

SER 321 B Session

SI Session

Sunday, November 24th 2024

7:00 pm - 8:00 pm MST

Agenda



Assignment 5 Example Tracing

Distributed Structure Review

Consensus Review

RAFT

Peer to Peer

SI Session Expectations

Thanks for coming to the **SER 321** SI session. We have a packed agenda and we are going to try to get through as many of our planned example problems as possible. This session will be recorded and shared with others.

- If after this you want to see additional examples, please visit the drop-in tutoring center.
- We will post the link in the chat now and at the end of the session.
 - tutoring.asu.edu
- Please keep in mind we are recording this session and it will be made available for you to review 24-48 hours after this session concludes.
- Finally, please be respectful to each other during the session.

Interact with us:

Zoom Features



Zoom Chat

- Use the chat feature to interact with the presenter and respond to presenter's questions.
- Annotations are encouraged

SER 321

Assignment 5

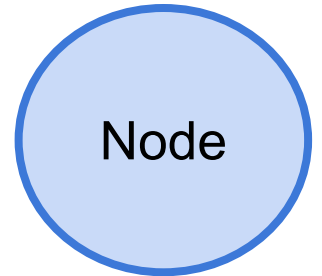
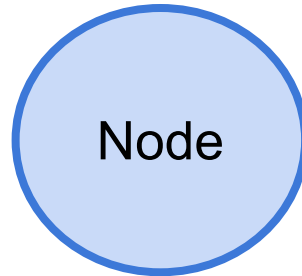
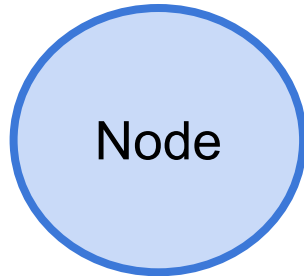
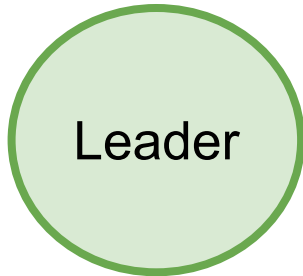
How is Assignment 5 going?

Have we figured out our general structure?

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Assignment 5 Visualization

What does a 'node' represent in our structure?



Check out the recording for the discussion!

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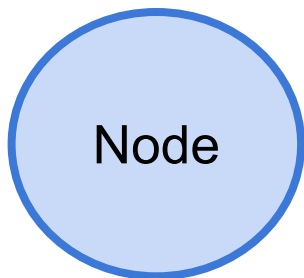
Assignment 5 Visualization

Check out the recording for the discussion!

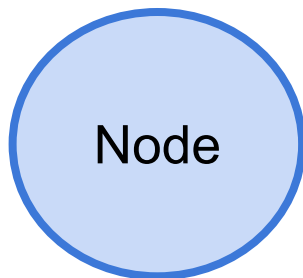
What does a 'node' represent in our structure?



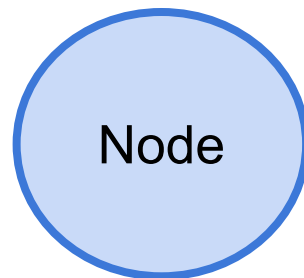
Phoenix



New York



Chicago



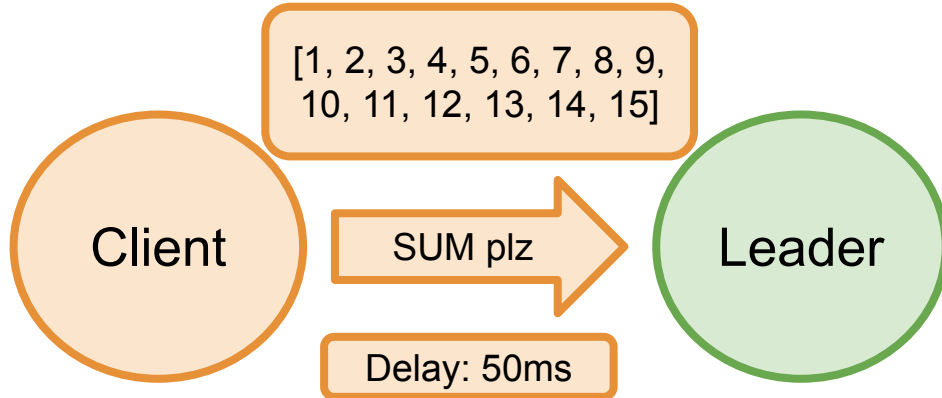
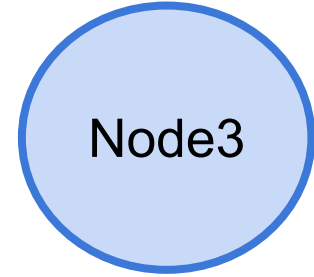
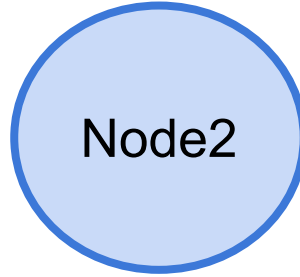
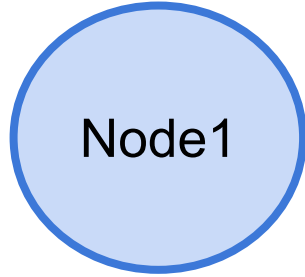
London

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Assignment 5 Visualization

Let's depict the Example...

Check out the recording for the discussion!

