

SER 321 B Session

SI Session

Monday, November 13th 2023

4:00 - 5:00 pm MST

Agenda



Distributed Structures

Parallel vs. Distributed Processing

When *not* to Distribute

When to Distribute

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

Check out the recording for the discussion!

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Distributed Structures

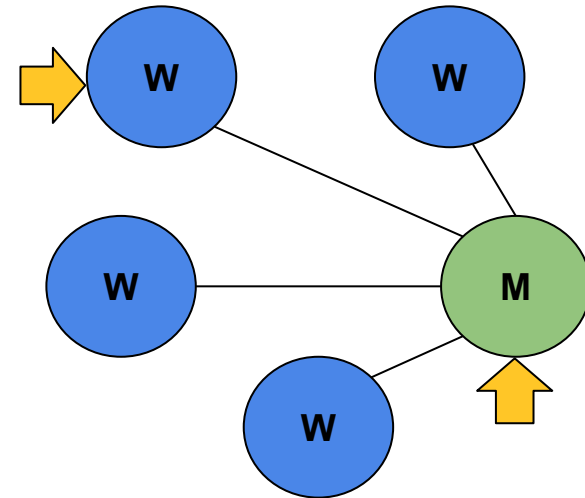
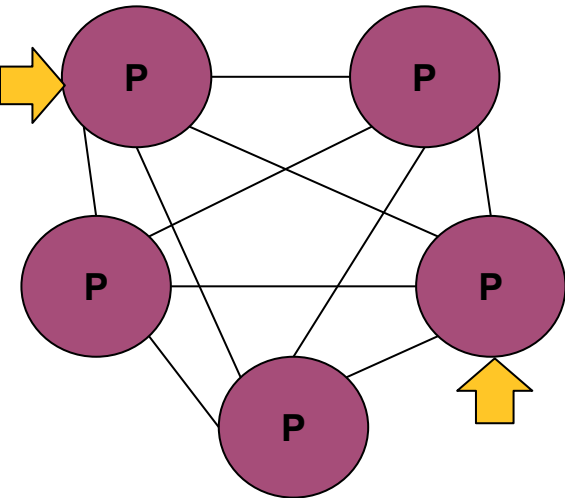
We look at two main forms:

Peer to Peer

Main and Worker

What's the difference?

1. Node Structure



Check out the recording for the discussion!

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Distributed Structures

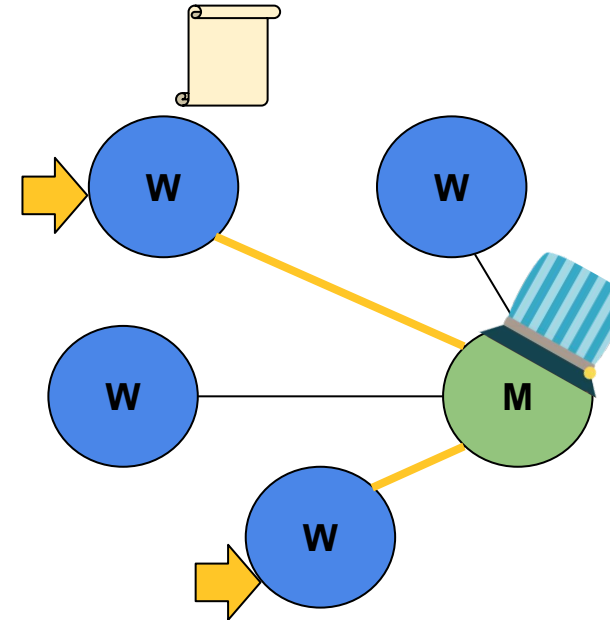
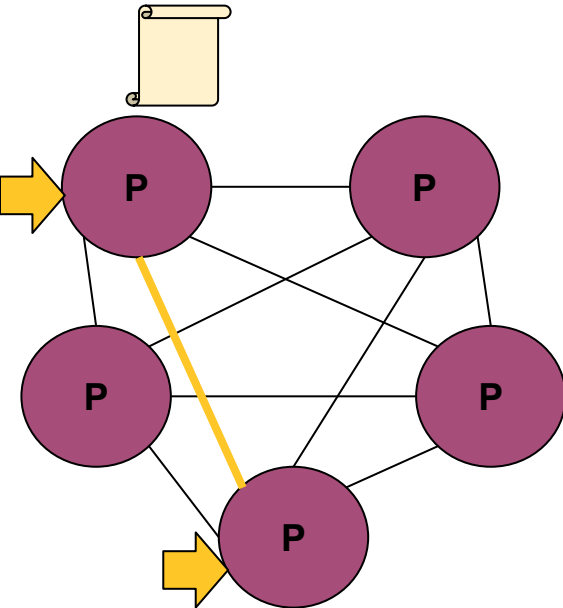
We look at two main forms:

Peer to Peer

Main and Worker

What's the difference?

