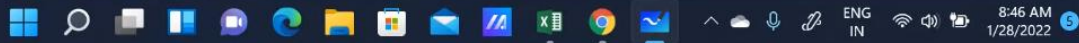


You

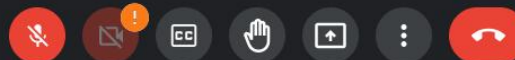
Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

← sept all the binary number whole integer
equivalent is divisible by 5



8:46 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

B081 ADITYA YADAV SV...

B135 Shivam Mishra SVN...

B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

U20CS084 AMANKUMA...

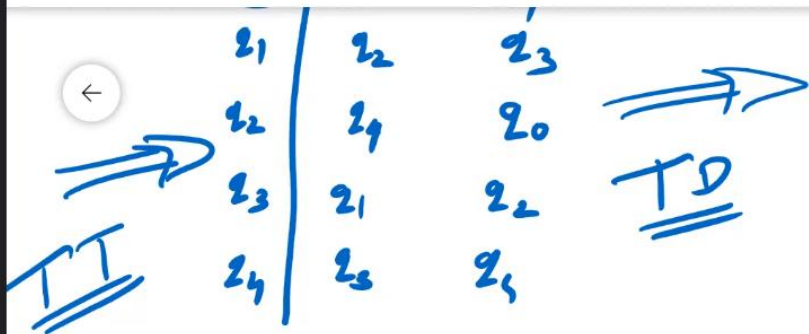
28 others

You



Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard



→ Accepts all the binary numbers which is congruent to 1 (mod 4)



B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

B081 ADITYA YADAV SV...

B135 Shivam Mishra SVN...

B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

U20CS084 AMANKUMA...

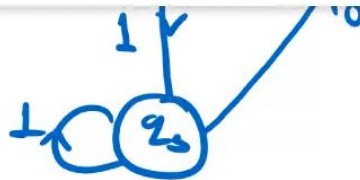
28 others

You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

z_2 | z_0 | z_1
 z_3 | z_2 | z_3



→ Complemented Finite Automata \Rightarrow

→ The finite automata which is obtained by interchanging the final and nonfinal states is called as complemented finite automata.



8:51 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30am



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



28 others

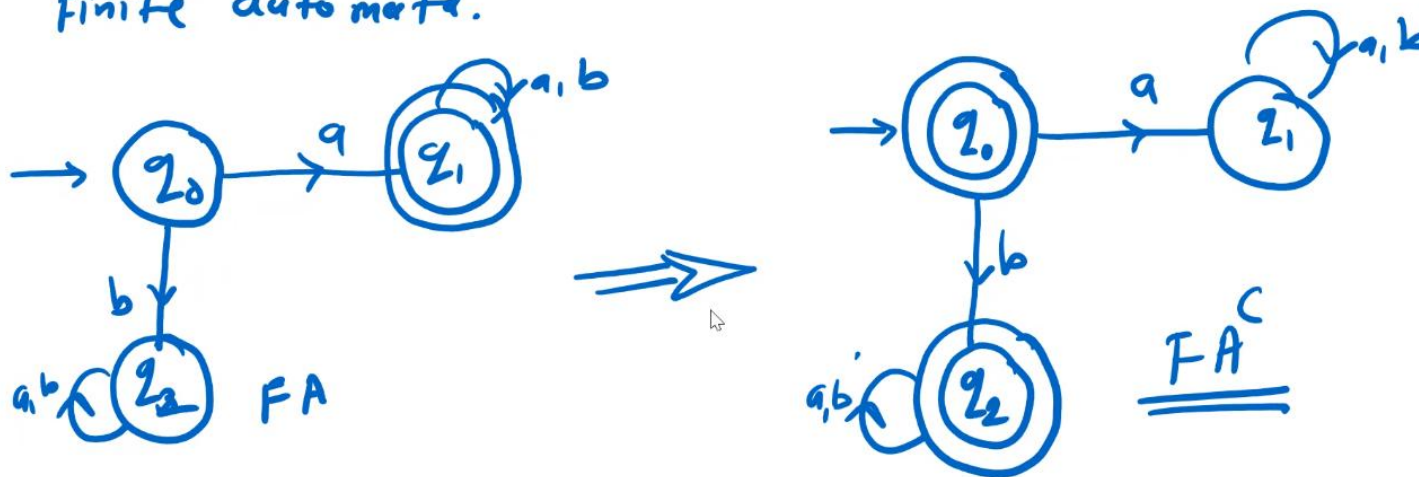


You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ The finite automata which is obtained by interchanging the final and non-final states is called as complemented finite automata.