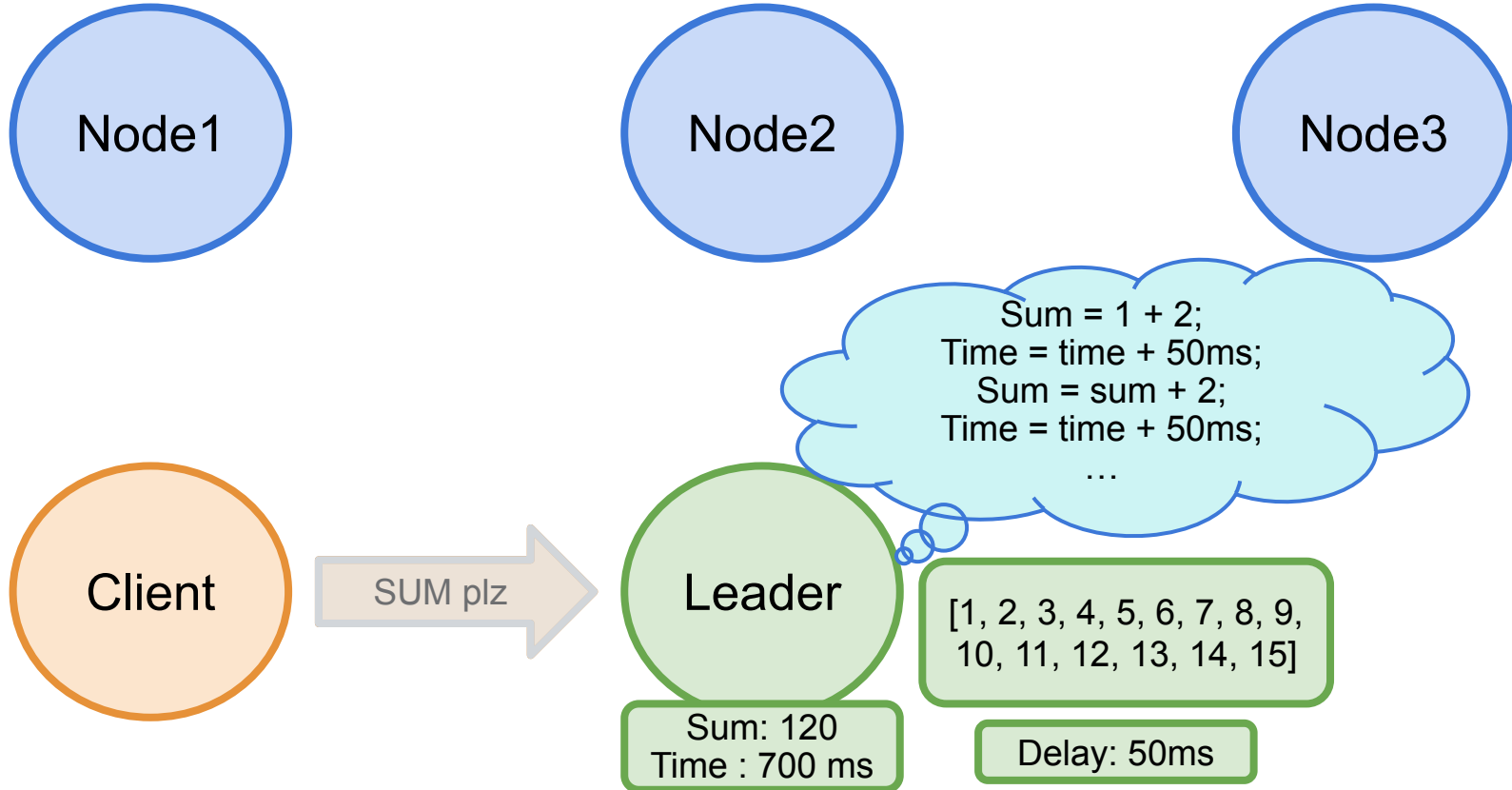


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Assignment 5 Visualization

Let's depict the Example...

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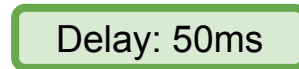
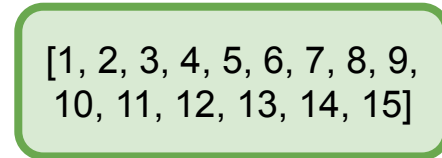
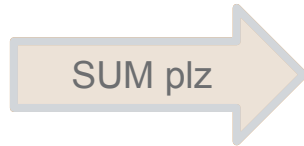
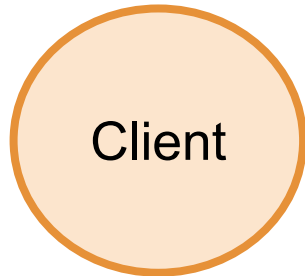
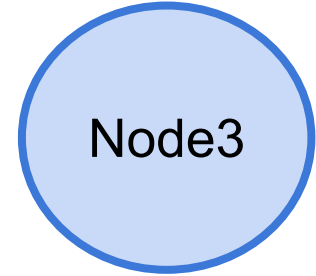
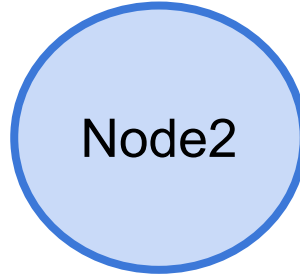
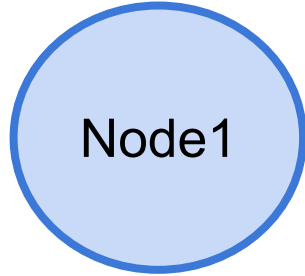


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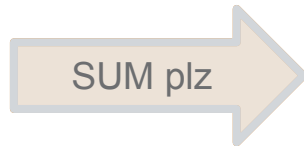
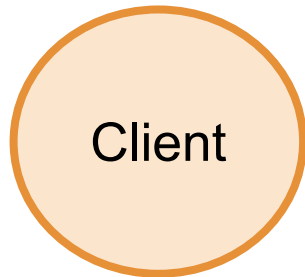
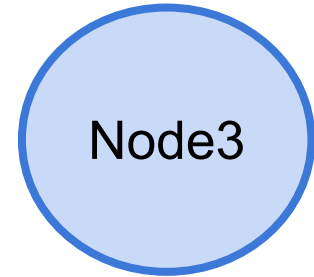
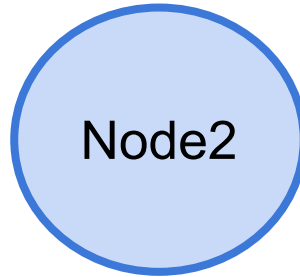
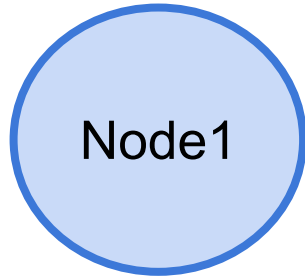


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Assignment 5 Visualization

Let's depict the Example...

Check out the recording for the discussion!



Sum: 120
Time : 700 ms

[1, 2, 3, 4, 5, 6, 7, 8, 9,
10, 11, 12, 13, 14, 15]

Delay: 50ms

[1, 2, 3, 4, 5]

[6, 7, 8, 9, 10]

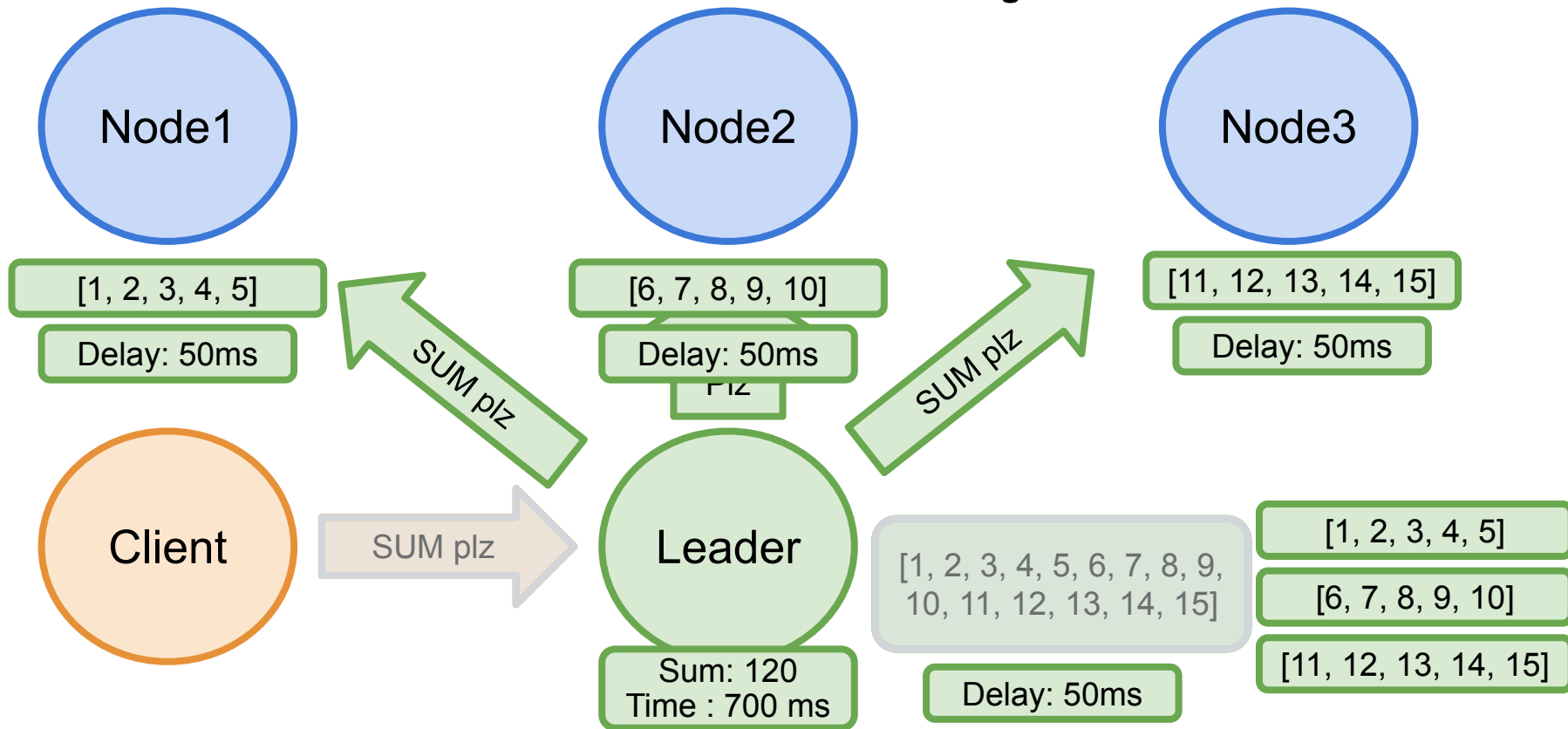
[11, 12, 13, 14, 15]

