Lecture 1

First Meeting & Introduction to Parallel Computing

Lecture Information

Ceng471 *Parallel Computing* at September 30, 2010

Dr. Cem Özdoğan
Computer Engineering Department
Çankaya University

Contents

First Meeting

- CENG 471 Parallel Computing Fall 2010

Dr. Cem Özdoğan

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- CENG 471 Parallel Computing Fall 2010
- THURSDAY 12:40 - 14:30 (T) INT3

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- All the example c-files (for lecturing and hands-on sessions) will be accessible via the link.

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- Thread-based programming will also be outlined, and the distributed shared memory (DSM) approach (If we have enough time).

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- You are responsible for all such announcements, as well as announcements made in lecture.

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

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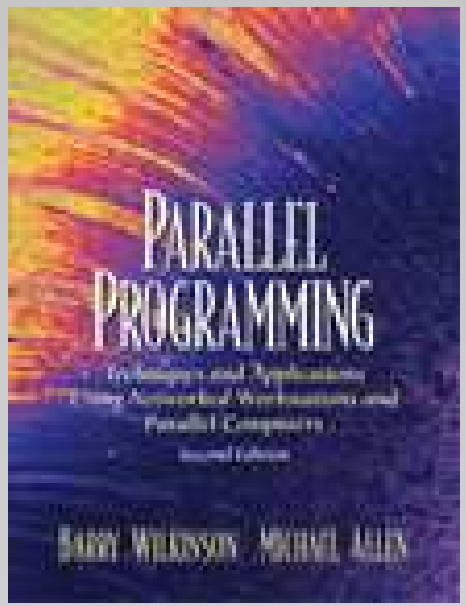

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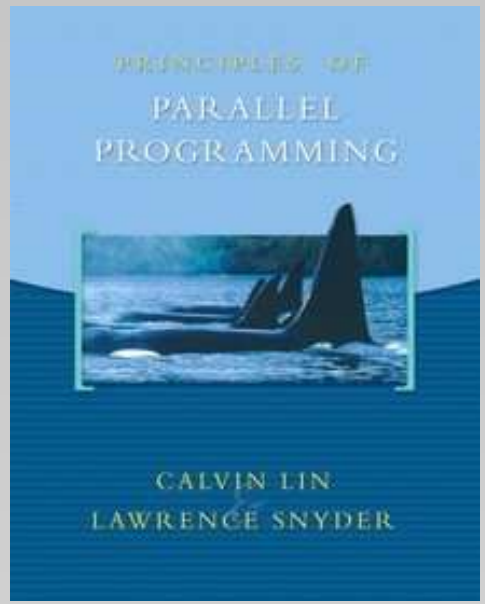

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- MPI: The Complete Reference (Vol. 1) - The MPI Core, Marc Snir, Steve Otto, Steven Huss-Lederman, David Walker and Jack Dongarra, The MIT Press, 1998, ISBN 0-262-69215-5.

Text Book III

- 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.

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- 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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  - Uniprocessor systems can achieve to a limited computational power and not capable of delivering solutions to some problems in reasonable time.