8:53 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

B081 ADITYA YADAV SV...

B135 Shivam Mishra SVN...

B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

U20CS084 AMANKUMA...

28 others

You



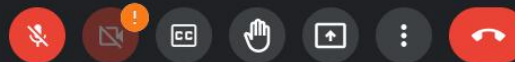
Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard



$$\rightarrow L(FA) \cup L(FA') = \Sigma^*$$

$\rightarrow L$



B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

B081 ADITYA YADAV SV...

B135 Shivam Mishra SVN...

B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

U20CS084 AMANKUMA...

31 others

You

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→ $L(FA) \cup L(FA') = \Sigma^*$
→ $L(FA) \cap L(FA') = \emptyset$
→ The



8:55 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B135 Shivam Mishra SVNIT



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



31 others



You



Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ $L(FA) \cap L(FA^c) = \emptyset$

→ The

→ No. of states in $FA =$ No. of states in FA^c

→



8:56 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



31 others



You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ Construct the MFA that accepts all the strings of
a's & b's where every string do not ends with
ba.



8:57 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



31 others

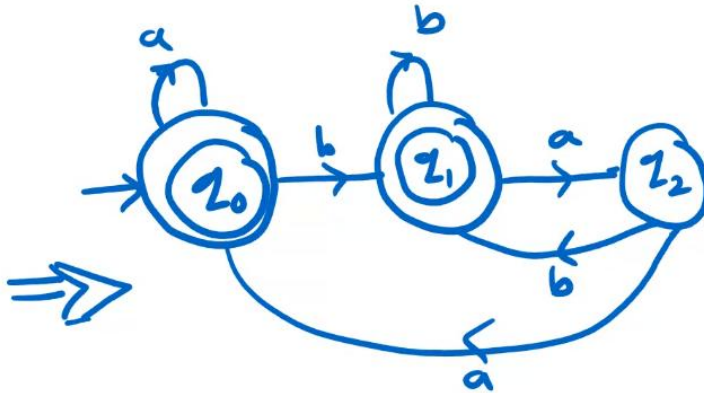
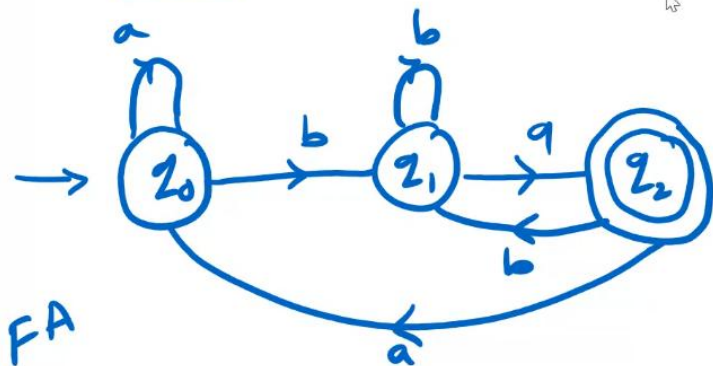


You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ Construct the MFA that accepts all the strings of
a's & b's where every string do not ends with
ba.



8:59 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

B081 ADITYA YADAV SV...

B135 Shivam Mishra SVN...

B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

U20CS084 AMANKUMA...

32 others

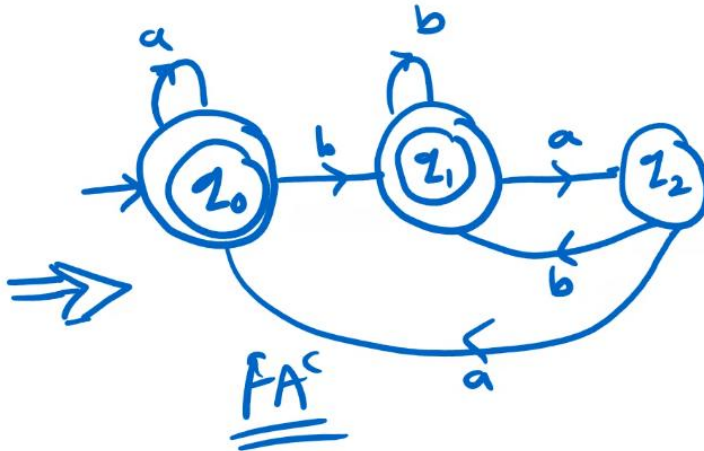
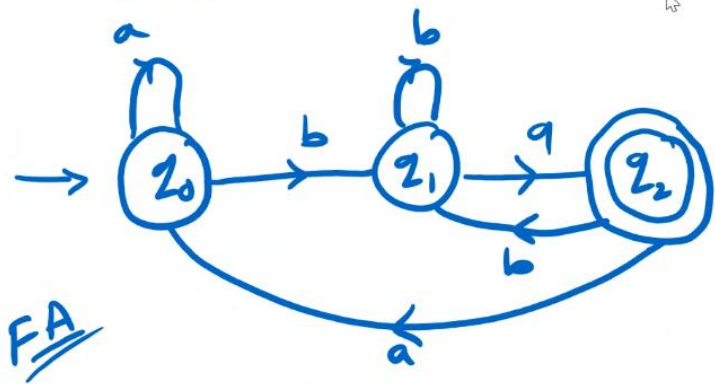
You



Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ Construct the MFA that accepts all the strings of
a's & b's where every string do not ends with
ba.



B126 TANGUDU VIVEK S...



B097 GUNJAN SHINDE



B081 ADITYA YADAV SV...



B135 Shivam Mishra SVNIT



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



32 others



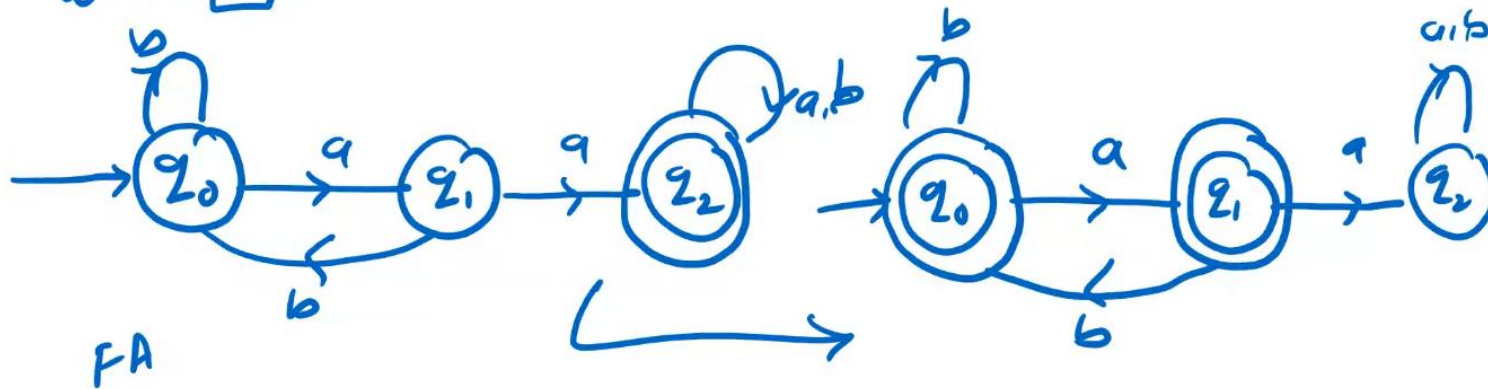
You

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Microsoft Whiteboard

→ where every string do not contain consecutive BP's

$w = x \underline{aa} x$



9:01 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30am



#CAMPUSgUG
BRAND NEW BACK TO
LIFE

B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

A

B081 ADITYA YADAV SV...

B135 Shivam Mishra SVN...

B

B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

U

U20CS084 AMANKUMA...

B M

32 others

You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

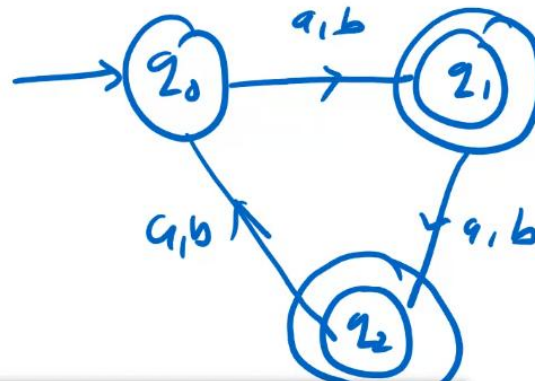


BP



→ where the length of string is not divisible
by 3

$$|w| = 0 \pmod 3$$



9:03 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30a...



B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

B096 SNEHARSH BELSA...

B135 Shivam Mishra SVN...

