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An Economic Interpretation of Linear Programming-Quirino Paris 2016-04-29 This text covers the basic theory and computation for mathematical modeling in linear programming. It provides a strong background on how to set up mathematical proofs and high-level computation methods, and includes substantial background material and direction. Paris presents an intuitive and novel discussion of what it means to solve a system of equations that is a crucial stepping stone for solving any linear program. The discussion of the simplex method for solving linear programs gives an economic interpretation to every step of the simplex algorithm. The text combines in a unique and novel way the microeconomics of production with the structure of linear programming to give students and scholars of economics a clear notion of what it means, formulating a model of economic equilibrium and the computation of opportunity cost in the presence of many outputs and inputs.

Management Decision Making-George E. Monahan 2000-08-17 CD-ROM contains: Crystal Ball -- TreePlan -- AnimaLP -- Queue -- ExcelWorkbooks.

Quantitative Techniques-P. C. Tulsian 2006 Quantitative Techniques: Theory and Problems adopts a fresh and novel approach to the study of quantitative techniques, and provides a comprehensive coverage of the subject. Essentially designed for extensive practice and self-study, this book will serve as a tutor at home. Chapters contain theory in brief, numerous solved examples and exercises with exhibits and tables.

Planning with Linear Programming-A.E. Wright 1996-01-01 This work deals with the background to linear programming (LP) using a largely non-mathematical treatment. It covers several planning cases and the LP-tools suite of programs. Copies of the programs on a distribution disk are included with the book.

Introduction to Linear Programming-Richard Darst 1990-10-26 Stressing the use of several software packages based on simplex method variations, this text teaches linear programming's four phases through actual practice. It shows how to decide whether LP models should be applied, set up appropriate models, use software to solve them, and examine solutions to a

Multi-Objective Optimization using Evolutionary Algorithms-Kalyanmoy Deb 2001-07-05 Evolutionary algorithms are relatively new, but very powerful techniques used to find solutions to many real-world search and optimization problems. Many of these problems have multiple objectives, which leads to the need to obtain a set of optimal solutions, known as effective solutions. It has been found that using evolutionary algorithms is a highly effective way of finding multiple effective solutions in a single simulation run. Comprehensive coverage of this growing area of research Carefully introduces each algorithm with examples and in-depth discussion Includes many applications to real-world problems, including engineering design and scheduling Includes discussion of advanced topics and future research Can be used as a course text or for self-study Accessible to those with limited knowledge of classical multi-objective optimization and evolutionary algorithms The integrated presentation of theory, algorithms and examples will benefit those working and researching in the areas of optimization, optimal design and evolutionary computing. This text provides an excellent introduction to the use of evolutionary algorithms in multi-objective optimization, allowing use as a graduate course text or for self-study.

Advances in Evolutionary Computing-Ashish Ghosh 2002-11-26 This book provides a collection of fourty articles containing new material on both theoretical aspects of Evolutionary Computing (EC), and demonstrating the usefulness/success of it for various kinds of large-scale real world problems. Around 23 articles deal with various theoretical aspects of EC and 17 articles demonstrate the success of EC methodologies. These articles are written by leading experts of the field from different countries all over the world.

Economic Foundations of Symmetric Programming-Quirino Paris 2010-11-01 The search for symmetry is part of the fundamental scientific paradigm in mathematics and physics. Can this be valid also for economics? This book represents an attempt to explore this possibility. The behavior of price-taking producers, monopolists, monopsonists, sectoral market equilibria, behavior under risk and uncertainty, and two-person zero- and non-zero-sum games are analyzed and discussed under the unifying structure called the linear complementarity problem. Furthermore, the equilibrium problem allows for the relaxation of often-stated but unnecessary assumptions. This unifying approach offers the advantage of a better understanding of the structure of economic models. It also introduces the simplest and most elegant algorithm for solving a wide class of problems.

Computational Auction Mechanisms for Restructured Power Industry Operation-Gerald B. Sheblé 1999-03-31 Computational Auction Mechanisms for Restructured Power Industry Operation provides a first introduction to how electricity will be traded as a commodity in the future.

Linear and Integer Programming-Gerard Sierksma 2001-11-01 "Combines the theoretical and practical aspects of linear and integer programming. Provides practical case studies and techniques, including rounding-off, column-generation, game theory, multiobjective optimization, and goal programming, as well as real-world solutions to the transportation and transshipment problem, project scheduling, and decentralization."