1. Node Structure
2. Communication



Check out the recording for the discussion!

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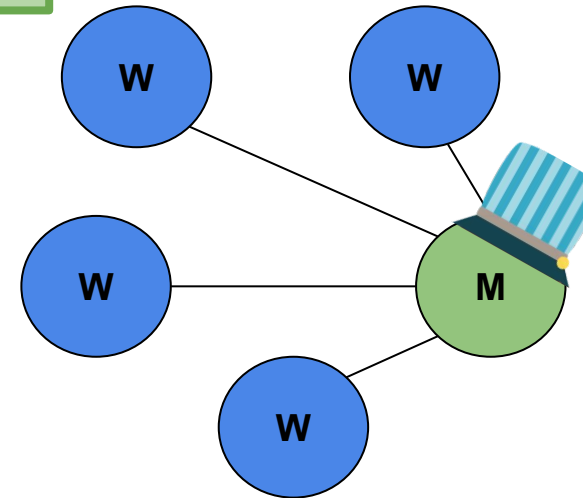
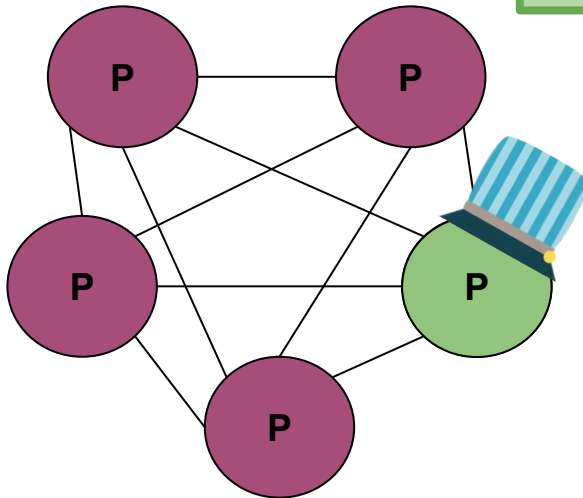
Distributed Structures

What if there is a leader?

Peer to Peer

Main and Worker

**Now they look even more similar!
How are they different?**



Check out the recording for the discussion!

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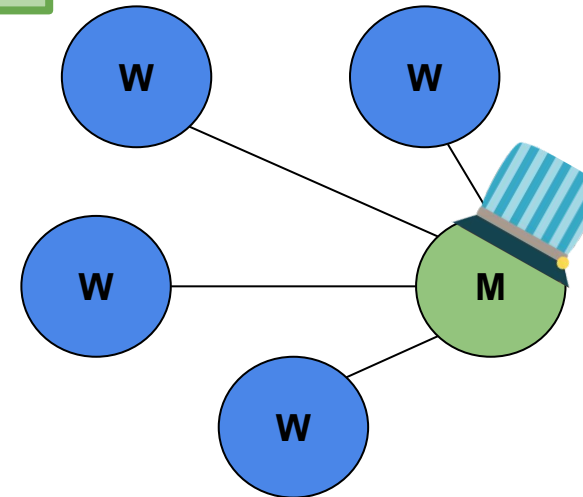
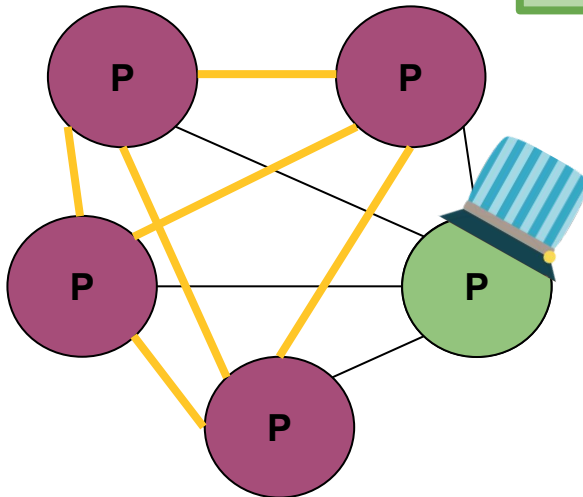
Distributed Structures

