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8NH11B - LARSEN MATHEWS

Our intention in this collection is to provide, largely through original writings, an extended account of pi from the dawn of mathematical time to the present. The story of pi reflects the most seminal, the most serious, and sometimes the most whimsical aspects of mathematics. A surprising amount of the most important mathematics and a significant number of the most important mathematicians have contributed to its unfolding directly or otherwise. Pi is one of the few mathematical concepts whose mention evokes a response of recognition and interest in those not concerned professionally with the subject. It has been a part of human culture and the educated imagination for more than twenty-five hundred years. The computation of pi is virtually the only topic from the most ancient stratum of mathematics that is still of serious interest to modern mathematical research. To pursue this topic as it developed throughout the millennia is to follow a thread through the history of mathematics that winds through geometry, analysis and special functions, numerical analysis, algebra, and number theory. It offers a subject that provides mathematicians with examples of many current mathematical techniques as well as a palpable sense of their historical development. Why a Source Book? Few books serve wider potential audiences than does a source book. To our knowledge, there is at present no easy access to the bulk of the material we have collected. Describes the technology and engineering of the Large Hadron collider (LHC), one of the greatest scientific marvels of this young 21st century. This book traces the feat of its construction, written by the head scientists involved, placed into the context of the scientific goals and principles.

As Earth faces the greatest mass extinction in 65 million years, the present is a moment of tremendous foment and emergence in ecological science. With leaps in advances in ecological research and the technical tools available, scientists face the critical task of challenging policymakers and the public to recognize the urgency of our global crisis. This book focuses directly on the interplay between theory, data, and analytical methodology in the rapidly evolving fields of animal ecology, conservation, and management. The mixture of topics of particular current relevance includes landscape ecology, remote sensing, spatial modeling, geostatistics, genomics, and ecological informatics. The greatest interest to the practicing scientist and graduate student will be the synthesis and integration of these topics to provide a composite view of the emerging field of spatial ecological informatics and its applications in research and management.

Historically, nonclassical physics developed in three stages. First came a collection of ad hoc assumptions and then a cookbook of equations known as "quantum mechanics". The equations and their philosophical underpinnings were then collected into a model based on the mathematics of Hilbert space. From the Hilbert space model came the abstraction of "quantum logics". This book explores all three stages, but not in historical order. Instead, in an effort to illustrate how physics and abstract mathematics influence each other we hop back and forth between a purely mathematical development of Hilbert space, and a physically motivated definition of a logic, partially linking the two throughout, and then bringing them together at the deepest level in the last two chapters. This book should be accessible to undergraduate and beginning graduate students in both mathematics and physics. The only strict prerequisites are calculus and linear algebra, but the level of mathematical sophistication assumes at least one or two intermediate courses, for example in mathematical analysis or advanced calculus. No background in physics is assumed.

These problems and solutions are offered to students of mathematics who have learned real analysis, measure theory, elementary topology and some theory of topological vector spaces. The current widely used texts in these subjects provide the background for the understanding of the problems and the finding of their solutions. In the bibliography the reader will find listed a number of books from which the necessary working vocabulary and techniques can be acquired. Thus it is assumed that terms such as topological space, u-ring, metric, measurable, homeomorphism, etc., and groups of symbols such as AnB , xEX , $f: IR \times X \rightarrow X^2 - 1$, etc., are familiar to the reader. They are used without introductory definition or explanation. Nevertheless, the index provides defini-

tions of some terms and symbols that might prove puzzling. Most terms and symbols peculiar to the book are explained in the various introductory paragraphs titled Conventions. Occasionally definitions and symbols are introduced and explained within statements of problems or solutions. Although some solutions are complete, others are designed to be sketchy and thereby to give their readers an opportunity to exercise their skill and imagination. Numbers written in boldface inside square brackets refer to the bibliography. I should like to thank Professor P. R. Halmos for the opportunity to discuss with him a variety of technical, stylistic, and mathematical questions that arose in the writing of this book. Buffalo, NY B.R.G.

More than a simple expository history, *A Thousand Years of Nonlinear History* sketches the outlines of a renewed materialist philosophy of history in the tradition of Fernand Braudel, Gilles Deleuze, and Félix Guattari, while also engaging the critical new understanding of material processes derived from the sciences of dynamics. Following in the wake of his groundbreaking *War in the Age of Intelligent Machines*, Manuel De Landa presents a radical synthesis of historical development over the last one thousand years. More than a simple expository history, *A Thousand Years of Nonlinear History* sketches the outlines of a renewed materialist philosophy of history in the tradition of Fernand Braudel, Gilles Deleuze, and Félix Guattari, while also engaging the critical new understanding of material processes derived from the sciences of dynamics. Working against prevailing attitudes that see history as an arena of texts, discourses, ideologies, and metaphors, De Landa traces the concrete movements and interplays of matter and energy through human populations in the last millennium. De Landa attacks three domains that have given shape to human societies: economics, biology, and linguistics. In every case, what one sees is the self-directed processes of matter and energy interacting with the whim and will of human history itself to form a panoramic vision of the West free of rigid teleology and naive notions of progress, and even more important, free of any deterministic source of its urban, institutional, and technological forms. Rather, the source of all concrete forms in the West's history are shown to derive from internal morphogenetic capabilities that lie within the flow of matter-energy itself.

This book is a self-contained elementary introduction to rings and modules, and should be useful for courses on Algebra. The emphasis is on concept development with adequate examples and counter-examples drawn from topics such as analysis, topology, etc. The entire material, including exercises, is fully class tested.

A collection of papers by some of the world's leading specialists on global value chains (GVCs). It examines how GVCs have evolved and the challenges they face in a rapidly changing world. The approach is multi-disciplinary, with contributions from economists, political scientists, supply chain management specialists, practitioners and policy-makers. Co-published with the Fung Global Institute and the Temasek

This book collects approximately nine hundred problems that have appeared on the preliminary exams in Berkeley over the last twenty years. It is an invaluable source of problems and solutions. Readers who work through this book will develop problem solving skills in such areas as real analysis, multivariable calculus, differential equations, metric spaces, complex analysis, algebra, and linear algebra.

extending mathematical understanding, mathematics intervention, childhood mathematics learning, mathematics assessment, intervention program, early number concepts, arithmetic strategies, multiplicative reasoning, place value concepts, counting knowledge, mathematics learning trajectory, early number learning, primary schools mathematics, learning difficulties, identification of mathematics learning difficulties or disabilities

The use of unnatural metals - which have been introduced into human biology as diagnostic probes and drugs - is another active area of tremendous medical significance.

A unique collection of competition problems from over twenty major national and international mathematical competitions for high school students. Written for trainers and participants of contests of all levels up to the highest level, this will appeal to high school teachers conducting a

mathematics club who need a range of simple to complex problems and to those instructors wishing to pose a "problem of the week", thus bringing a creative atmosphere into the classrooms. Equally, this is a must-have for individuals interested in solving non-trivial and challenging problems. Each chapter starts with typical examples illustrating the central concepts and is followed by a number of carefully selected problems and their solutions. Most of the solutions are complete, but some merely point to the road leading to the final solution. In addition to being a valuable resource of mathematical problems and solution strategies, this is the most complete training book on the market.

An Introduction to Programming by the Inventor of C++ Preparation for Programming in the Real World The book assumes that you aim eventually to write non-trivial programs, whether for work in software development or in some other technical field. Focus on Fundamental Concepts and Techniques The book explains fundamental concepts and techniques in greater depth than traditional introductions. This approach will give you a solid foundation for writing useful, correct, maintainable, and efficient code. Programming with Today's C++ (C++11 and C++14) The book is an introduction to programming in general, including object-oriented programming and generic programming. It is also a solid introduction to the C++ programming language, one of the most widely used languages for real-world software. The book presents modern C++ programming techniques from the start, introducing the C++ standard library and C++11 and C++14 features to simplify programming tasks. For Beginners—And Anyone Who Wants to Learn Something New The book is primarily designed for people who have never programmed before, and it has been tested with many thousands of first-year university students. It has also been extensively used for self-study. Also, practitioners and advanced students have gained new insight and guidance by seeing how a master approaches the elements of his art. Provides a Broad View The first half of the book covers a wide range of essential concepts, design and programming techniques, language features, and libraries. Those will enable you to write programs involving input, output, computation, and simple graphics. The second half explores more specialized topics (such as text processing, testing, and the C programming language) and provides abundant reference material. Source code and support supplements are available from the author's website.

This book provides state of the art scientific and engineering research findings and developments in the field of humanoid robotics and its applications. It is expected that humanoids will change the way we interact with machines, and will have the ability to blend perfectly into an environment already designed for humans. The book contains chapters that aim to discover the future abilities of humanoid robots by presenting a variety of integrated research in various scientific and engineering fields, such as locomotion, perception, adaptive behavior, human-robot interaction, neuroscience and machine learning. The book is designed to be accessible and practical, with an emphasis on useful information to those working in the fields of robotics, cognitive science, artificial intelligence, computational methods and other fields of science directly or indirectly related to the development and usage of future humanoid robots. The editor of the book has extensive R

This book of problems is designed to challenge students learning probability. Each chapter is divided into three parts: Problems, Hints, and Solutions. All Problems sections include expository material, making the book self-contained. Definitions and statements of important results are interlaced with relevant problems. The only prerequisite is basic algebra and calculus.

Graduate-level study approaches mathematical foundations of three-dimensional elasticity using modern differential geometry and functional analysis. It presents a classical subject in a modern setting, with examples of newer mathematical contributions. 1983 edition.

This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe,

and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

Build real-world Artificial Intelligence applications with Python to intelligently interact with the world around you About This Book Step into the amazing world of intelligent apps using this comprehensive guide Enter the world of Artificial Intelligence, explore it, and create your own applications Work through simple yet insightful examples that will get you up and running with Artificial Intelligence in no time Who This Book Is For This book is for Python developers who want to build real-world Artificial Intelligence applications. This book is friendly to Python beginners, but being familiar with Python would be useful to play around with the code. It will also be useful for experienced Python programmers who are looking to use Artificial Intelligence techniques in their existing technology stacks. What You Will Learn Realize different classification and regression techniques Understand the concept of clustering and how to use it to automatically segment data See how to build an intelligent recommender system Understand logic programming and how to use it Build automatic speech recognition systems Understand the basics of heuristic search and genetic programming Develop games using Artificial Intelligence Learn how reinforcement learning works Discover how to build intelligent applications centered on images, text, and time series data See how to use deep learning algorithms and build applications based on it In Detail Artificial Intelligence is becoming increasingly relevant in the modern world where everything is driven by technology and data. It is used extensively across many fields such as search engines, image recognition, robotics, finance, and so on. We will explore various real-world scenarios in this book and you'll learn about various algorithms that can be used to build Artificial Intelligence applications. During the course of this book, you will find out how to make informed decisions about what algorithms to use in a given context. Starting from the basics of Artificial Intelligence, you will learn how to develop various building blocks using different data mining techniques. You will see how to implement different algorithms to get the best possible results, and will understand how to apply them to real-world scenarios. If you want to add an intelligence layer to any application that's based on images, text, stock market, or some other form of data, this exciting book on Artificial Intelligence will definitely be your guide! Style and approach This highly practical book will show you how to implement Artificial Intelligence. The book provides multiple examples enabling you to create smart applications to meet the needs of your organization. In every chapter, we explain an algorithm, implement it, and then build a smart application.

Based upon the authors' experience in designing and deploying an embedded Linux system with a variety of applications, *Embedded Linux System Design and Development* contains a full embedded Linux system development roadmap for systems architects and software programmers. Explaining the issues that arise out of the use of Linux in embedded systems, the book facilitates movement to embedded Linux from traditional real-time operating systems, and describes the system design model containing embedded Linux. This book delivers practical solutions for writing, debugging, and profiling applications and drivers in embedded Linux, and for understanding Linux BSP architecture. It enables you to understand: various drivers such as serial, I2C and USB gadgets; uClinux architecture and its programming model; and the embedded Linux graphics subsystem. The text also promotes learning of methods to reduce system boot time, optimize memory and storage, and find memory leaks and corruption in applications. This volume benefits IT managers in planning to choose an embedded Linux distribution and in creating a roadmap for OS transition. It also describes the application of the Linux licensing model in commercial products.

The Expert Committee on Specifications for Pharmaceutical Preparations works towards clear independent and practical standards and guidelines for the quality assurance of medicines. Standards are developed by the Committee through worldwide consultation and an international consensus-building process. The following new guidelines were adopted and recommended for use: Procedure for development of the WHO medicines quality assurance guidelines; Guidelines on Good Manufacturing Practices (GMP) for heating ventilation and air-conditioning systems (HVAC) ? illustrative part; Guidance on GMP for Validation including the general main text analytical procedure validation validation of computerized systems and qualification; in the area of interchangeability of multi-source medicines: the Protocol to conduct equilibrium solubility experiments for the purpose of biopharmaceutics classification systembased classification of active pharmaceutical ingredients for biowaiver; Guidelines on Import Procedures for pharmaceutical products; and the Good Practice

Guidance document on implementing the collaborative procedures. All of the above are included in this report and recommended for implementation.

Based in large part on the comprehensive "First Course in Ring Theory" by the same author, this book provides a comprehensive set of problems and solutions in ring theory that will serve not only as a teaching aid to instructors using that book, but also for students, who will see how ring theory theorems are applied to solving ring-theoretic problems and how good proofs are written. The author demonstrates that problem-solving is a lively process: in "Comments" following many solutions he discusses what happens if a hypothesis is removed, whether the exercise can be further generalized, what would be a concrete example for the exercise, and so forth. The book is thus much more than a solution manual.

This book constitutes the proceedings of the International Conference on Integrable Systems in memory of J.-L. Verdier. It was held on July 1-5, 1991 at the Centre International de Recherches Mathématiques (C.I.R.M.) at Luminy, near Marseille (France). This collection of articles, covering many aspects of the theory of integrable Hamiltonian systems, both finite and infinite-dimensional, with an emphasis on the algebro-geometric methods, is published here as a tribute to Verdier who had planned this conference before his death in 1989 and whose active involvement with this topic brought integrable systems to the fore as a subject for active research in France. The death of Verdier and his wife on August 25, 1989, in a car accident near their country house, was a shock to all of us who were acquainted with them, and was very deeply felt in the mathematics community. We knew of no better way to honor Verdier's memory than to proceed with both the School on Integrable Systems at the C.I.M.P.A. (Centre International de Mathématiques Pures et Appliquées in Nice), and the Conference on the same theme that was to follow it, as he himself had planned them.

Many of the earliest books, particularly those dating back to the 1900s and before, are now extremely scarce and increasingly expensive. We are republishing these classic works in affordable, high quality, modern editions, using the original text and artwork.

This new book can be read independently from the first volume and may be used for lecturing, seminar- and self-study, or for general reference. It focuses more on specific topics in order to introduce readers to a wealth of basic and useful ideas without the hindrance of heavy machinery or undue abstractions. User-friendly with its abundance of examples illustrating the theory at virtually every step, the volume contains a large number of carefully chosen exercises to provide newcomers with practice, while offering a rich additional source of information to experts. A direct approach is used in order to present the material in an efficient and economic way, thereby introducing readers to a considerable amount of interesting ring theory without being dragged through endless preparatory material.

This is a comprehensive study of the field of optics.

Global positioning systems like GPS or the future European Galileo are influencing the world of navigation tremendously. Today, everybody is concerned with navigation even if unaware of this fact. Therefore, the interest in navigation is steadily increasing. This book provides an encyclopedic view of navigation. Fundamental elements are presented for a better understanding of the techniques, methods, and systems used in positioning and guidance. The book consists of three parts. Beside a historical review and maps, the first part covers mathematical and physical fundamentals. The second part treats the methods of positioning including terrestrial, celestial, radio- and satellite-based, inertial, image-based, and integrated navigation. Routing and guidance are the main topics of the third part. Applications on land, at sea, in the air, and in space are considered, followed by a critical outlook on the future of navigation. This book is designed for students, teachers, and people interested in entering the complex world of navigation.

Reproduction of the original: *The Way to Geometry* by Peter Ramus

A spirited defense of the anarchist approach to life James Scott taught us what's wrong with seeing like a state. Now, in his most accessible and personal book to date, the acclaimed social scientist makes the case for seeing like an anarchist. Inspired by the core anarchist faith in the possibilities of voluntary cooperation without hierarchy, *Two Cheers for Anarchism* is an engaging, high-spirited, and often very funny defense of an anarchist way of seeing—one that provides a unique and powerful perspective on everything from everyday social and political interactions to mass protests and revolutions. Through a wide-ranging series of memorable anecdotes and examples, the book describes an anarchist sensibility that celebrates the local knowledge, common sense, and creativity of ordinary people. The result is a kind of handbook on constructive anarchism that challenges

us to radically reconsider the value of hierarchy in public and private life, from schools and workplaces to retirement homes and government itself. Beginning with what Scott calls the law of anarchist calisthenics, an argument for law-breaking inspired by an East German pedestrian crossing, each chapter opens with a story that captures an essential anarchist truth. In the course of telling these stories, Scott touches on a wide variety of subjects: public disorder and riots, desertion, poaching, vernacular knowledge, assembly-line production, globalization, the petty bourgeoisie, school testing, playgrounds, and the practice of historical explanation. Far from a dogmatic manifesto, *Two Cheers for Anarchism* celebrates the anarchist confidence in the inventiveness and judgment of people who are free to exercise their creative and moral capacities.

This second edition of 'Low Back Disorders' provides research information on low back problems and shows readers how to interpret the data for clinical applications.

There is currently no viable alternative to the Bayesian analysis of scientific inference, yet the available versions of Bayesianism fail to do justice to several aspects of the testing and confirmation of scientific hypotheses. *Bayes or Bust?* provides the first balanced treatment of the complex set of issues involved in this nagging conundrum in the philosophy of science. Both Bayesians and anti-Bayesians will find a wealth of new insights on topics ranging from Bayes's original paper to contemporary formal learning theory. In a paper published posthumously in 1763, the Reverend Thomas Bayes made a seminal contribution to the understanding of "analogical or inductive reasoning." Building on his insights, modern Bayesians have developed an account of scientific inference that has attracted numerous champions as well as numerous detractors. Earman argues that Bayesianism provides the best hope for a comprehensive and unified account of scientific inference, yet the presently available versions of Bayesianism fail to do justice to several aspects of the testing and confirming of scientific theories and hypotheses. By focusing on the need for a resolution to this impasse, Earman sharpens the issues on which a resolution turns. John Earman is Professor of History and Philosophy of Science at the University of Pittsburgh.

Newnes Electrical Pocket Book is the ideal daily reference source for electrical engineers, electricians and students. First published in 1932 this classic has been fully updated in line with the latest technical developments, regulations and industry best practice. Providing both in-depth knowledge and a broad overview of the field this pocket book is an invaluable tool of the trade. A handy source of essential information and data on the practice and principles of electrical engineering and installation. The 23rd edition has been updated by engineering author and consultant electrical engineer, Martin Heathcote. Major revisions have been made to the sections on semiconductors, power generation, transformers, building automation systems, electric vehicles, electrical equipment for use in hazardous areas, and electrical installation (reflecting the changes introduced to the IEE Wiring Regulations BS7671: 2001).

"Benefiting from Thermal and Mechanical Simulation in Micro-Electronics" presents papers from the first international conference on this topic, EuroSimE2000. For the first time, people from the electronics industry, research institutes, software companies and universities joined together to discuss present and possible future thermal and mechanical related problems and challenges in micro-electronics; the state-of-the-art methodologies for thermal & mechanical simulation and optimization of micro-electronics; and the perspectives of future simulation and optimization methodology development. Main areas covered are: - "Benefiting from Thermal and Mechanical Simulation in Micro-Electronics" is suitable for students at graduate level and beyond, and for researchers, designers and specialists in the fields of microelectronics and mechanics.

Practical UML Statecharts in C/C++ Second Edition bridges the gap between high-level abstract concepts of the Unified Modeling Language (UML) and the actual programming aspects of modern hierarchical state machines (UML statecharts). The book describes a lightweight, open source, event-driven infrastructure, called QP that enables direct manual coding UML statecharts and concurrent event-driven applications in C or C++ without big tools. This book is presented in two parts. In Part I, you get a practical description of the relevant state machine concepts starting from traditional finite state automata to modern UML state machines followed by state machine coding techniques and state-machine design patterns, all illustrated with executable examples. In Part II, you find a detailed design study of a generic real-time framework indispensable for combining concurrent, event-driven state machines into robust applications. Part II begins with a clear explanation of the key event-driven programming concepts such as inversion of control (Hollywood Principle), blocking versus non-blocking code, run-to-completion (RTC) execution semantics, the importance of event queues, dealing with time, and the role of state machines to maintain the context

from one event to the next. This background is designed to help software developers in making the transition from the traditional sequential to the modern event-driven programming, which can be one of the trickiest paradigm shifts. The lightweight QP event-driven infrastructure goes several steps beyond the traditional real-time operating system (RTOS). In the simplest configuration, QP runs on bare-metal microprocessor, microcontroller, or DSP completely replacing the RTOS. QP can also work with almost any OS/RTOS to take advantage of the existing device drivers, communication stacks, and other middleware. The accompanying website to this book contains complete open source code for QP, ports to popular processors and operating systems, including 80x86, ARM Cortex-M3, MSP430, and Linux, as well as all examples described in the book.

Get ready to pass the CISSP exam and earn your certification with this advanced test guide Used alone or as an in-depth supplement to the bestselling *The CISSP Prep Guide*, this book provides you with an even more intensive preparation for the CISSP exam. With the help of more than 300 advanced questions and detailed answers, you'll gain a better understanding of the key concepts associated with the ten domains of the common body of knowledge (CBK). Each question is designed to test you on the information you'll need to know in order to pass the exam. Along with explanations of the answers to these advanced questions, you'll find discussions on some common incorrect responses as well. In addition to serving as an excellent tutorial, this book presents you with the latest developments in information security. It includes new information on: Carnivore, Echelon, and the U.S. Patriot Act The Digital Millennium Copyright Act (DMCA) and recent rulings The European Union Electronic Signature Directive The Advanced Encryption Standard, biometrics, and the Software Capability Maturity Model Genetic algorithms and wireless security models New threats and countermeasures The CD-ROM includes all the questions and answers from the book with the Boson-powered test engine.

Oil and gas projects have special characteristics that need a different technique in project management. The development of any country depends on the development of the energy reserve through investing in oil and gas projects through onshore and offshore exploration, drilling, and increasing facility capacities. Therefore, these projects need a sort of management match with their characteristics, and project management is the main tool to achieving a successful project. Written by a veteran project manager who has specialized in oil and gas projects for years, this book focuses on using practical tools and methods that are widely and successfully used in project management for oil and gas projects. Most engineers study all subjects, but focus on project management in housing projects, administration projects, and commercial buildings or other similar projects. However, oil and gas projects have their own requirements and characteristics in management from the owners, engineering offices, and contractors' side. Not only useful to graduating engineers, new hires, and students, this volume is also an invaluable addition to any veteran project manager's library as a reference or a helpful go-to guide. Also meant to be a refresher for practicing engineers, it covers all of the project management subjects from an industrial point of view specifically for petroleum projects, making it the perfect desktop manual. Not just for project managers and students, this book is helpful to any engineering discipline or staff in sharing or applying the work of a petroleum project and is a must-have for anyone working in this industry.

An insightful presentation of the key concepts, paradigms, and applications of modeling and simulation Modeling and simulation has become an integral part of research and development across many fields of study, having evolved from a tool to a discipline in less than two decades. Modeling and Simulation Fundamentals offers a comprehensive and authoritative treatment of the topic and includes definitions, paradigms, and applications to equip readers with the skills needed to work successfully as developers and users of modeling and simulation. Featuring contributions written

by leading experts in the field, the book's fluid presentation builds from topic to topic and provides the foundation and theoretical underpinnings of modeling and simulation. First, an introduction to the topic is presented, including related terminology, examples of model development, and various domains of modeling and simulation. Subsequent chapters develop the necessary mathematical background needed to understand modeling and simulation topics, model types, and the importance of visualization. In addition, Monte Carlo simulation, continuous simulation, and discrete event simulation are thoroughly discussed, all of which are significant to a complete understanding of modeling and simulation. The book also features chapters that outline sophisticated methodologies, verification and validation, and the importance of interoperability. A related FTP site features color representations of the book's numerous figures. Modeling and Simulation Fundamentals encompasses a comprehensive study of the discipline and is an excellent book for modeling and simulation courses at the upper-undergraduate and graduate levels. It is also a valuable reference for researchers and practitioners in the fields of computational statistics, engineering, and computer science who use statistical modeling techniques.

The author, the founder of the Greek Statistical Institute, has based this book on the two volumes of his Greek edition which has been used by over ten thousand students during the past fifteen years. It can serve as a companion text for an introductory or intermediate level probability course. Those will benefit most who have a good grasp of calculus, yet, many others, with less formal mathematical background can also benefit from the large variety of solved problems ranging from classical combinatorial problems to limit theorems and the law of iterated logarithms. It contains 329 problems with solutions as well as an addendum of over 160 exercises and certain complements of theory and problems.