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Assignment 5 Visualization

Let's depict the Example...

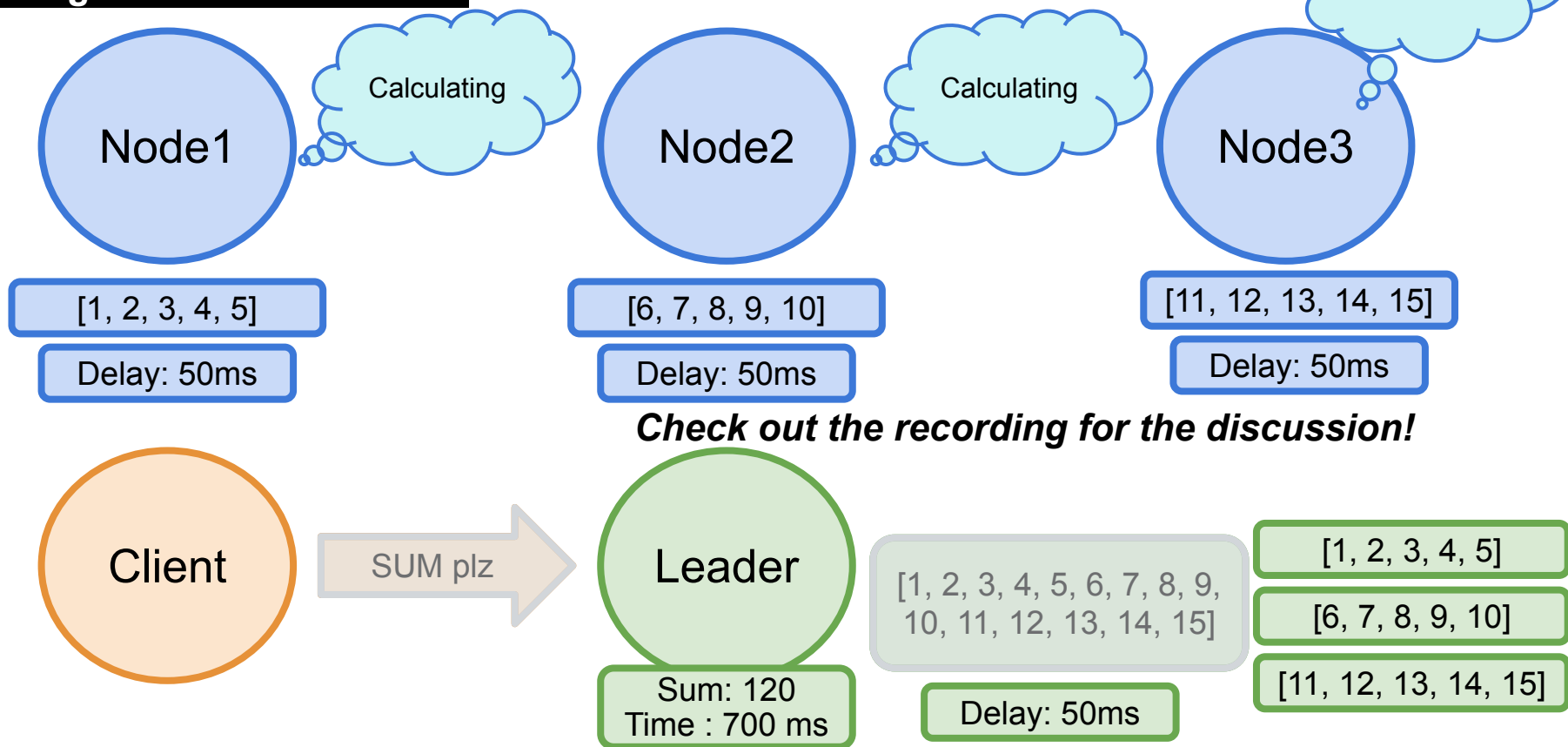
Check out the recording for the discussion!



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Assignment 5 Visualization

Let's depict the Example...