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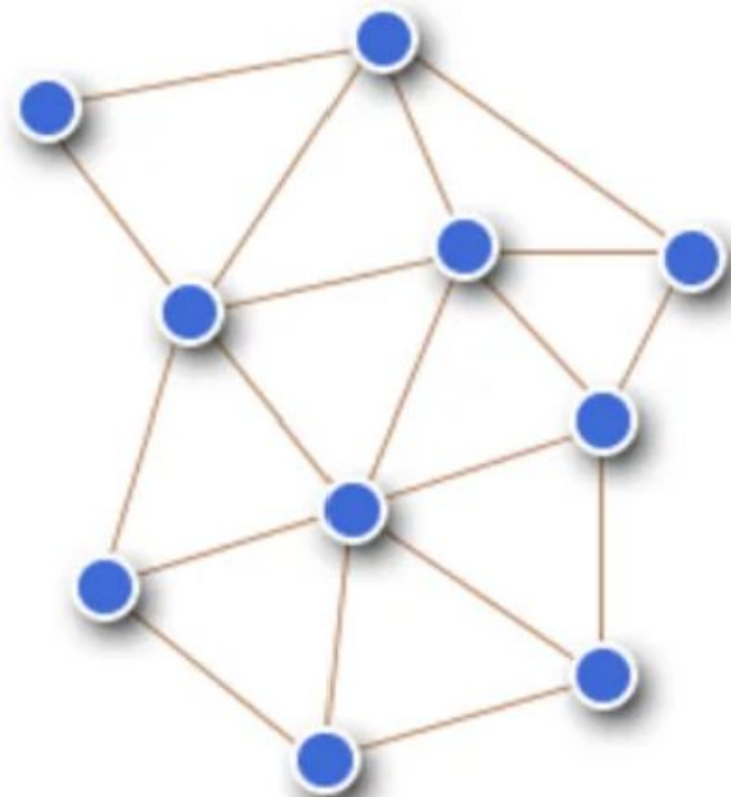
Distributed Processing

Recall that we are operating in *reality*

- Nodes will fail
- There will be latency
- There will be network issues

Why do we keep mentioning this?

We are responsible for handling these pitfalls accordingly!



Check out the recording for the discussion!

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Distributed Processing

Recall that we are operating in *reality*

- Nodes will fail
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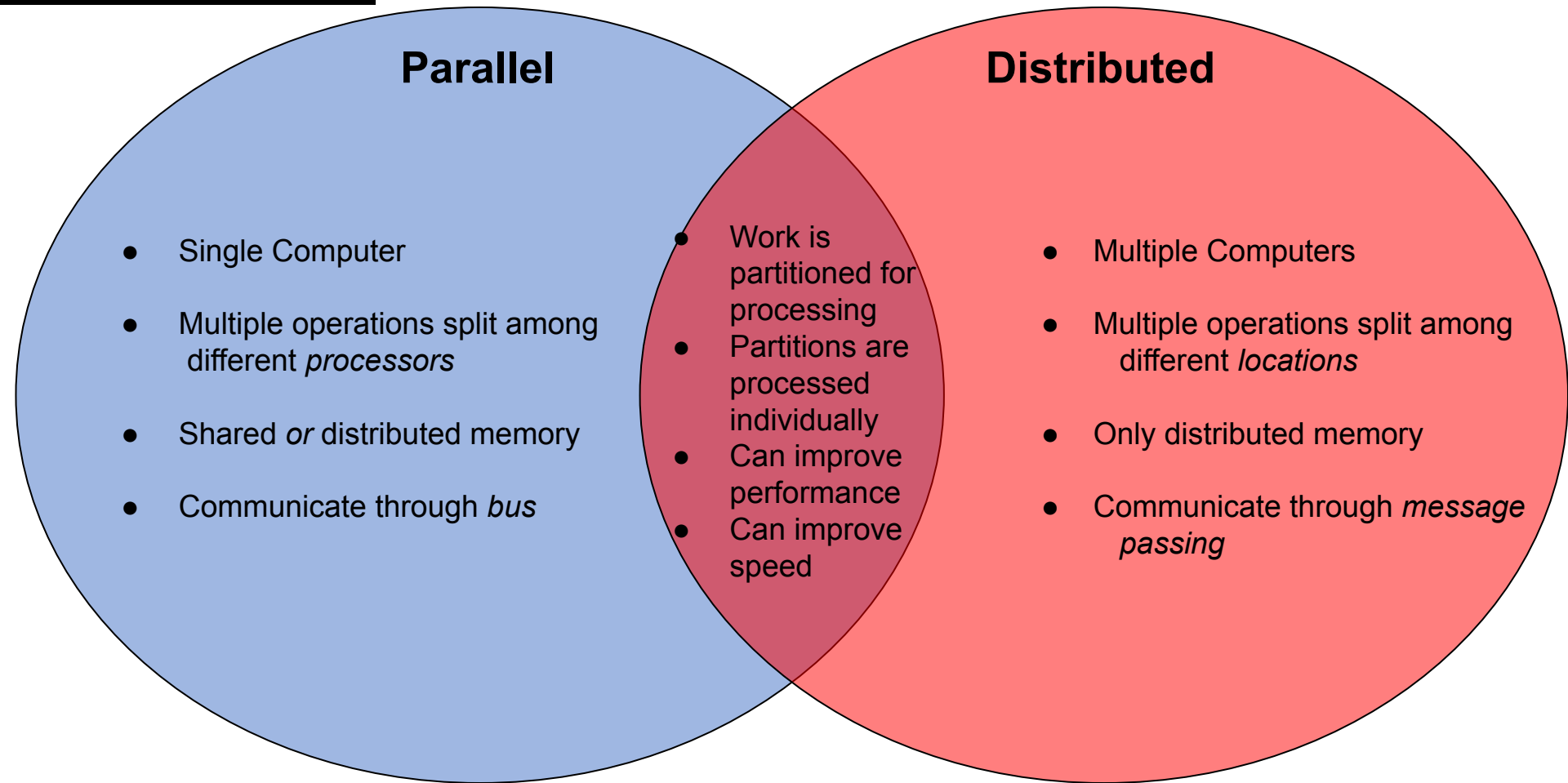
Potential Messages to Client:

- Could not connect to server
- Connection is taking longer than usual
- Connection lost, reconnecting

Why do we keep mentioning this?

We are responsible for handling these pitfalls accordingly!

Check out the recording for the discussion!



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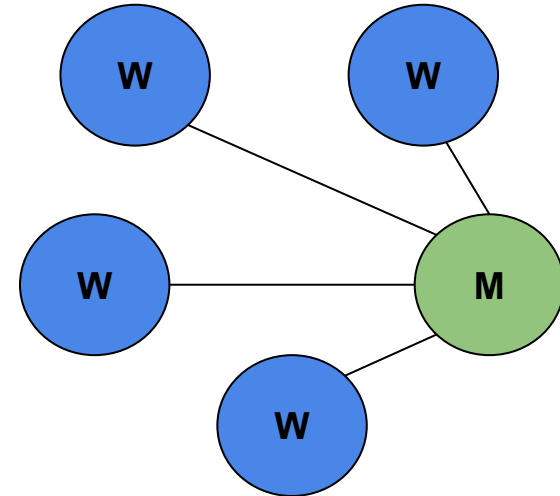
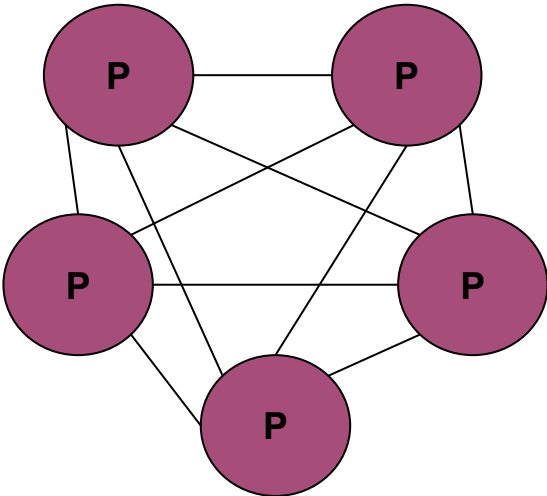
Distributed Processing

Haven't we been using *parallel processing* not *distributed processing* in the assignments...

To ***simulate*** distributed processing!