Search Methodologies-Edmund K. Burke 2006-03-20 This book is a tutorial survey of the methodologies that are at the confluence of several fields: Computer Science, Mathematics and Operations Research. It provides a carefully structured and integrated treatment of the major technologies in optimization and search methodology. The chapter authors are drawn from across Computer Science and Operations Research and include some of the world's leading authorities in their field. It can be used as a textbook or a reference book to learn and apply these methodologies to a wide range of today's problems.

Advances in Intelligent Computing-De-Shuang Huang 2005-08-11 The two-volume set LNCS 3644 and LNCS 3645 constitute the refereed proceedings of the International Conference on Intelligent Computing, ICIC 2005, held in Hefei, China, in August 2005. The program committee selected 215 carefully revised full papers for presentation in two volumes from over 2000 submissions, based on rigorous peer reviews. The first volume includes all the contributions related with perceptual and pattern recognition, informatics theories and applications computational neuroscience and bioscience, models and methods, and learning systems. The second volume collects the papers related with genomics and proteomics, adaptation and decision making, applications and hardware, and other applications.

Optimization Methods in Finance-Gerard Cornuejols 2006-12-21 Optimization models play an increasingly important role in financial decisions. This is the first textbook devoted to explaining how recent advances in optimization models, methods and software can be applied to solve problems in computational finance more efficiently and accurately. Chapters discussing the theory and efficient solution methods for all major classes of optimization problems alternate with chapters illustrating their use in modeling problems of mathematical finance. The reader is guided through topics such as volatility estimation, portfolio optimization problems and constructing an index fund, using techniques such as nonlinear optimization models, quadratic programming formulations and integer programming models respectively. The book is based on Master's courses in financial engineering and comes with worked examples, exercises and case studies. It will be welcomed by applied mathematicians, operational researchers and others who work in mathematical and computational finance and who are seeking a text for self-learning or for use with courses.

Advances in Swarm Intelligence-Ying Tan 2014-09-03 This book and its companion volume, LNCS vol. 8794 and 8795 constitute the proceedings of the 5th International Conference on Swarm Intelligence, ICSI 2014, held in Hefei, China in October 2014. The 107 revised full papers presented were carefully reviewed and selected from 198 submissions. The papers are organized in 18 cohesive sections, 3 special sessions and one competitive session covering all major topics of swarm intelligence research and development such as novel swarm-based search methods; novel optimization algorithm; particle swarm optimization; ant colony optimization for travelling salesman problem; artificial bee colony algorithms; artificial immune system; evolutionary algorithms; neural networks and fuzzy methods; hybrid methods; multi-objective optimization; multi-agent systems; evolutionary clustering algorithms; classification methods; GPU-based methods; scheduling and path planning; wireless sensor networks; power system optimization; swarm intelligence in image and video processing; applications of swarm intelligence to management problems; swarm intelligence for real-world application.

Applied Computing-Asian Applied Computing Conference 2004-10-22 This book constitutes the refereed proceedings of the Second Asian Applied Computing Conference, AACC 2004, held in Kathmandu, Nepal in October 2004. The 42 revised full papers presented were carefully reviewed and selected from 184 submissions. The papers are organized in topical sections on machine learning and soft computing; scheduling, optimization, and constraint solving; neural networks and support vector machines; natural language processing and information retrieval; speech and signal processing; networks and mobile computing; parallel, grid, and high performance computing; innovative applicationsfor the developing world; and cryptography and security.

Spreadsheet Modeling and Decision Analysis-Cliff T. Ragsdale 2001

Metropolitan Area WDM Networks-Martin Maier 2004 Metropolitan Area WDM Networks: An AWG Based Approach provides a comprehensive and technically detailed overview of the latest metropolitan area WDM network experimental systems, architectures, and access protocols. Its main focus is on the novel star WDM networks based on a wavelength-selective Arrayed-Waveguide Grating (AWG). Network researchers, engineers, professionals, and graduate students will benefit from the thorough overview and gain an in-depth understanding of current and next-generation metro WDM networks. The AWG based metro star WDM network is discussed at length and extensively investigated by means of stochastic analyses and simulations. The book provides: *an up-to-date overview of ring and star metro WDM networks and access protocols, *in-depth performance comparison studies of AWG based multihop vs. single-hop WDM networks and AWG vs. Passive Star Coupler based single-hop WDM networks, *a thorough description of the AWG based network and node architectures and access protocols, *a novel highly-efficient approach to provide survivability for star WDM networks, *extensive analytical results for both unicast and multicast variable-size packet traffic and bandwidth on demand, *supplementary simulation results, including packet header trace files.