B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

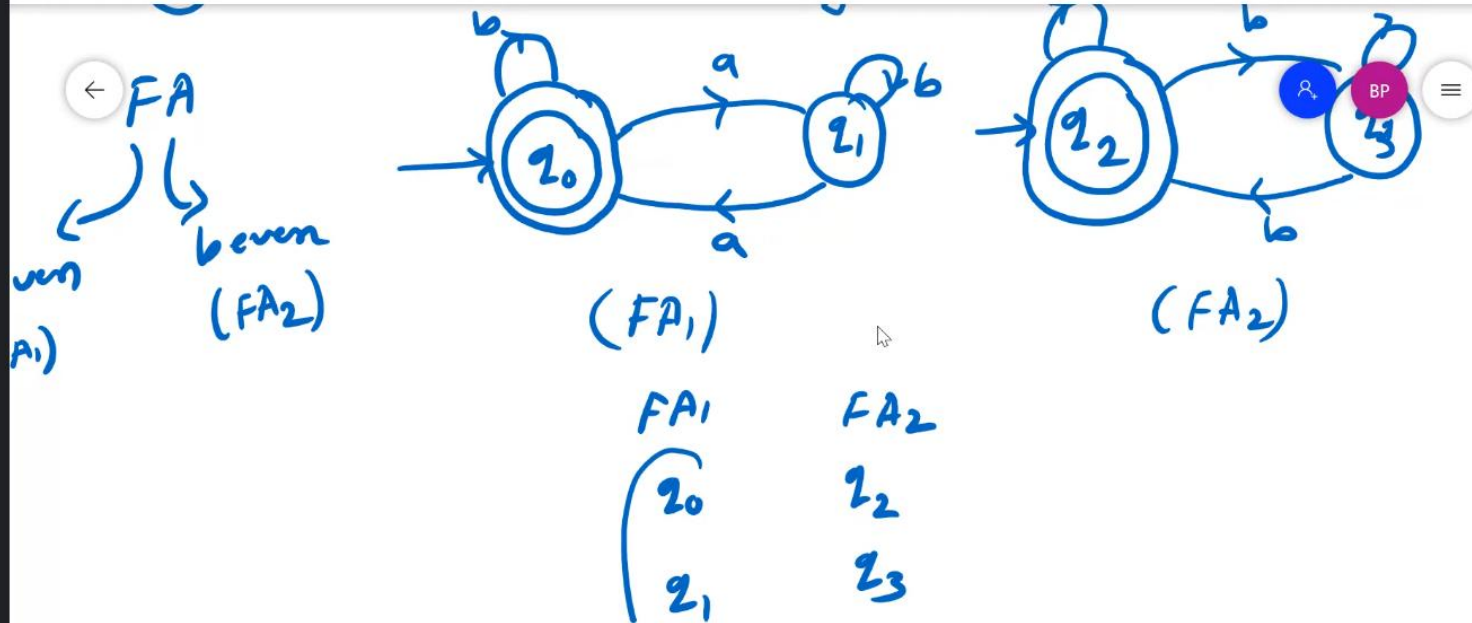
U20CS084 AMANKUMA...

33 others

You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard



#CAMPUSgUG
B126 TANGUDU VIVEK S...

B097 GUNJAN SHINDE

sudomrf
B096 SNEHARSH BELSA...

B135 Shivam Mishra SVN...

B
B117 NEELAV BHATIYA S...

Dr. Balu L. Parne SVNIT

U
U20CS084 AMANKUMA...