Threads

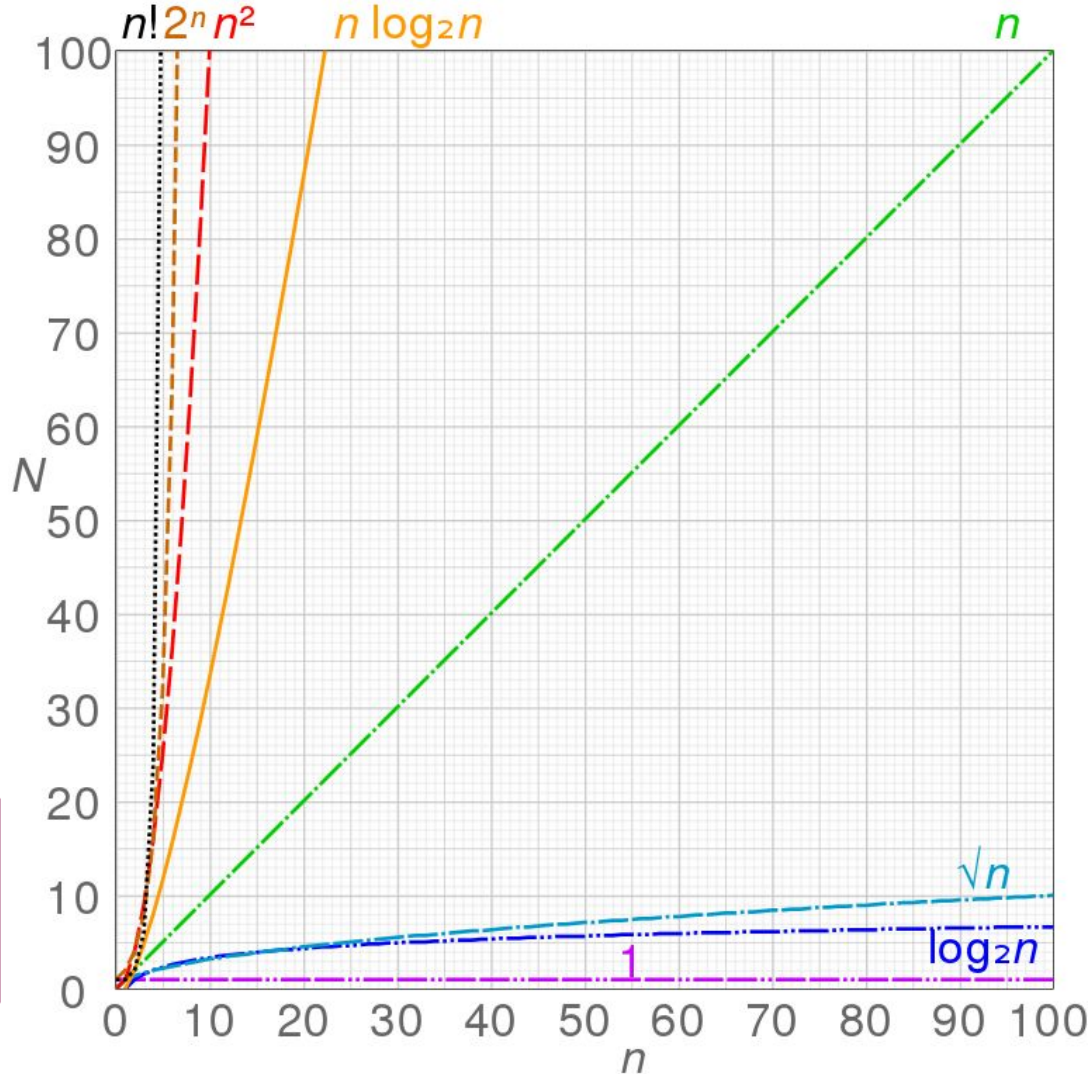
Nodes



Distributed Processing

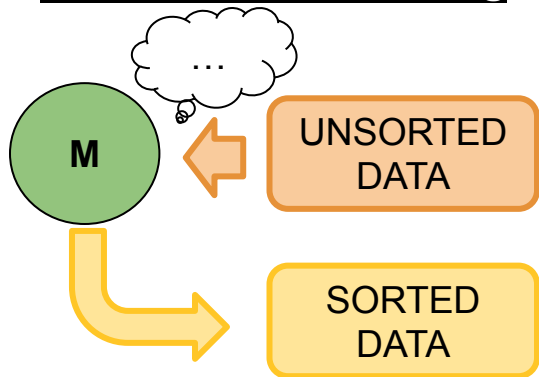


Check out the recording for the solution!



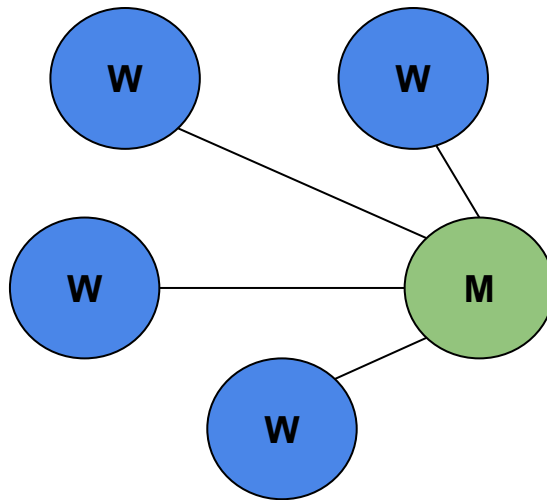
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Distributed Processing



Cost: \$

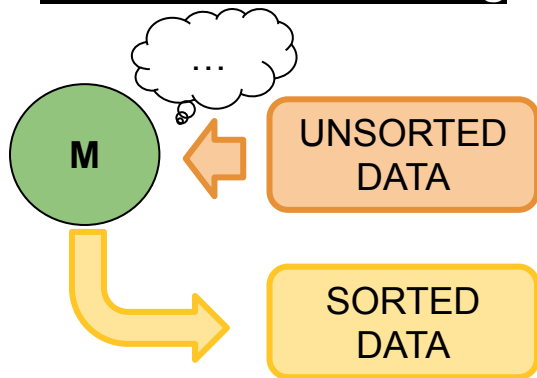
Why only the cases with extremely large orders?