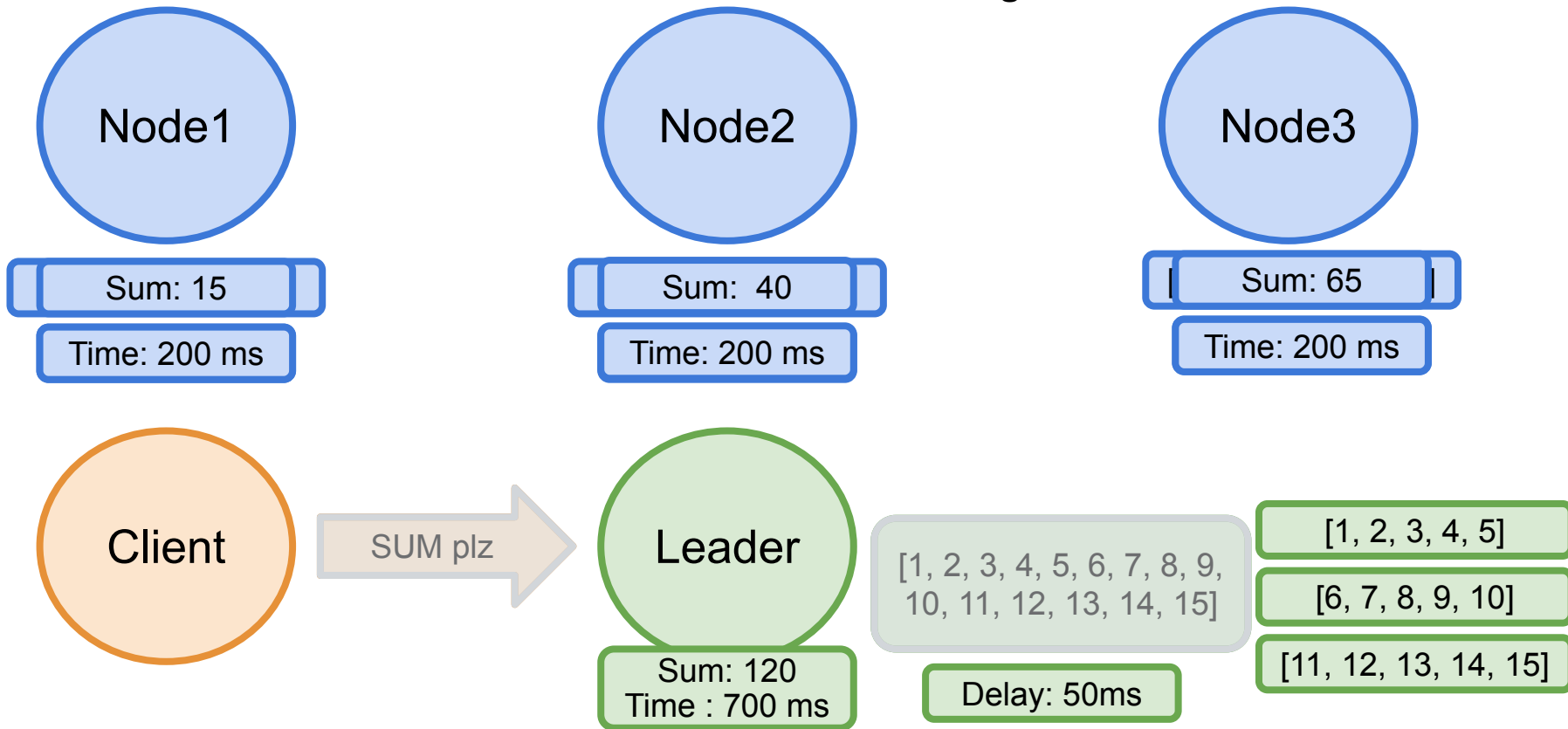


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Assignment 5 Visualization

Let's depict the Example...

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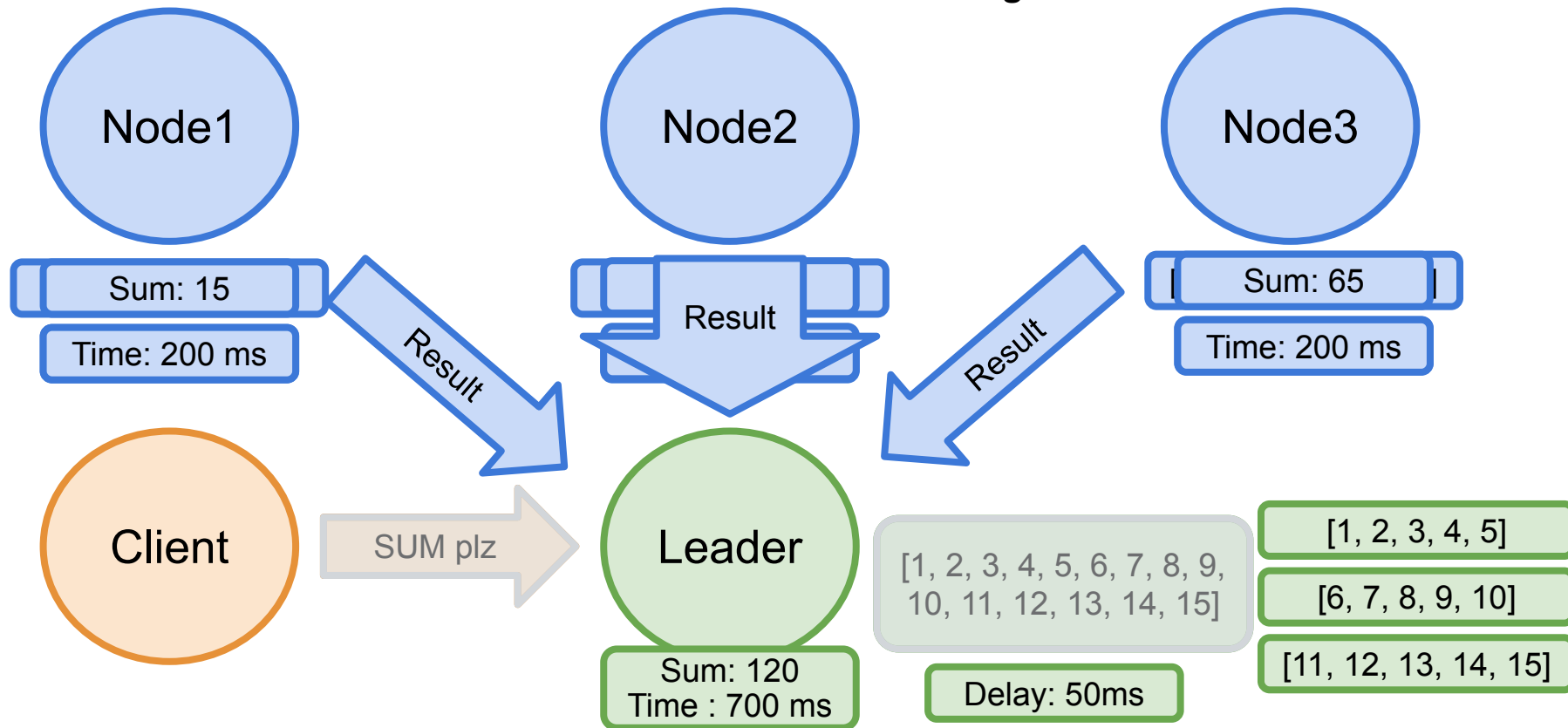


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Assignment 5 Visualization

Let's depict the Example...

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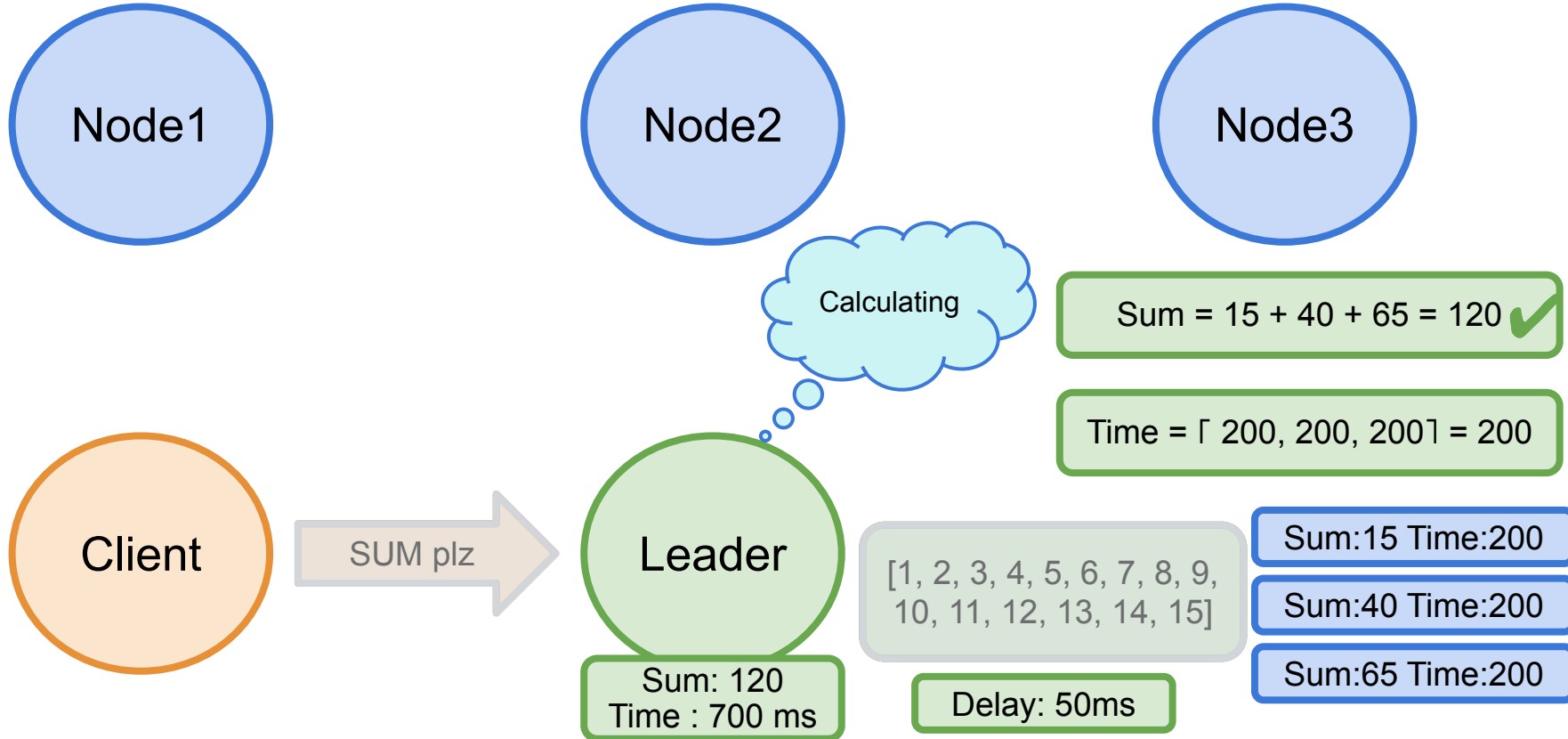