Logic Programming and Nonmonotonic Reasoning-Pedro Cabalar 2013-09-12 This volume contains the refereed proceedings of the 12th International Conference on Logic Programming and Nonmonotonic Reasoning, LPNMR 2013, held in September 2013 in Corunna, Spain. The 34 revised full papers (22 technical papers, 9 application description, and 3 system descriptions) and 19 short papers (11 technical papers, 3 application descriptions, and 5 system descriptions) presented together with 2 invited talks, were carefully reviewed and selected from 91 submissions. Being a forum for exchanging ideas on declarative logic programming, nonmonotonic reasoning, and knowledge representation, the conference aims to facilitate interactions between those researchers and practitioners interested in the design and implementation of logic-based programming languages and database systems, and those who work in the area of knowledge representation and nonmonotonic reasoning.

Optimal Operation of a Multiple Reservoir System-Miguel A. Mariño 1983

Proceedings of the International Conference on Soft Computing for Problem Solving (SocProS 2011) December 20-22, 2011-Kusum Deep 2012-04-15 The objective is to provide the latest developments in the area of soft computing. These are the cutting edge technologies that have immense application in various fields. All the papers will undergo the peer review process to maintain the quality of work.

Operations Research-A. M. Natarajan 2006

Electrical Engineering in Japan- 1998

Operations Research-D S Hira 1992 The author have used numerical examples as the means for presentation of the underlying ideas of different operations research techniques.Accordingly,a large number of comprehensive solved examples,taken from a variety of fields,have been added in every chapter and they are followed by a set of unsolved problems with answers(and hints wherever required)through which readers can test their understanding of the subject matter.The book,in its present form,contains around 650,examples,1,280 illustrative diagrams.

Swarm, Evolutionary, and Memetic Computing-Bijaya Ketan Panigrahi 2011-12-07 Annotation This volume constitutes the refereed proceedings of the Second International Conference on Swarm, Evolutionary, and Memetic Computing, SEMCCO 2011, held in Visakhapatnam, India, in December 2011. The 124 revised full papers presented in both volumes were carefully reviewed and selected from 422 submissions.

Algorithms-

Auctions in Exchange Trading Systems: Modeling Techniques and Algorithms-Johannes Müller 2014-11-07 This work presents models and algorithms that find their application in real-world auctions, such as futures opening auctions, European electricity auctions and European natural gas auctions.

Evolutionary Multi-Criterion Optimization-Portugal) Emo 200 (2003 Faro 2003-04-07 This book constitutes the refereed proceedings of the Second International Conference on Evolutionary Multi-Criterion Optimization, EMO 2003, held in Faro, Portugal, in April 2003. The 56 revised full papers presented were carefully reviewed and selected from a total of 100 submissions. The papers are organized in topical sections on objective handling and problem decomposition, algorithm improvements, online adaptation, problem construction, performance analysis and comparison, alternative methods, implementation, and applications.

Western Journal of Agricultural Economics- 1983

Linear Programming and Extensions-George Dantzig 2016-08-10 In real-world problems related to finance, business, and management, mathematicians and economists frequently encounter optimization problems. In this classic book, George Dantzig looks at a wealth of examples and develops linear programming methods for their solutions. He begins by introducing the basic theory of linear inequalities and describes the powerful simplex method used to solve them. Treatments of the price concept, the transportation problem, and matrix methods are also given, and key mathematical concepts such as the properties of convex sets and linear vector spaces are covered. George Dantzig is properly acclaimed as the "father of linear programming." Linear programming is a mathematical technique used to optimize a situation. It can be used to minimize traffic congestion or to maximize the scheduling of airline flights. He formulated its basic theoretical model and discovered its underlying computational algorithm, the "simplex method," in a pathbreaking memorandum published by the United States Air Force in early 1948. Linear Programming and Extensions provides an extraordinary account of the subsequent development of his subject, including research in mathematical theory, computation, economic analysis, and applications to industrial problems. Dantzig first achieved success as a statistics graduate student at the University of California, Berkeley. One day he arrived for a class after it had begun, and assumed the two problems on the board were assigned for homework. When he handed in the solutions, he apologized to his professor, Jerzy Neyman, for their being late but explained that he had found the problems harder than usual. About six weeks later, Neyman excitedly told Dantzig, "I've just written an introduction to one of your papers. Read it so I can send it out right away for publication." Dantzig had no idea what he was talking about. He later learned that the "homework" problems had in fact been two famous unsolved problems in statistics.