A M
34 others

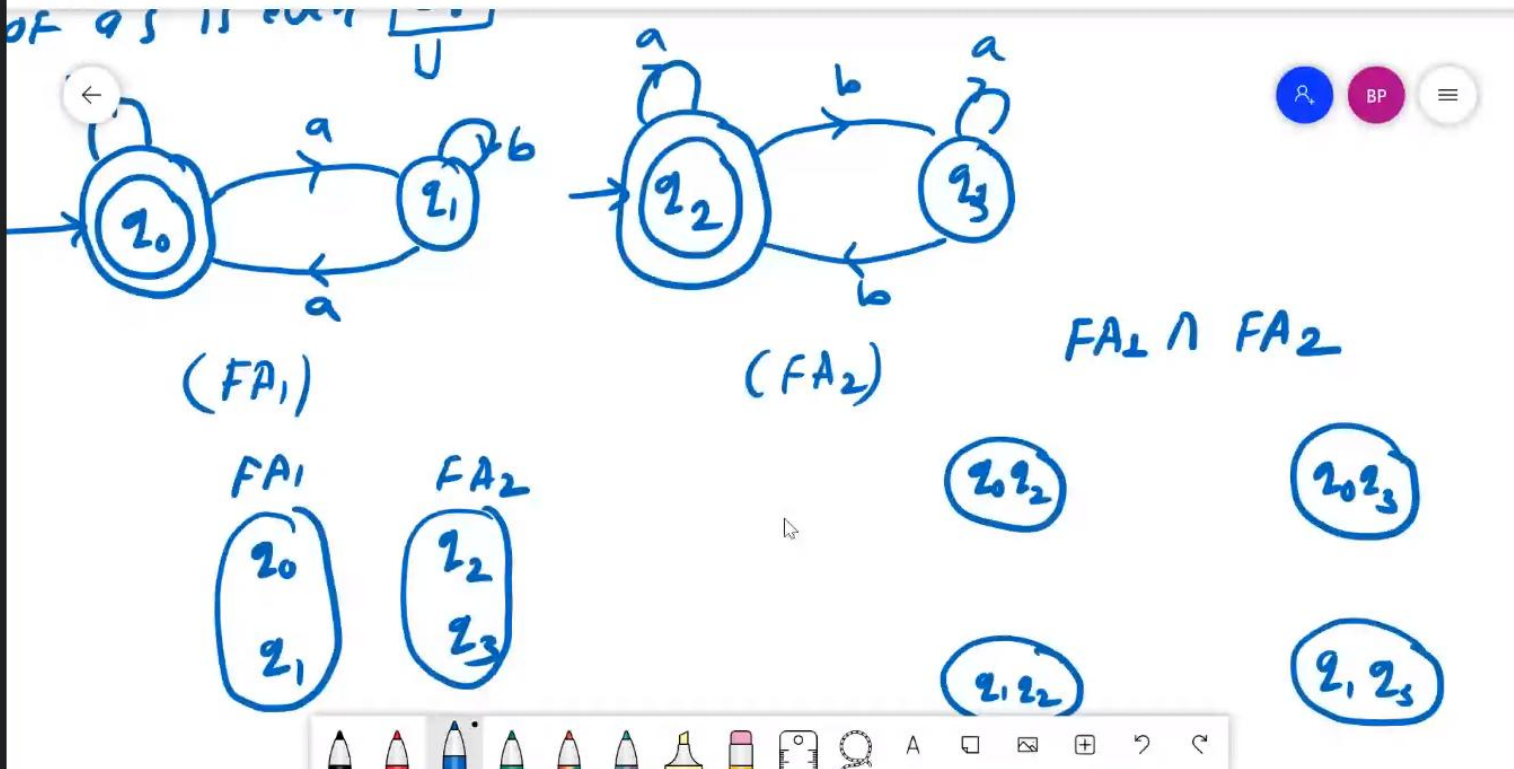
You

Microphone, Camera, Screen Share, Hand, Up Arrow, More Options, End Call

43
Info, Participants, Chat, App

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard



Participant list:

- B126 TANGUDU VIVEK S...
- U20CS108 OZA DHAIRY...
- B096 SNEHARSH BELSA...
- B135 Shivam Mishra SVN...
- B117 NEELAV BHATIYA S...
- Dr. Balu L. Parne SVNIT
- U20CS084 AMANKUMA...
- 34 others

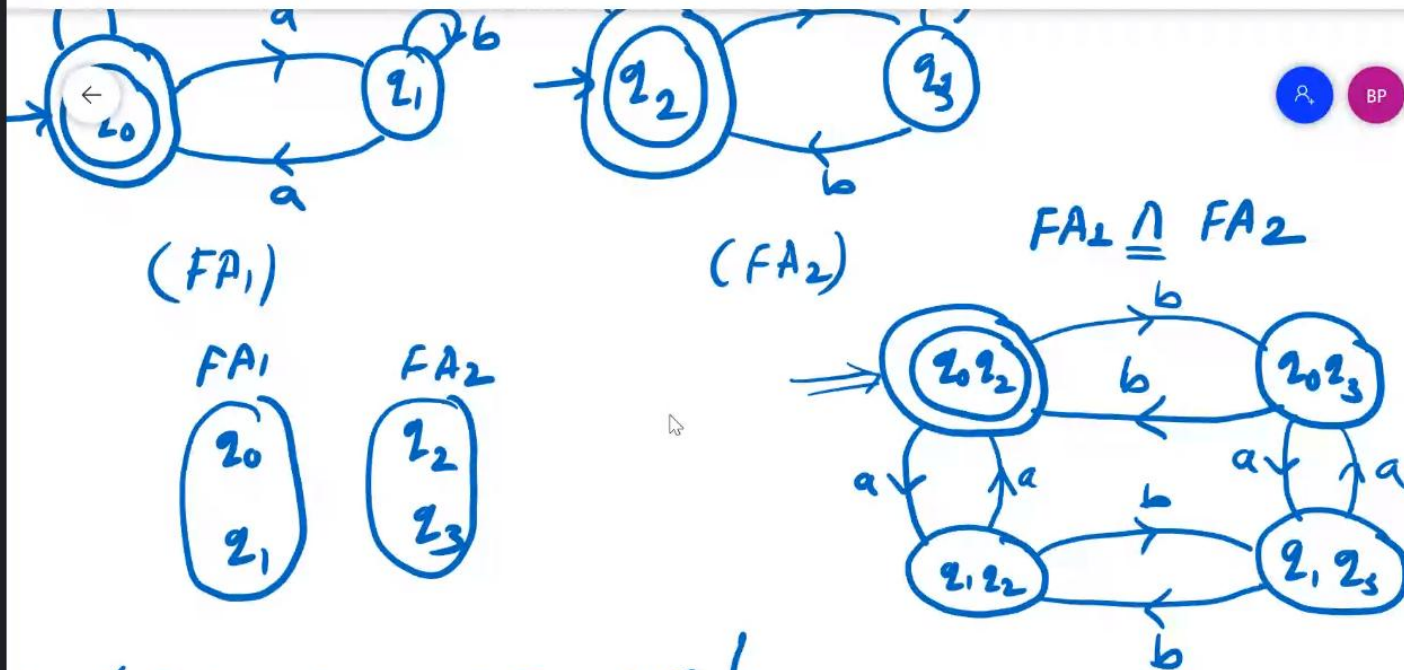
You

Meeting controls: Microphone, Camera, Chat, Hand, Screen, More, End Call

Meeting status: 43 participants, Info, People, Chat, Screen

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard



$\therefore \{ q_0q_2, q_1q_2, q_0q_3, q_1q_3 \}$



B098 Neelagiri Vijay



U20CS108 OZA DHAIRY...