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Assignment 5 Visualization

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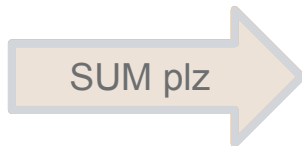
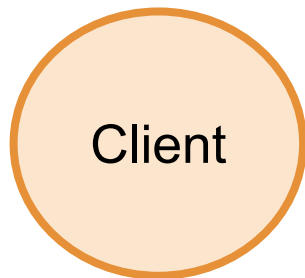
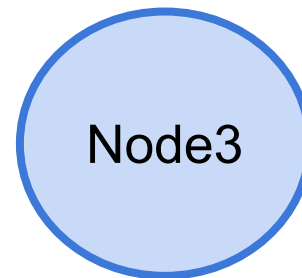
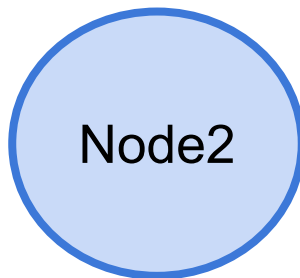
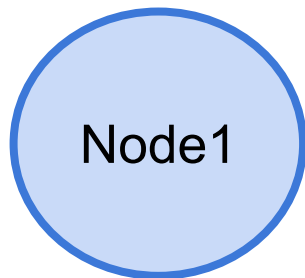


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Assignment 5 Visualization

Let's depict the Example...

Check out the recording for the discussion!



Sum: 120
Time : 700 ms

Time comparison
depends on your
implementation!



Sum = 15 + 40 + 65 = 120 ✓

Time = $\lceil 200, 200, 200 \rceil = 200$

[1, 2, 3, 4, 5, 6, 7, 8, 9,
10, 11, 12, 13, 14, 15]

Delay: 50ms

Sum:15 Time:200

Sum:40 Time:200

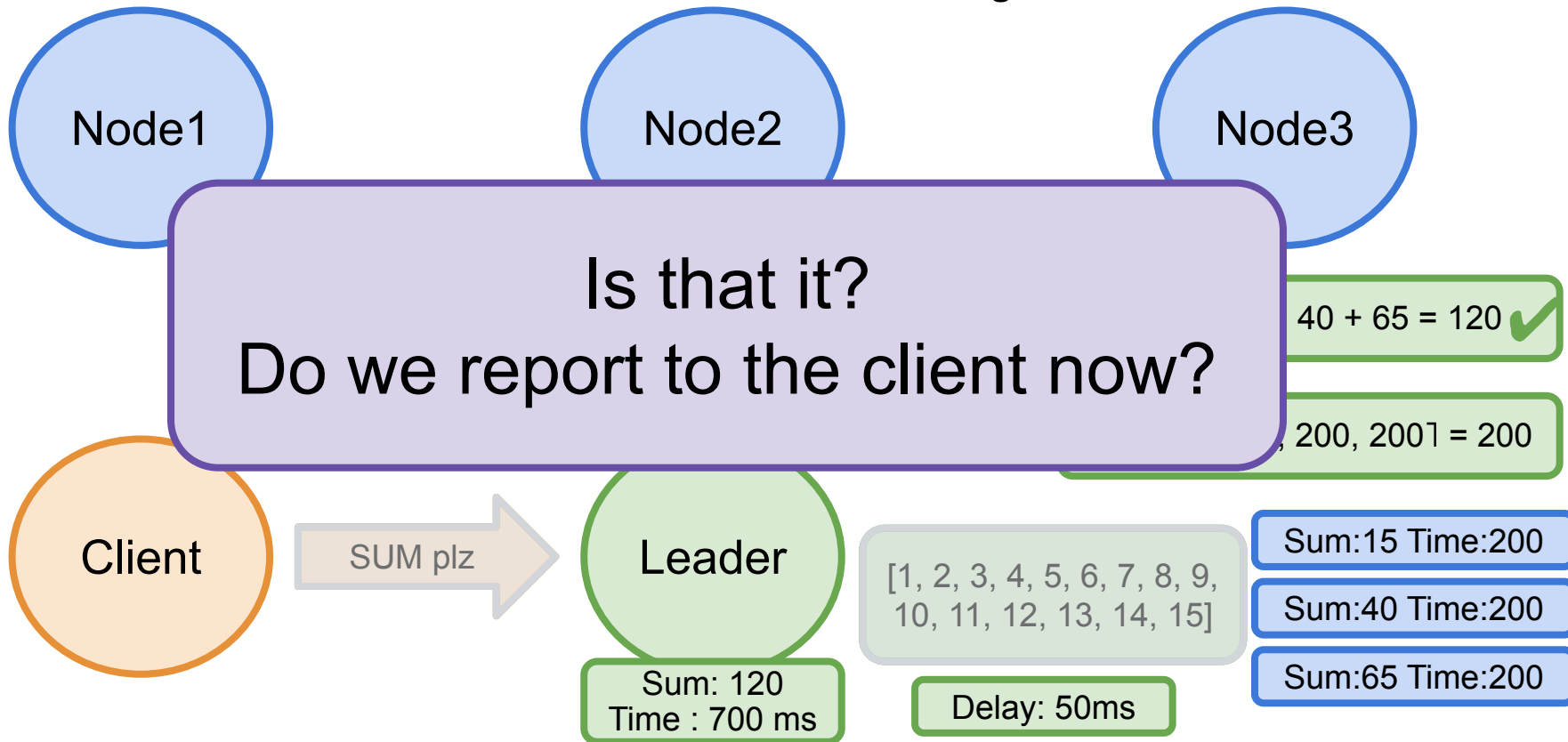
Sum:65 Time:200

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Assignment 5 Visualization

Let's depict the Example...

