1. Record Nr. UNINA9910159446503321

Autore	Sarmento Rui <1979->
Titolo	Comparative approaches to using R and Python for statistical data analysis / / by Rui Sarmento and Vera Costa
Pubbl/distr/stampa	Hershey, Pennsylvania : , : IGI Global, , 2017 ©2017
ISBN	9781522519898 9781683180166
Descrizione fisica	PDFs (197 pages) : illustrations
Collana	Advances in Systems Analysis, Software Engineering, and High Performance Computing (ASASEHPC) Book Series, , 2327-3461
Disciplina	519.50285/5133
Soggetti	Mathematical statistics - Data processing R (Computer program language) Python (Computer program language)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Statistics -- Introduction to programming R and Python languages -- Dataset -- Descriptive analysis -- Statistical inference -- Introduction to linear regression -- Factor analysis -- Clusters -- Discussion and conclusion.
Sommario/riassunto	"This book is a comprehensive source of emerging research and perspectives on the latest computer software and available languages for the visualization of statistical data. By providing insights on relevant topics, such as inference, factor analysis, and linear regression"--Provided by publisher.

2. Record Nr. UNINA9910830899403321

Autore	Gebali Fayez
Titolo	Algorithms and parallel computing [[electronic resource] /] / Fayez Gebali
Pubbl/distr/stampa	Hoboken, N.J., : Wiley, 2011
ISBN	1-283-02557-4 9786613025579 0-470-93201-5 0-470-93202-3
Edizione	[1st edition]
Descrizione fisica	1 online resource (365 p.)
Collana	Wiley series on parallel and distributed computing ; ; 82
Classificazione	COM043000
Disciplina	004.35 004/.35 005.275
Soggetti	Parallel processing (Electronic computers) Computer algorithms
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Algorithms and Parallel Computing; Contents; Preface; List of Acronyms; Chapter 1: Introduction; 1.1 INTRODUCTION; 1.2 TOWARD AUTOMATING PARALLEL PROGRAMMING; 1.3 ALGORITHMS; 1.4 PARALLEL COMPUTING DESIGN CONSIDERATIONS; 1.5 PARALLEL ALGORITHMS AND PARALLEL ARCHITECTURES; 1.6 RELATING PARALLEL ALGORITHM AND PARALLEL ARCHITECTURE; 1.7 IMPLEMENTATION OF ALGORITHMS: A TWO-SIDED PROBLEM; 1.8 MEASURING BENEFITS OF PARALLEL COMPUTING; 1.9 AMDAHL'S LAW FOR MULTIPROCESSOR SYSTEMS; 1.10 GUSTAFSON-BARSIS'S LAW; 1.11 APPLICATIONS OF PARALLEL COMPUTING; Chapter 2: Enhancing Uniprocessor Performance 2.1 INTRODUCTION2.2 INCREASING PROCESSOR CLOCK FREQUENCY; 2.3 PARALLELIZING ALU STRUCTURE; 2.4 USING MEMORY HIERARCHY; 2.5 PIPELINING; 2.6 VERY LONG INSTRUCTION WORD (VLIW) PROCESSORS; 2.7 INSTRUCTION-LEVEL PARALLELISM (ILP) AND SUPERSCALAR PROCESSORS; 2.8 MULTITHREADED PROCESSOR; Chapter 3: Parallel Computers; 3.1 INTRODUCTION; 3.2 PARALLEL COMPUTING;

3.3 SHARED-MEMORY MULTIPROCESSORS (UNIFORM MEMORY ACCESS [UMA]); 3.4 DISTRIBUTED-MEMORY MULTIPROCESSOR (NONUNIFORM MEMORY ACCESS [NUMA]); 3.5 SIMD PROCESSORS; 3.6 SYSTOLIC PROCESSORS; 3.7 CLUSTER COMPUTING; 3.8 GRID (CLOUD) COMPUTING 3.9 MULTICORE SYSTEMS3.10 SM; 3.11 COMMUNICATION BETWEEN PARALLEL PROCESSORS; 3.12 SUMMARY OF PARALLEL ARCHITECTURES; Chapter 4: Shared-Memory Multiprocessors; 4.1 INTRODUCTION; 4.2 CACHE COHERENCE AND MEMORY CONSISTENCY; 4.3 SYNCHRONIZATION AND MUTUAL EXCLUSION; Chapter 5: Interconnection Networks; 5.1 INTRODUCTION; 5.2 CLASSIFICATION OF INTERCONNECTION NETWORKS BY LOGICAL TOPOLOGIES; 5.3 INTERCONNECTION NETWORK SWITCH ARCHITECTURE; Chapter 6: Concurrency Platforms; 6.1 INTRODUCTION; 6.2 CONCURRENCY PLATFORMS; 6.3 CILK++; 6.4 OpenMP; 6.5 COMPUTE UNIFIED DEVICE ARCHITECTURE (CUDA)
Chapter 7: Ad Hoc Techniques for Parallel Algorithms7.1 INTRODUCTION; 7.2 DEFINING ALGORITHM VARIABLES; 7.3 INDEPENDENT LOOP SCHEDULING; 7.4 DEPENDENT LOOPS; 7.5 LOOP SPREADING FOR SIMPLE DEPENDENT LOOPS; 7.6 LOOP UNROLLING; 7.7 PROBLEM PARTITIONING; 7.8 DIVIDE-AND-CONQUER (RECURSIVE PARTITIONING) STRATEGIES; 7.9 PIPELINING; Chapter 8: Nonserial-Parallel Algorithms; 8.1 INTRODUCTION; 8.2 COMPARING DAG AND DCG ALGORITHMS; 8.3 PARALLELIZING NSPA ALGORITHMS REPRESENTED BY A DAG; 8.4 FORMAL TECHNIQUE FOR ANALYZING NSPAs; 8.5 DETECTING CYCLES IN THE ALGORITHM
8.6 EXTRACTING SERIAL AND PARALLEL ALGORITHM PERFORMANCE PARAMETERS8.7 USEFUL THEOREMS; 8.8 PERFORMANCE OF SERIAL AND PARALLEL ALGORITHMS ON PARALLEL COMPUTERS; Chapter 9: z-Transform Analysis; 9.1 INTRODUCTION; 9.2 DEFINITION OF z-TRANSFORM; 9.3 THE 1-D FIR DIGITAL FILTER ALGORITHM; 9.4 SOFTWARE AND HARDWARE IMPLEMENTATIONS OF THE z-TRANSFORM; 9.5 DESIGN 1: USING HORNER'S RULE FOR BROADCAST INPUT AND PIPELINED OUTPUT; 9.6 DESIGN 2: PIPELINED INPUT AND BROADCAST OUTPUT; 9.7 DESIGN 3: PIPELINED INPUT AND OUTPUT; Chapter 10: Dependence Graph Analysis; 10.1 INTRODUCTION
10.2 THE 1-D FIR DIGITAL FILTER ALGORITHM

Sommario/riassunto

"There is a software gap between the hardware potential and the performance that can be attained using today's software parallel program development tools. The tools need manual intervention by the programmer to parallelize the code. Programming a parallel computer requires closely studying the target algorithm or application, more so than in the traditional sequential programming we have all learned. The programmer must be aware of the communication and data dependencies of the algorithm or application. This book provides the techniques to explore the possible ways to program a parallel computer for a given application"--
"This book provides the techniques to explore the possible ways to program a parallel computer for a given application"--