International Conference on Social, Education and Management Engineering- 2014-07-09 SEME2014 is a convention which aims at calling for people's attention to the improvements of education environments and providing excellent researchers from the world an opportunity to present their creative and inspiring ideas. The wide range of topics for SEME2014 includes social research like social network analysis, social system dynamics and area studies, education science and technology like higher education, teaching theory, multimedia teaching and lifelong teaching, management science and engineering like management theory, decision analysis and economics management etc. SEME2014 holds the advance and improvement of Social, Education and Management Engineering as its earnest purpose. And to achieve this goal, experts and scholars of excellence in their domains are invited to present their latest and inspiring works. All the attendees will gain great benefits both on his academic ability and personal experience.

21st European Symposium on Computer Aided Process Engineering- 2011-06-10 The European Symposium on Computer Aided Process Engineering (ESCAPE) series presents the latest innovations and achievements of leading professionals from the industrial and academic communities. The ESCAPE series serves as a forum for engineers,

scientists, researchers, managers and students to present and discuss progress being made in the area of computer aided process engineering (CAPE). European industries large and small are bringing innovations into our lives, whether in the form of new technologies to address environmental problems, new products to make our homes more comfortable and energy efficient or new therapies to improve the health and well being of European citizens. Moreover, the European Industry needs to undertake research and technological initiatives in response to humanity's "Grand Challenges," described in the declaration of Lund, namely, Global Warming, Tightening Supplies of Energy, Water and Food, Ageing Societies, Public Health, Pandemics and Security. Thus, the Technical Theme of ESCAPE 21 will be "Process Systems Approaches for Addressing Grand Challenges in Energy, Environment, Health, Bioprocessing & Nanotechnologies."

Random-Like Multiple Objective Decision Making-Jiuping Xu 2011-03-25 What are the random-like phenomena that can be found everywhere in real-life world? When carrying out a random sampling survey on the traffic situation, we often obtain some descriptive results such as approximately expedite, a little crowded and so on, therefore, the average level should be regarded as the random fuzzy phenomenon, which is one of the random-like phenomena. Decision makers usually need to make the decision for these problems with random-like phenomena. Which model should be constructed for them? How should we handle these models to find the optimal strategy? How can we apply these models to solve real-life problems with random-like phenomena? In order to answer these questions, this book provides an up-to-date methodology system 5MRP for random-like multiple objective decision making, which includes problem system with random-like phenomena, model system with random-like coefficients, research system with random-like uncertain methods. Some practical applications are also provided to illustrate the effectiveness of the proposed methodology system. Researchers, practitioners and students in systems science, economics, mathematics, information, engineering and MS/OR will get a lot of useful references from this research monograph.

Energy Optimization in Process Systems and Fuel Cells-Stanislaw Sieniutycz 2013-02-14 Energy Optimization in Process Systems and Fuel Cells, Second Edition covers the optimization and integration of energy systems, with a particular focus on fuel cell technology. With rising energy prices, imminent energy shortages, and increasing environmental impacts of energy production, energy optimization and systems integration is critically important. The book applies thermodynamics, kinetics and economics to study the effect of equipment size, environmental parameters, and economic factors on optimal power production and heat integration. Author Stanislaw Sieniutycz, highly recognized for his expertise and teaching, shows how costs can be substantially reduced, particularly in utilities common in the chemical industry. This second edition contains substantial revisions, with particular focus on the rapid progress in the field of fuel cells, related energy theory, and recent advances in the optimization and control of fuel cell systems. New information on fuel cell theory, combined with the theory of flow energy systems, broadens the scope and usefulness of the book Discusses engineering applications including power generation, resource upgrading, radiation conversion, and chemical transformation in static and dynamic systems Contains practical applications of optimization methods that help solve the problems of power maximization and optimal use of energy and resources in chemical, mechanical, and environmental engineering

Energy Optimization in Process Systems-Stanislaw Sieniutycz 2009-05-06 Despite the vast research on energy optimization and process integration, there has to date been no synthesis linking these together. This book fills the gap, presenting optimization and integration in energy and process engineering. The content is based on the current literature and includes novel approaches developed by the authors. Various thermal and chemical systems (heat and mass exchangers, thermal and water networks, energy converters, recovery units, solar collectors, and separators) are considered. Thermodynamics, kinetics and economics are used to formulate and solve problems with constraints on process rates, equipment size, environmental parameters, and costs. Comprehensive coverage of dynamic optimization of energy conversion systems and separation units is provided along with suitable computational algorithms for deterministic and stochastic optimization approaches based on: nonlinear programming, dynamic programming, variational calculus, Hamilton-Jacobi-Bellman theory, Pontryagin's maximum principles, and special methods of process integration. Integration of heat energy and process water within a total site is shown to be a significant factor reducing production costs, in particular costs of utilities for the chemical industry. This integration involves systematic design and optimization of heat exchangers and water networks (HEN and WN). After presenting basic, insight-based Pinch Technology, systematic, optimization-based sequential and simultaneous approaches to design HEN and WN are described. Special consideration is given to the HEN design problem targeting stage, in view of its importance at various levels of system design. Selected, advanced methods for HEN synthesis and retrofit are presented. For WN design a novel approach based on stochastic optimization is described that accounts for both grassroot and revamp design scenarios. Presents a unique synthesis of energy optimization and process integration that applies scientific information from thermodynamics, kinetics, and systems theory Discusses engineering applications including power generation, resource upgrading, radiation conversion and chemical transformation, in static and dynamic systems Clarifies how to identify thermal and chemical constraints and incorporate them into optimization models and solutions

