Lecture 0
First Meeting
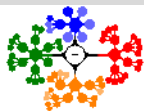Lecture Information

Ceng471&505 *Parallel Computing* at September 29, 2009

Dr. Cem Özdoğan
Computer Engineering Department
Çankaya University

Contents

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Text Book I
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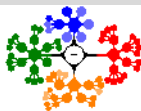Grading Criteria & Policies
Parallel Computing

First Meeting

- CENG 471&505 Parallel Computing Fall 2009
- TUESDAY 16:40-18:30 (T) PCLab
- TUESDAY 18:40-20:30 (L) PCLab
- Instructor: Cem Özdoğan Computer Engineering Department, A318
- TA: Efe Çiftçi
- WEB page: http://siber.cankaya.edu.tr/
- Announcements: Watch this space for the latest updates.

  October 4, 2009 23:29 THIS WEB PAGE IS FINALLY
  AVAILABLE. In the first lecture, there will be
  first meeting. The lecture notes for the second
  week are published, see Course Schedule section.
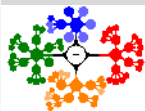 Lab. Studies will be published soon.

- October 7, 2009 14:37 All the example c-files (for lecturing and hands-on sessions) will be accessible via the link.

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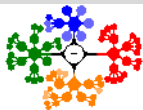
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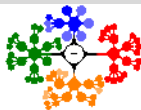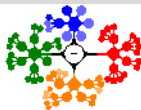
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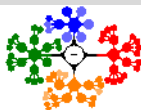
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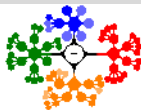
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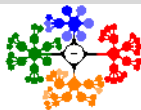
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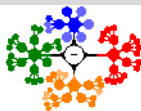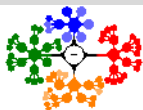Grading Criteria & Policies
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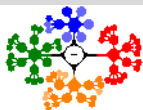
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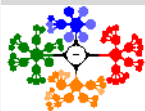- You will learn about the following topics:

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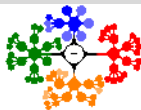   - Parallel Computers,

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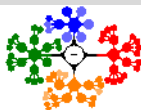 - Message Passing Computing,

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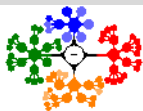 - Embarrassingly Parallel Computations,

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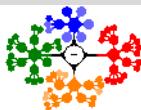 - Partitioning and Divide-and-Conquer Strategies,

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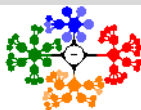 - Pipelined Computations,

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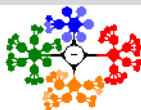 - Synchronous Computations,

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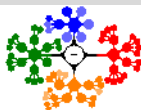 - Synchronous Computations,
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  2. Basic techniques: embarrassingly parallel computations, partitioning and divide and conquer, pipelined computations, synchronous computations, load balancing, shared memory programming.
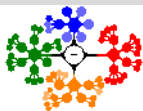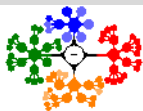
Text Book

- Required:
- Recommended: Parallel Programming: Techniques and Application Using Networked Workstations and Parallel Computers, 2nd edition, by B. Wilkinson and M. Allen, Prentice Hall Inc., 2005, ISBN 0-13-140563-2.


Recommended

- Beowulf Cluster Computing with Linux, 2nd edition, edited by William Gropp, Ewing Lusk, Thomas Sterling, MIT Press, 2003, ISBN 0-262-69292-9.
- Beowulf Cluster Computing with Windows, Thomas Sterling , MIT Press, 2001, ISBN 0-262-69275-9.
- Using MPI , Portable Parallel Programming with the Message Passing Interface, William Gropp, Ewing Lusk and Anthony Skjellum, The MIT Press, 1999, ISBN 0-262-57132-3.

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Text Book

- Using MPI-2, Advanced Features of the Message Passing Interface, William Gropp, Ewing Lusk, Rajeev Thakur, The MIT Press, 1999, ISBN 0-262-57133-1.

- MPI: The Complete Reference (Vol. 1) - The MPI Core, Marc Snir, Steve Otto, Steven Huss-Lederman, David Walker and Jack Dongarra, The MIT Press, 1998, ISBN 0-262-69215-5.

- MPI: The Complete Reference (Vol. 2) - The MPI-2 Extensions, William Gropp, Steven Huss-Lederman, Andrew Lumsdaine, Ewing Lusk, Bill Nitzberg, William Saphir and Marc Snir, The MIT Press, 1998, ISBN 0-262-57123-4.

- In Search of Clusters: The ongoing battle in lowly parallel computing, Second Edition, by Gregory F. Pfister, Prentice Hall Publishing Company, 1998, ISBN: 0-13-899709-8.

- How to Build a Beowulf - A Guide to the Implementation and Application of PC Clusters, by Thomas Sterling, John Salmon, Donald J. Becker and Daniel F. Savarese, MIT Press, 1999, ISBN 0-262-69218-X.

- PVM: Parallel Virtual Machine, A Users' Guide and Tutorial for Network Parallel Computing, Al Geist, Adam Beguelin, Jack Dongarra, Weicheng Jiang, Robert Manchek and Vaidyalingam S. Sunderam, MIT Press, 1994, ISBN 0-262-57108-0.
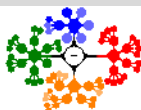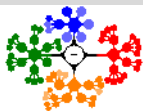
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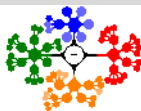
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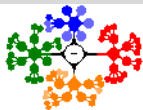
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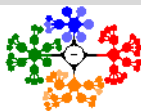- Term Project as Midterm exam: 25%

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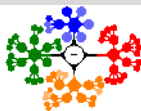- Term Project as Lab. exam: 25%

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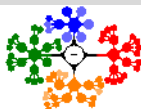
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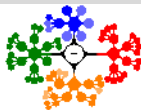- The code you submit must be written completely by you. You can use anything from the textbook/notes.

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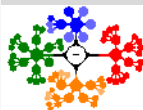
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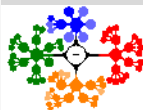- High performance may come from
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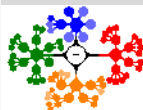 - fast dense circuitry,
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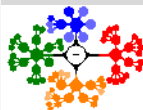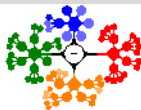 - packaging technology,
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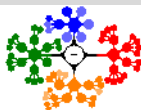
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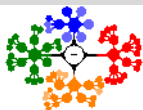
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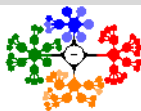
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0.9