Cost:

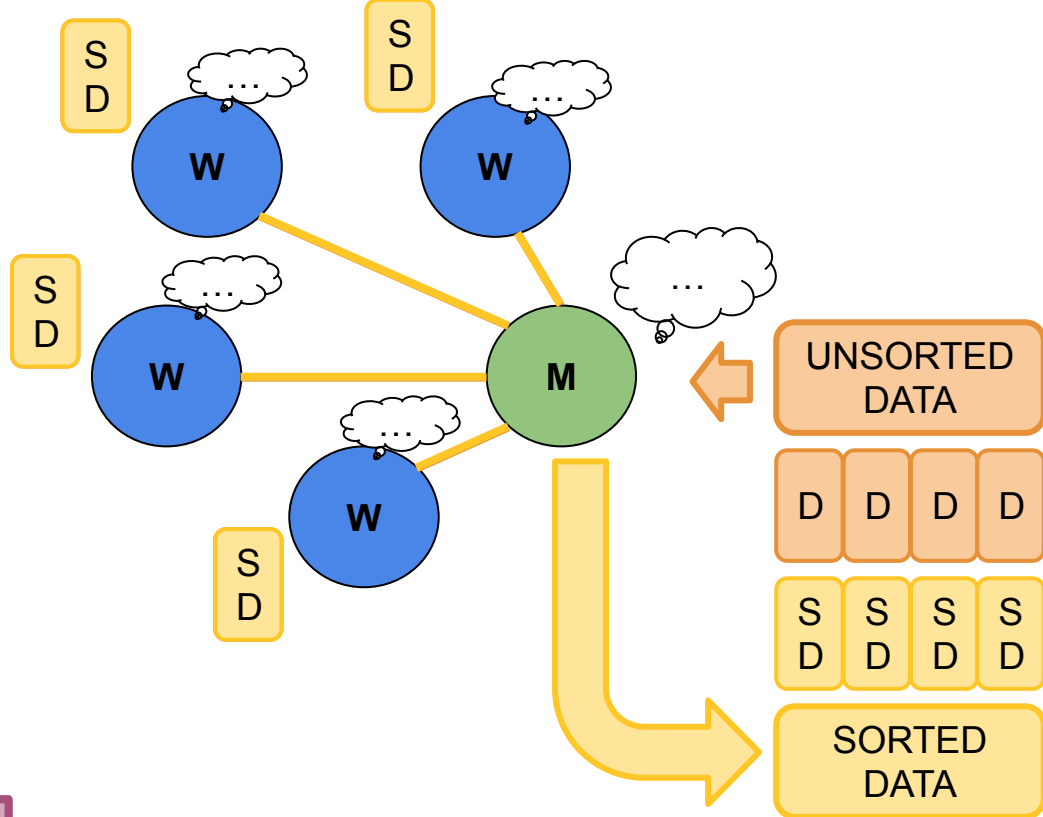
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Distributed Processing



Cost: \$

Why only the cases with extremely large orders?



Cost: \$ \$ \$ \$ \$

Check out the recording for the full solution!

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Distributed Processing

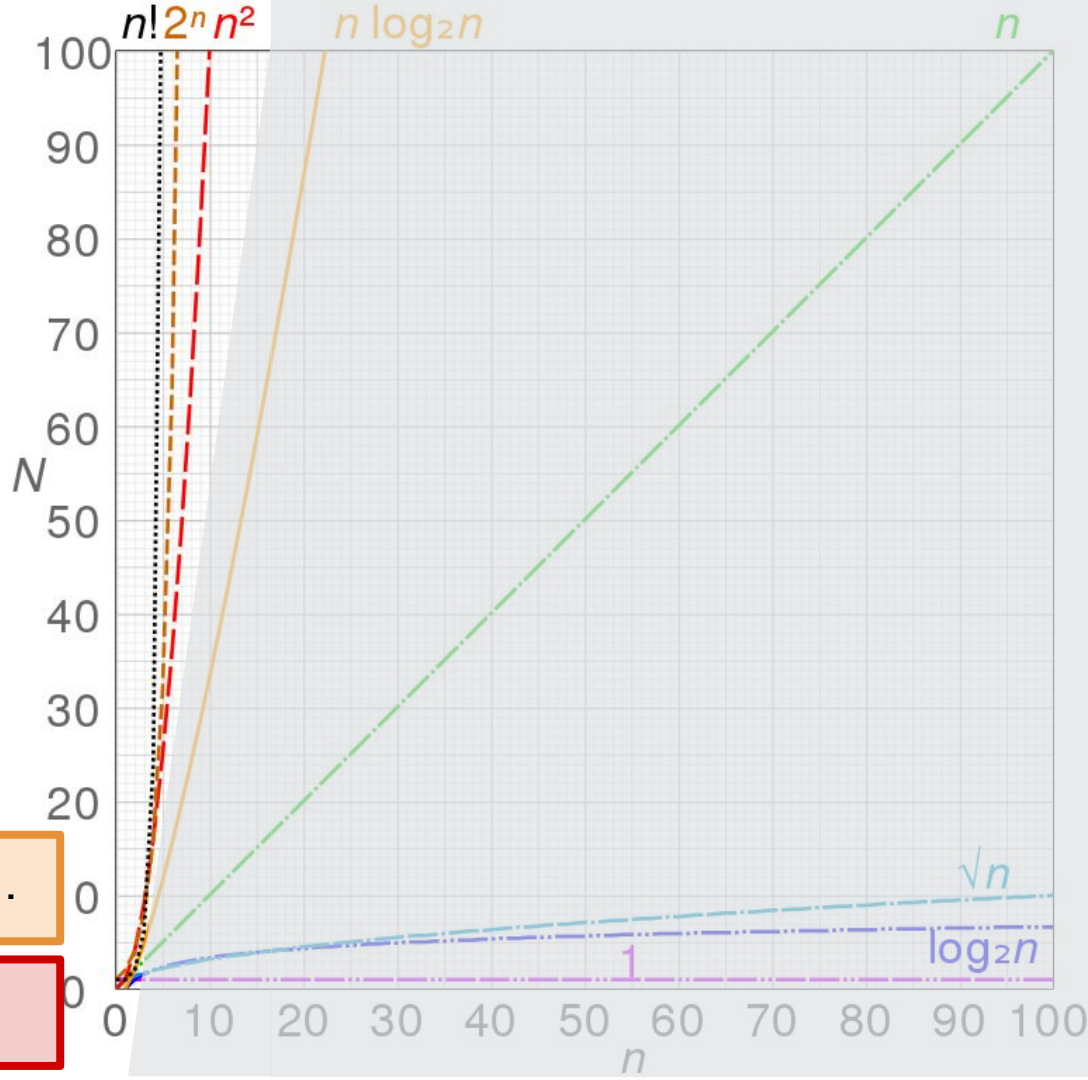
When would it be best to use a distributed structure?

- Extremely large O values
- Extreme amounts of data
- Time constraints

More than just thinking large...

More than just thinking EXTRA large...

SUPER DUPER XTREMELY LARGE



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Distributed Processing

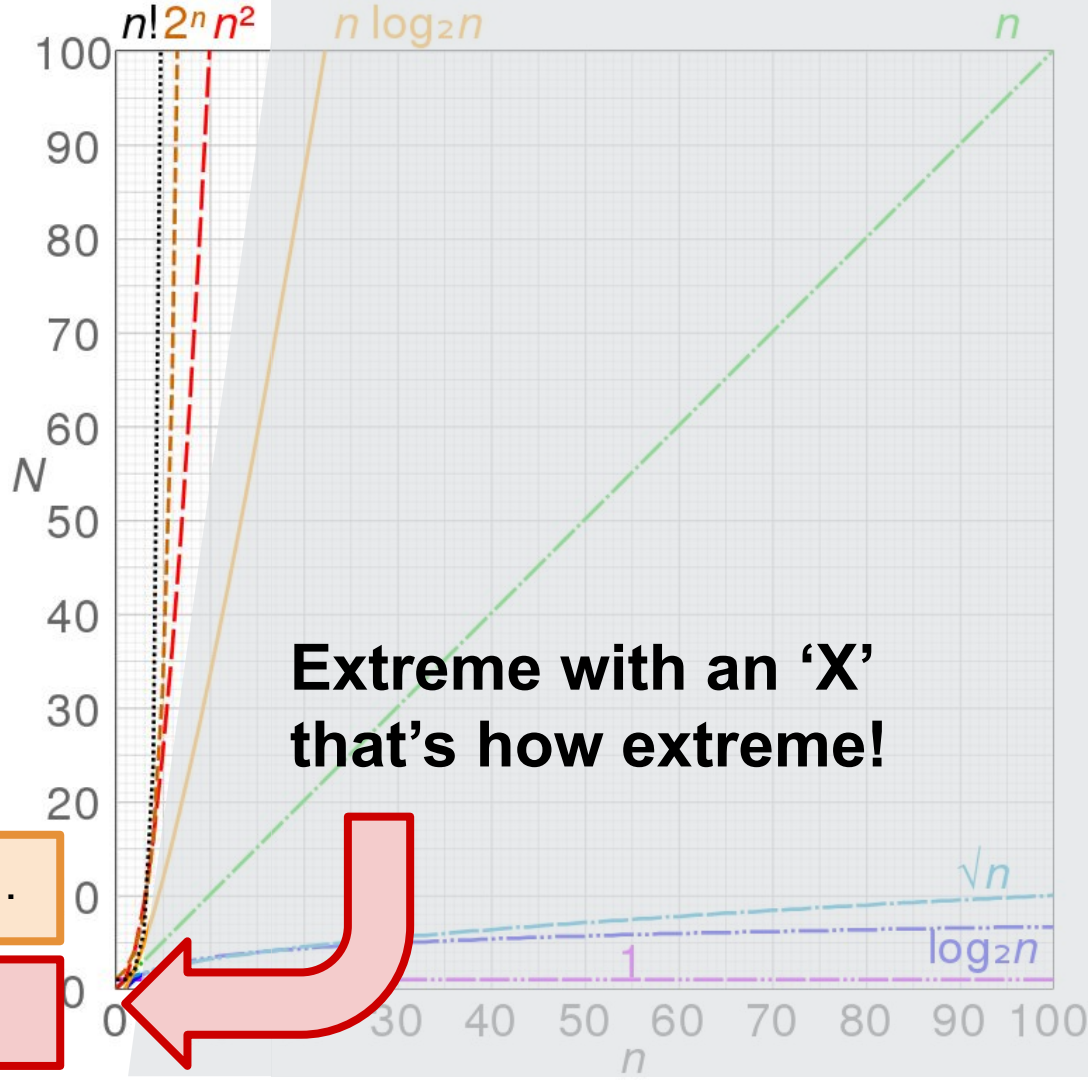
When would it be best to use a distributed structure?