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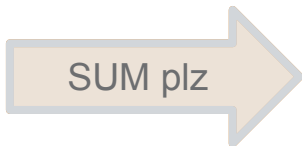
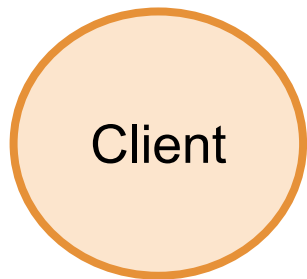
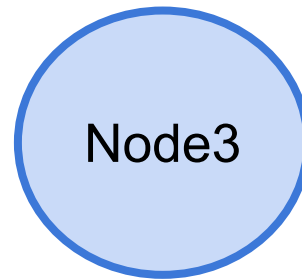
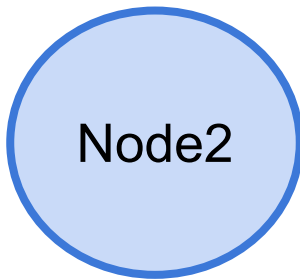
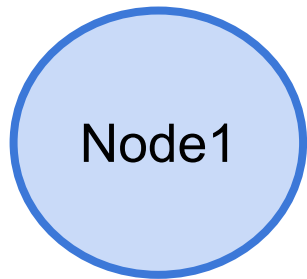


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Assignment 5 Visualization

Let's depict the Example...

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[1, 2, 3, 4, 5, 6, 7, 8, 9,
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Delay: 50ms

Sum = 15 + 40 + 65 = 120 ✓

Time = ⌈ 200, 200, 200 ⌋ = 200

Sum:15 Time:200

Sum:40 Time:200

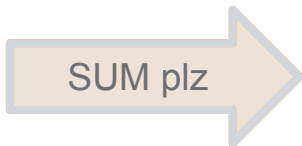
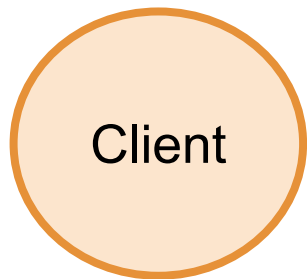
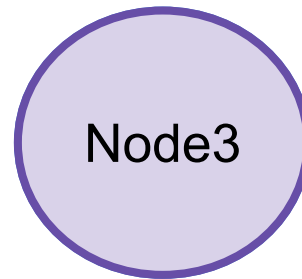
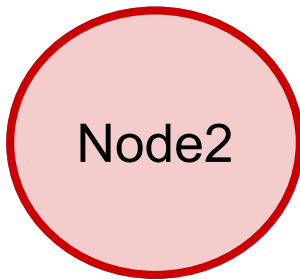
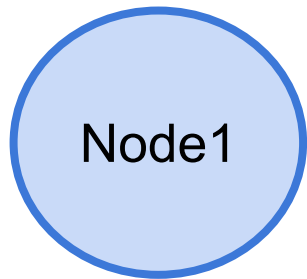
Sum:65 Time:200

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Assignment 5 Visualization

Let's depict the Example...

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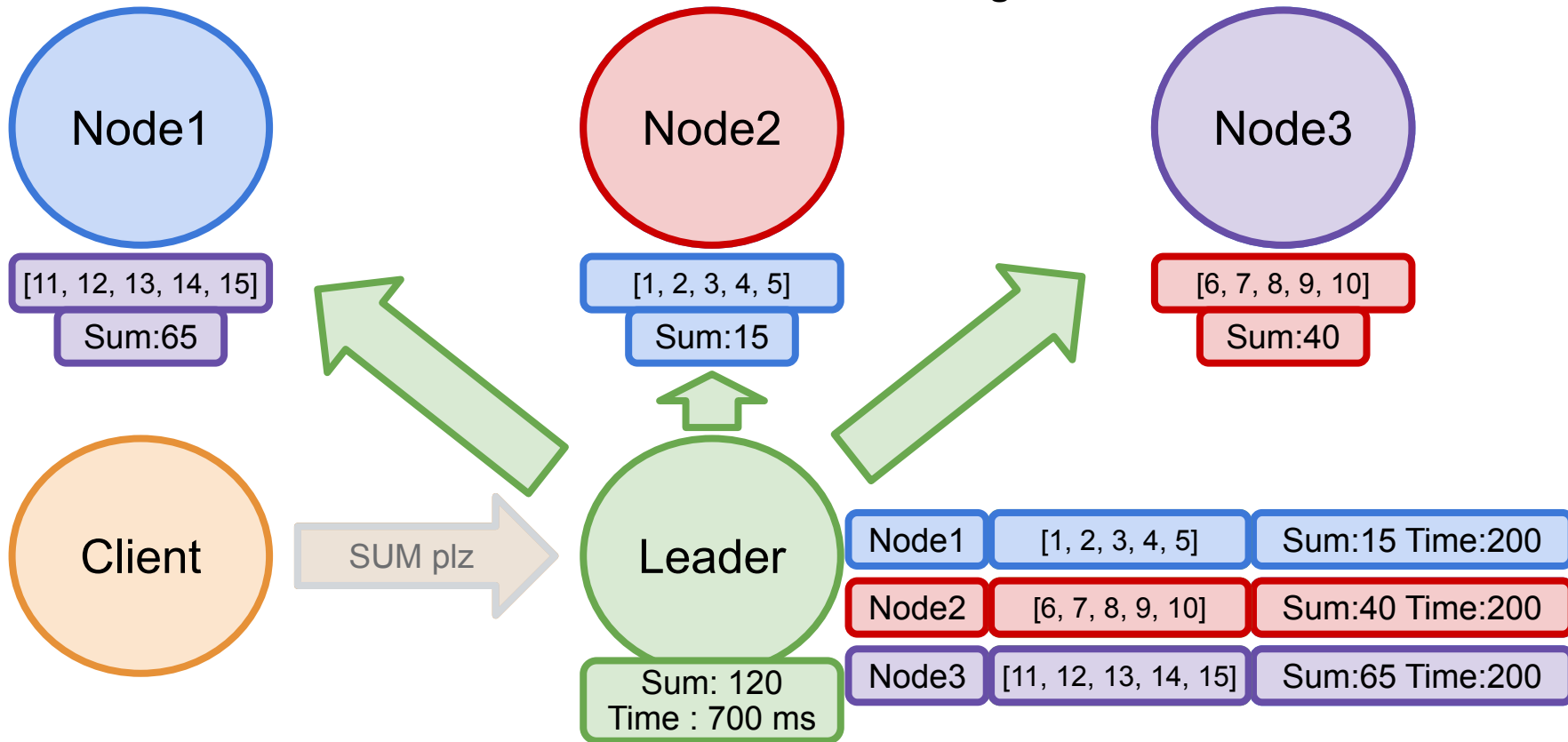
| | | |
|-------|----------------------|-----------------|
| Node1 | [1, 2, 3, 4, 5] | Sum:15 Time:200 |
| Node2 | [6, 7, 8, 9, 10] | Sum:40 Time:200 |
| Node3 | [11, 12, 13, 14, 15] | Sum:65 Time:200 |

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Assignment 5 Visualization

Let's depict the Example...

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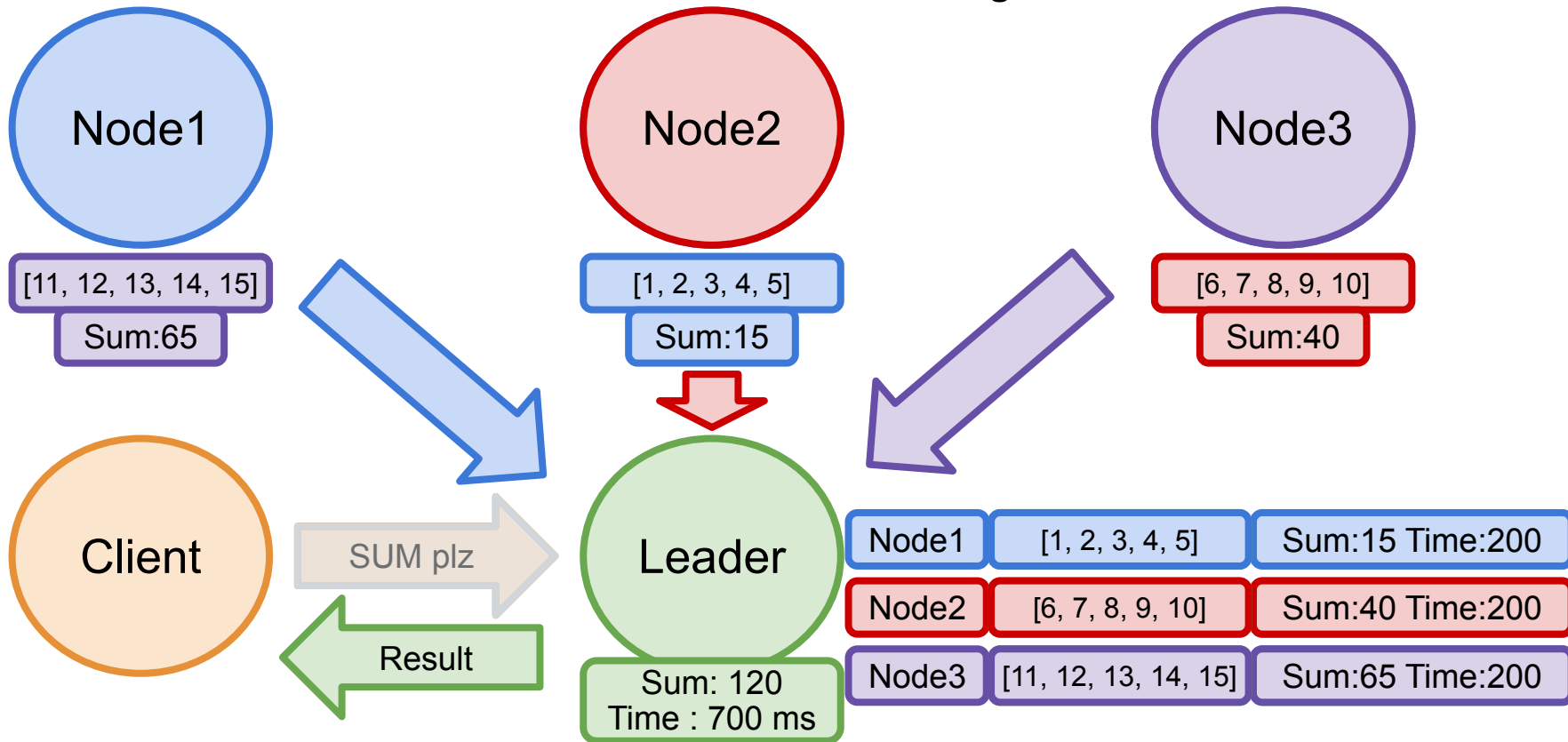


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Assignment 5 Visualization

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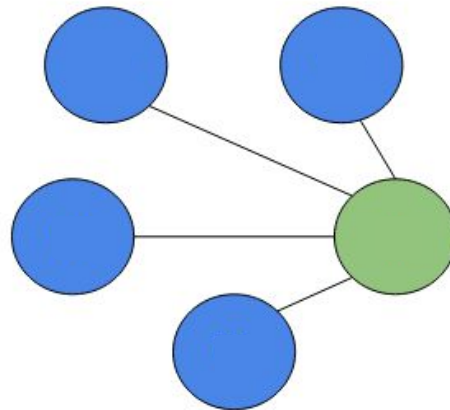
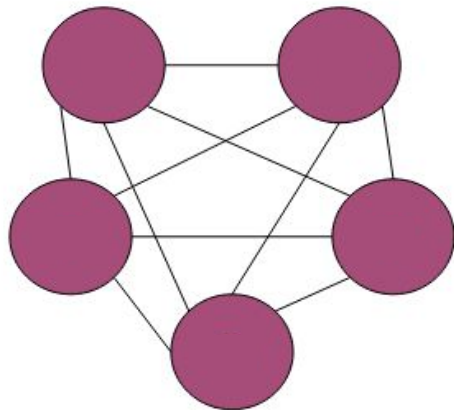


Main and Worker

Peer to Peer

Which is which?

Check out the recording for the discussion!



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Distributed Systems

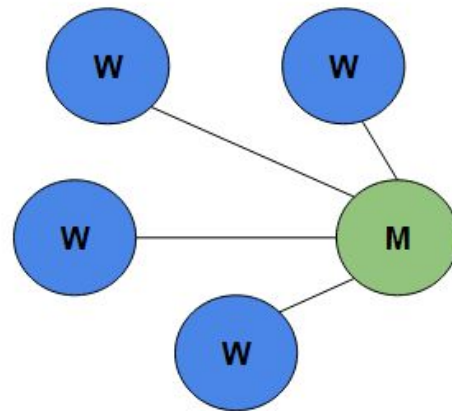
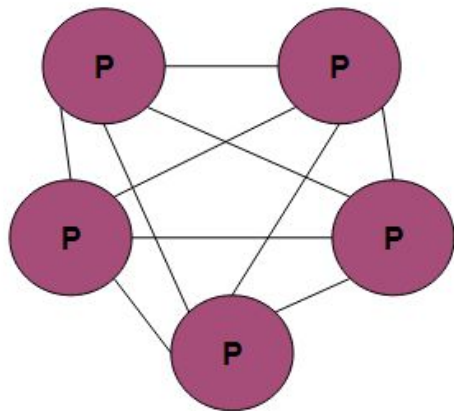
Main and Worker

Peer to Peer

Which is which?

Check out the recording for the discussion!

Peer to Peer



Main and
Worker

What structure did we depict in
the assign 5 example?

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Consensus

“General agreement or trust amongst a group”

Types of Consensus?

Leader Election



Who's in charge or keeping the beat

Result Verification



Check your work with a neighbor

Check out the recording for the discussion!

Log Replication



Verify and maintain my copy of the data

Node Validation



Do I want to let you into my network

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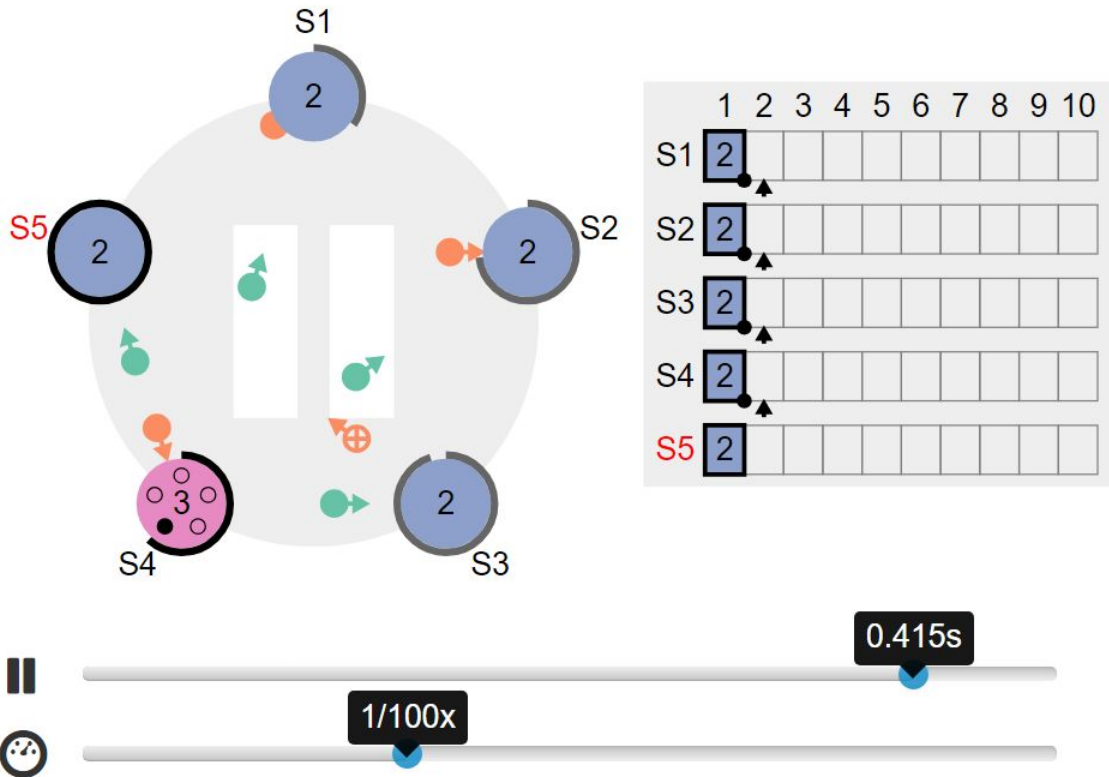
RAFT

Check out the recording for the discussion!

RAFT is a
great
consensus
example!

Leader Election

Log Replication



[The Secret Lives of Data](#) is a different visualization of Raft. It's more guided and less interactive, so it may be a gentler starting point.

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Scratch Space

Upcoming Events

SI Sessions:

- Tuesday, November 26th at 10:00 am MST
- ~~Thursday, November 28th at 7:00 pm MST~~ **CANCELLED - Happy Thanksgiving!**
- Sunday, December 1st at 7:00 pm MST - **2 hour Review Session**
- Tuesday, December 3rd at 10:00 am MST - **Q&A Session**

Review Sessions:

- Sunday, December 1st at 7:00 pm MST - **2 hour Review Session**
- Tuesday, December 3rd at 10:00 am MST - **Q&A Session**

Questions?

Survey:

<https://asuasn.info/ASNSurvey>



More Questions?

Check out our other resources!

tutoring.asu.edu



Academic Support

Academic Support Network (ASN) provides a variety of free services in-person and online to help currently enrolled ASU students succeed academically.

Services



Subject Area Tutoring

Need in-person or online help with math, science, business, or engineering courses? Just hop into our Zoom room or drop into a center for small group tutoring. We'll take it from there.

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[View the tutoring schedule](#)

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Go to Zoom



Writing Tutoring

Need help with undergraduate or graduate writing assignments? Schedule an in-person or online appointment, access your appointment link, or wait in our drop-in queue.

[Access your appointment link](#)

[Access the drop-in queue](#)

Schedule Appointment



Online Study Hub

Join our online peer communities to connect with your fellow Sun Devils. Engage with our tools to search our bank of resources, videos, and previously asked questions. Or, ask our Tutorbot questions.

Now supporting courses in Math, Science, Business, Engineering, and Writing.

Online Study Hub

1-

Go to Zoom

2-

[Need help using Zoom?](#)

[View the tutoring schedule](#)

[View digital resources](#)



1. Click on 'Go to Zoom' to log onto our Online Tutoring Center.
2. Click on 'View the tutoring schedule' to see when tutors are available for specific courses.

More Questions?

Check out our other resources!

tutoring.asu.edu/online-study-hub

 **Academic Support Network**

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Online Study Hub

Online peer communities for students and tutors, YouTube channels, and Tutorbots.



What are online peer communities?

Individual courses have an online peer community that allows you to connect with your peers to post and answer questions and to develop study groups.



How can tutoring center videos help?

Videos can help supplement the learning you're doing in and outside of class and include step-by-step methods for how to understand concepts.



How does the Tutorbot work?

You can ask the Tutorbot questions about course concepts and the Tutorbot will recommend additional resources and examples to help address your questions.

Select a subject

- Any -

Apply



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Select a subject

- Any -

Apply

Business


ACC 231

Uses of Accounting Info I

 [Peer Community](#)

ACC 241

Uses of Accounting Info II

 [Peer Community](#)

CIS 105

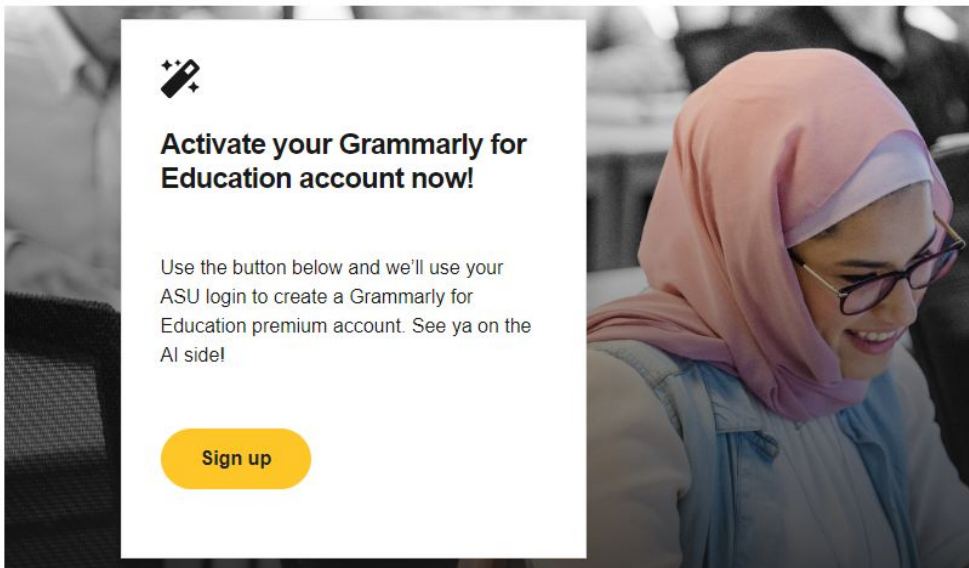
Computer Applications and Information Technology


 [Peer Community](#)

Don't forget to check out the Online Study Hub for additional resources!

Expanded Writing Support Available

Including Grammarly for Education, at no cost!





Activate your Grammarly for Education account now!

Use the button below and we'll use your ASU login to create a Grammarly for Education premium account. See ya on the AI side!

[Sign up](#)



tutoring.asu.edu/expanded-writing-support

*Available slots for this pilot are limited

Additional Resources

- [Course Repo](#)
- [Gradle Documentation](#)
- [GitHub SSH Help](#)
- [Linux Man Pages](#)
- [OSI Interactive](#)
- [MDN HTTP Docs](#)
 - [Requests](#)
 - [Responses](#)
- [JSON Guide](#)
- [org.json Docs](#)
- [javax.swing package API](#)
- [Swing Tutorials](#)
- [Dining Philosophers Interactive](#)
- [Austin G Walters Traffic Comparison](#)
- [RAFT](#)