B096 SNEHARSH BELSA...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



33 others



You

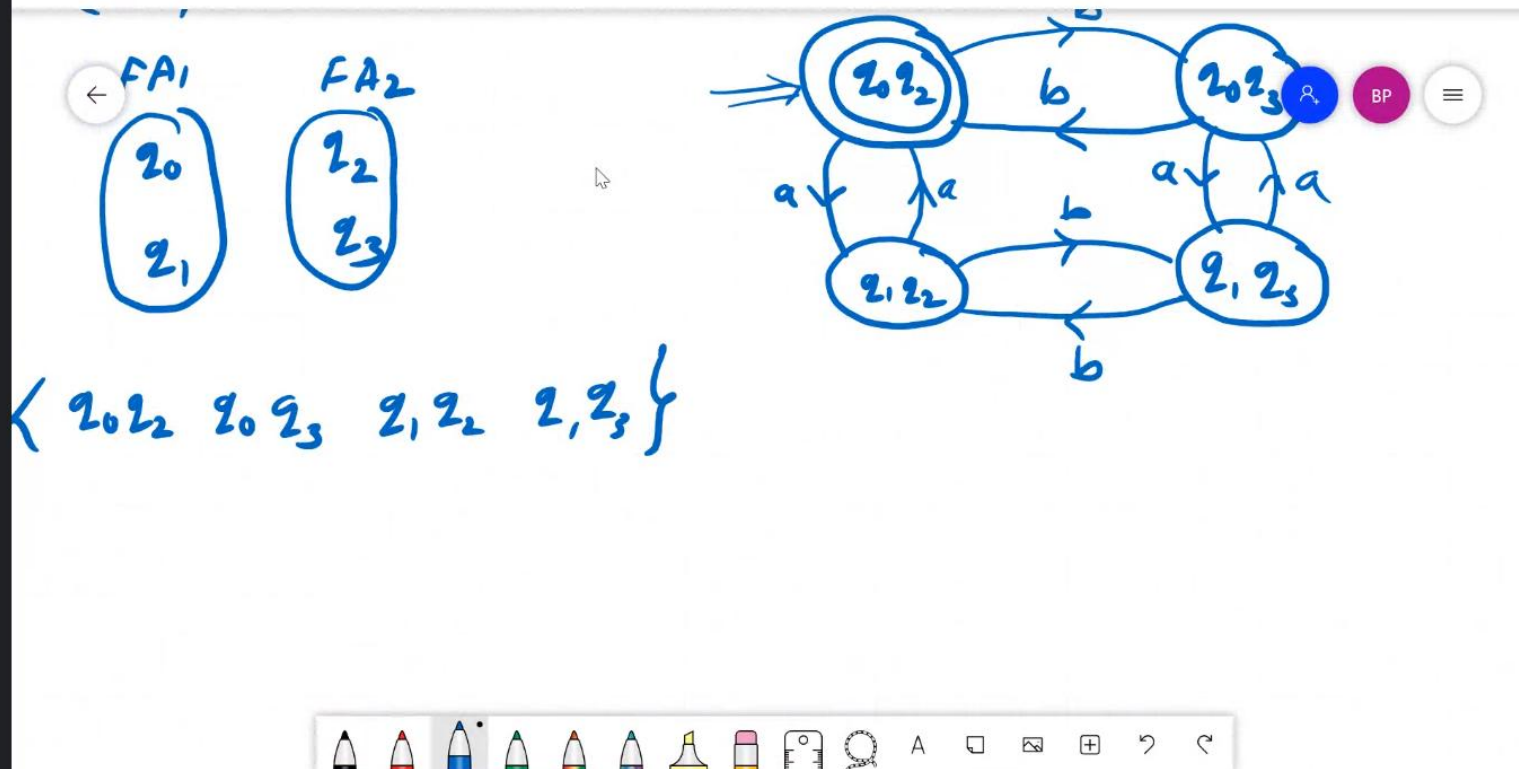


42



Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard



Windows taskbar showing various application icons and system tray information including time (9:13 AM) and date (1/28/2022).

9:13 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30am

Zoom meeting controls including icons for mute, video, chat, and other participants.

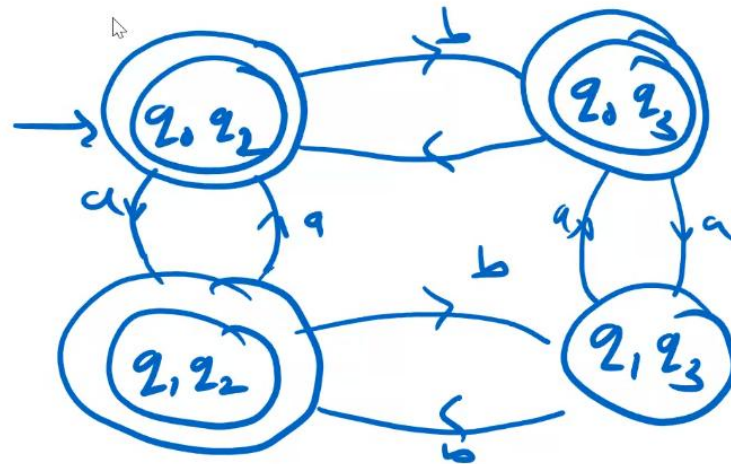
Zoom participant list showing names and avatars of attendees, including Dr. Balu L. Parne SVNIT and others.

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

$q_0 \xleftarrow{a} q_0 q_3 \quad q_1 q_2 \quad q_1 q_3 \}$

$FA_1 \cup FA_2$



B098 Neelagiri Vijay



U20CS108 OZA DHAIRY...



B096 SNEHARSH BELSA...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



33 others



You



Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ Construct NFA that accepts all the strings of
a's and b's where,

① No. of a's is divisible by 2 and
No. of b's is divisible by 3.



9:17 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30am



B098 Neelagiri Vijay



U20CS108 OZA DHAIRY...



B096 SNEHARSH BELSA...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



34 others



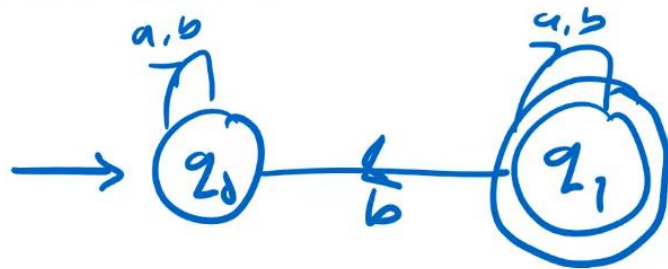
You

Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard

→ **Unreachable State :-**

The state which cannot be reach from the initial state is called as the unreachable state.



Windows taskbar showing various application icons, system tray icons (including network, volume, and battery), and the system clock displaying 9:18 AM on 1/28/2022.

Zoom meeting controls including icons for mute, video, chat, and other standard controls.

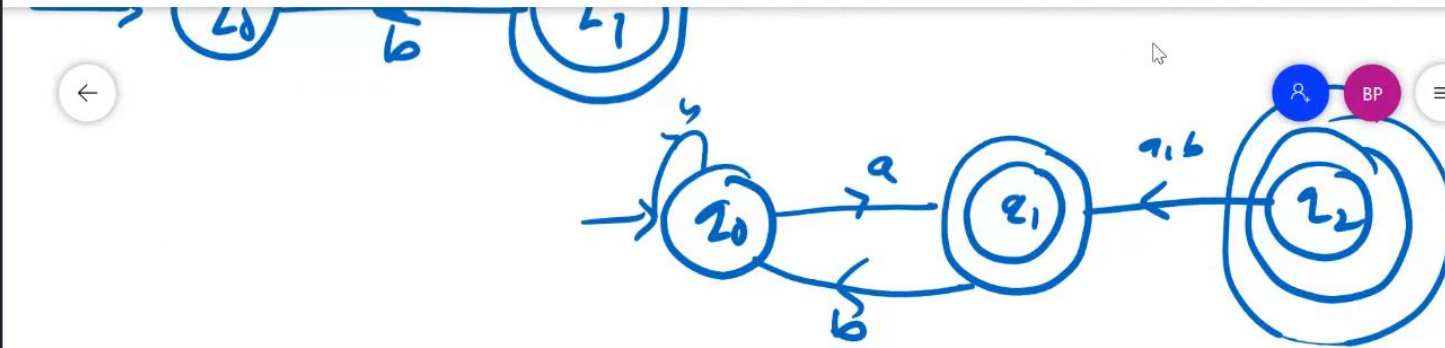
Grid of participant tiles in the Zoom meeting. Each tile shows a profile picture and name. The participants listed are:

- B098 Neelagiri Vijay
- U20CS108 OZA DHAIRY...
- B096 SNEHARSH BELSA...
- B135 Shivam Mishra SVN...
- B117 NEELAV BHATIYA S...
- Dr. Balu L. Parne SVNIT (highlighted with a blue border)
- U20CS084 AMANKUMA...
- 34 others
- You (bottom tile with a yin-yang icon)

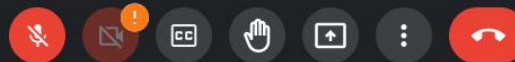



Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard




9:19 AM | Div-B | CS208 | AFL Theory Class | 28.01.22 @8:30am







B098 Neelagiri Vijay




U20CS108 OZA DHAIRY...




B096 SNEHARSH BELSA...




B135 Shivam Mishra SVN...




B117 NEELAV BHATIYA S...




Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



34 others

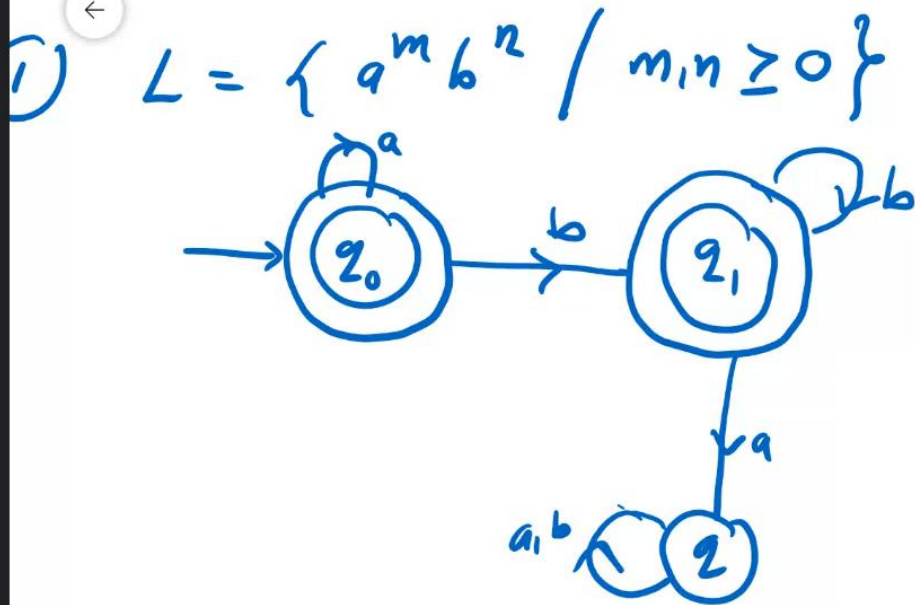


You



Dr. Balu L. Parne SVNIT is presenting

Microsoft Whiteboard



Windows taskbar showing system tray icons (network, volume, battery), language (ENG IN), and time (9:21 AM 1/28/2022).

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



B098 Neelagiri Vijay



U20CS108 OZA DHAIRY...



B096 SNEHARSH BELSA...



B135 Shivam Mishra SVN...



B117 NEELAV BHATIYA S...



Dr. Balu L. Parne SVNIT



U20CS084 AMANKUMA...



You