- Extremely large O values
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More than just thinking EXTRA large...

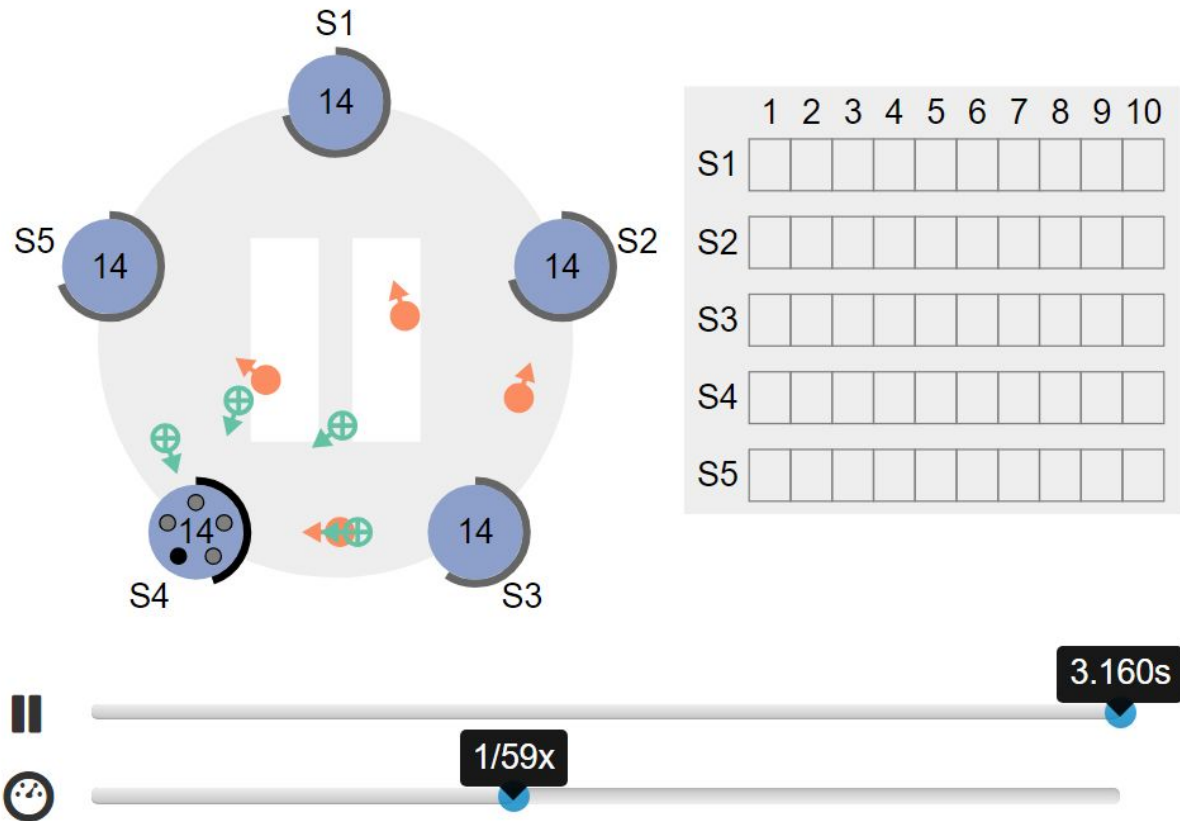
SUPER DUPER XTREMELY LARGE



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RAFT

RAFT



Questions?

Survey:

https://bit.ly/asn_survey



Upcoming Events

SI Sessions:

- Thursday, November 16th 2023 at 7:00 pm MST
- Sunday, November 19th 2023 at 7:00 pm MST
- Monday, November 20th 2023 at 4:00 pm MST

Review Sessions:

- Survey is LIVE in the [#si_channel](#)
- Sunday, November 26th or Monday November 27th
- **Goal: reserve our spot by this Friday (November 17th)**

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



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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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[Access the drop-in queue](#)

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

Online Study Hub

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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

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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.

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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!

Additional Resources

[CourRepo](#)

[Dining Philosophers Interactive](#)

[RAFT Interactive](#)