Complex Systems- 1995

Parallel Problem Solving from Nature - PPSN IX-Thomas Philip Runarsson 2006-09-13 We are very pleased to present this LNCS volume, the proceedings of the 9th International Conference on Parallel Problem Solving from Nature (PPSN IX). PPSNisoneofthemostrespectedandhighlyregardedconferenceseriesinevo- tionary computation and natural computing / computation. This biennial event was ?rst held in Dortmund in 1990, and then in Brussels (1992), Jerusalem (1994), Berlin (1996), Amsterdam (1998), Paris (2000), Granada (2002), and Birmingham(2004).PPSNcontinuestobetheconferenceofchoicebyresearchers all over the world, who value its high quality. We received 255 paper submissions this year. After an extensive peer review process involving more than 1000 reviews, the programme committee selected the top 106 papers for inclusion in this volume and, of course, for presentation at the conference. This represents an acceptance rate of 42%. The papers included in this volume cover a wide range of topics, from e- lutionary computation to swarm intelligence and from bio-inspired computing to real-world applications. They represent some of the latest and best research in evolutionary and natural computation. Following the PPSN tradition, all - pers at PPSN IX were presented as posters. There were 7 sessions: each session consisting of around 15 papers. For each session, we covered as wide a range of topics as possible so that participants with di?erent interests could ?nd some relevant papers in every session.

An Introduction to Linear Programming and the Theory of Games-Abraham M. Glicksman 2001-01-01 Simple exposition of linear programming and matrix games covers convex sets in the Cartesian plane and the fundamental extreme point theorem for convex polygons; the simplex method in linear programming; the fundamental duality theorem and its corollary, von Neumann's minimax theorem; more. Easily understood problems and illustrative exercises. 1963 edition.

Parallel Problem Solving from Nature-PPSN VI-france Conference on Parallel Problem Solving from Nature 2000 Paris 2000-09-06 This book constitutes the refereed proceedings of the 6th International Conference on Parallel Problem Solving from Nature, PPSN VI, held in Paris, France in September 2000. The 87 revised full papers presented together with two invited papers were carefully reviewed and selected from 168 submissions. The presentations are organized in topical sections on analysis and theory of evolutionary algorithms, genetic programming, scheduling, representations and operators, co-evolution, constraint handling techniques, noisy and non-stationary environments, combinatorial optimization, applications, machine learning and classifier systems, new algorithms and metaphors, and multiobjective optimization.

Multiple Criteria and Multiple Constraint Levels Linear Programming-Shi Yong 2001 This book introduces multiple criteria and multiple constraint levels linear programming (MC2LP), which is an extension of linear programming (LP) and multiple criteria linear programming (MCLP). In the last decade, the author and a group of researchers from the USA, China, Korea, Germany, and Hungary have been working on the theory and applications of MC2LP problems. This volume integrates their main research results ranging from theoretical bases to broad areas of real world applications. The theoretical bases include the formulation of MC2LP; integer MC2LP and MC2 transportation model; fuzzy MC2LP and fuzzy duality of MC2LP; optimal system designs and contingency plans; MC2 decision support system; and MC2 computer software development. The application areas are accounting, management information systems, production planning, and telecommunications management.The book serves as a seminar text for both undergraduates and graduates who have a linear algebra or equivalent background. For practitioners, it will help in handling LP type problems in multiple decision making environment.

Handbook of Computational Intelligence in Manufacturing and Production Management-Laha, Dipak 2007-11-30 During the last two decades, computer and information technologies have forced great changes in the ways businesses manage operations in meeting the desired quality of products and services, customer demands, competition, and other challenges. The Handbook of Computational Intelligence in Manufacturing and Production Management focuses on new developments in computational intelligence in areas such as forecasting, scheduling, production planning, inventory control, and aggregate planning, among others. This comprehensive collection of research provides cutting-edge knowledge on information technology developments for both researchers and professionals in fields such as operations and production management, Web engineering, artificial intelligence, and information resources management.

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ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN’S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION