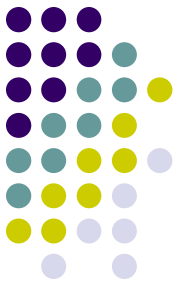


Distributed Systems

Course Outlines





Course Outlines

Topic-1: Parallel Computing

- *Cost versus Performance*
- *What is Parallel Computing?*
- *The Scope of Parallel Computing*
- *Issues in Parallel Computing*



Course Outlines

Topic-2: Models of Parallel Computers

- *Sequential Computers*
- *A Taxonomy of Parallel Architectures*
- *Dynamic Interconnection Networks*
- *Static Interconnection Networks*
- *Evaluating Static Interconnection Networks*



Course Outlines

Topic-3: Characterization of Distributed Systems

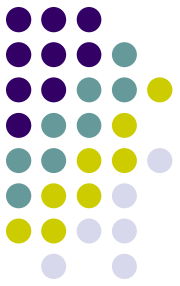
- *Introduction – Distributed Systems (DS)*
- *Examples of DS*
- *Trends in DS*
- *DS Challenges*
- *Parallel vs. Distributed Processing*
- *Parallel vs. Distributed Storage System*



Course Outlines

Topic-4: System Models

- *Generations of Distributed Systems*
- *Physical Model*
- *Architectural Model*
- *Fundamental Model*



Course Outlines

Topic-5: Networking and Internetworking

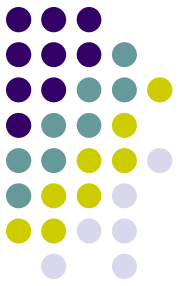
- *Types of Networks*
- *Network Principles*
- *Internet Protocols*
- *Network Issues for Distributed Systems*



Course Outlines

Topic-6: Interprocess Communication

- *Introduction – Interprocess Communication*
- *The Application Program Interface (API) for the Internet Protocols*
- *External Data Representation and Marshalling*



Course Outlines

Topic-7: Remote Invocation

- *Introduction*
- *Request-Reply Protocols*
- *Remote Procedure Call*
- *Remote Method Invocation*



Course Outlines

Topic-8: Operating System Support

- *Introduction*
- *Operating System Layer*
- *Protection*
- *Processes and Threads*
- *Communication and Invocation*



References

Grama, A. Gupta, G. Karypis, and V. Kumar, Introduction to Parallel Computing, 2nd Edition, Addison Wesley, 2003.

[Introduction to Parallel Computing, Second Edition-Ananth Grama, Anshul Gupta, George Karypis, Vipin Kumar.pdf \(google.com\)](#)

George Coulouris, Jean Dollimore, Tim Kindberg, and Gordon Blair, Distributed Systems Concepts and Design, 5th edition, Addison-Wesley, 2012.

[https://www.academia.edu/44288222/Distributed_Systems_Concepts_and_Design](#)