BOOK REVIEW

Studies in Computational Science. Parallel Programming Paradigms

Per Brinch Hansen

Prentice Hall, Englewood Cliffs. First Edition.

Parallel Programming is one of the main areas in current Computer Science research. A large number of books about multiprocessor Architectures, Concurrency, Parallelism, Distributed Systems and problem solving with parallel systems have been written during the last few years, with different focus.

In this book, Hansen presents a collection of structured multicomputer programs for computational science, with the unifying idea of *programming paradigm*. Viewing a programming paradigm as a model or class of algorithms that solve different problems with the same control structure, the author presents five classes (All pairs computation,Tuple multiplication,Divide and conquer,Monte Carlo trials,Cellular automata) and for each one he develops a *parallel generic program,* which implements the solution.

Problems and solutions are presented very clearly and the author uses the Super Pascal language (that he invented) as a convenient notation easily understood by anyone familiar with Pascal. This notation unifies the code presented in the different chapters and allows a real implementation on workstations.

This book is oriented to graduate or advanced undergraduate students interested in parallel programming concepts, with less interest in a physical implementation of the real multicomputer, or in the efficiency and scalability of the proposed algorithms.