Permutacije Varijacije I Kombinacije Bez Ponavljanja

Thoroughly updated for currency, this book offers a clear presentation of data communications and network fundamentals. Featuring a wide array of applications, the book fully explains concepts and supports them with case studies or descriptions of specific software and other products. Students learn the protocols of analog and digital signals, data compression, data integrity, data security, local area networks, asynchronous transfer mode (ATM), and much more. The third edition includes important information on the latest developments of the Internet.

LinKnot - Knot Theory by Computer provides a unique view of selected topics in knot theory suitable for students, research mathematicians, and readers with backgrounds in other exact sciences, including chemistry, molecular biology and physics. The book covers basic notions in knot theory, as well as new methods for handling open problems such as unknotting number, braid family representatives, invertibility, amphicheirality, undetectability, non-algebraic tangles, polyhedral links, and (2,2)-moves. Conjectures discussed in the book are explained at length. The beauty, universality and diversity of knot theory is illuminated through various non-standard applications: mirror curves, fullerens, self-referential systems, and KL automata.

Table of contents

Martin Gardner's Mathematical Games columns in Scientific American inspired and entertained several generations of mathematicians and scientists. Gardner in his crystal-clear prose illuminated corners of mathematics, especially recreational mathematics, that most people had no idea existed. His playful spirit and inquisitive nature invite the reader into an exploration of beautiful mathematical ideas along with him. These columns were both a revelation and a gift when he wrote them; no one--before Gardner--had written about mathematics like this. They continue to be a marvel. This volume, first published in 1977, contains columns published in the magazine from 1965-1968. This 1990 MAA edition contains a foreword by Persi Diaconis and Ron Graham and a postscript and extended bibliography added by Gardner for this edition.

This reference volume brings together the key academic contributions that have shaped the field of language rights over the last 40 years. Work in language rights is particularly concerned with the rights of minority language speakers in modern nation-states. It also encompasses related discussions on language endangerment, the maintenance of bilingualism and multilingualism, the role of education, and the impact of English as the current world language in an increasingly globalized world. As such, the field of language rights is also strongly interdisciplinary, drawing on work in language policy, sociolinguistics, political theory, law and education - all key disciplinary areas that are represented in this volume. It is also avowedly international, with discussion in this volume of contexts that span Europe, Africa, Asia, the Americas and Oceania/the Pacific region. The various contributions in this volume also address a range of linguistic minority groups, including Indigenous peoples, national minorities, and migrant groups. This volume is relevant to a wide range of students and scholars interested in issues of language endangerment, linguistic justice, language and citizenship, human rights, Indigenous studies, language education, bilingualism and multilingualism, and English as a world language.

Clear instructions for 101 tricks and problems, many based on important math principles. Master such number phenomena as Lightning Calculations, Giant Memory, Magic Squares, nearly 100 more. 98 illustrations.

"Another scintillating collection of brilliant problems and paradoxes by the most entertaining logician and set theorist who ever lived." — Martin Gardner. Inspired by the classic tale of a prisoner's dilemma, these whimsically themed challenges involve paradoxes about probability, time, and change; metapuzzles; and self-referentiality. Nineteen chapters advance in difficulty from relatively simple to highly complex.

Function; Limit, continuity; Derivate and differential, diferential calculus; Application of differential calculus ti iinvestigation of behavior of functions; Integral calculus; Application of integral calculus; Functions of several variables and their differnetiation; Double and triple integrals; Differential equations.

Translated from the original German by Peter Hilton and Jean Pedersen. The 99 points of intersection presented here were collected during a year-long search for surprising concurrence of lines. For each example we find compelling evidence for the sometimes startling fact that in a geometric figure three straight lines, or sometimes circles, pass through one and the same point. Of course, we are familiar with some examples of this from basic elementary geometry - the intersection of medians, altitudes, angle bisectors, and perpendicular bisectors of sides of a triangle. Here there are many more examples - some for figures other than triangles, some where even more than three straight lines pass through a common point. The main part of the book presents 99 points of intersection purely visually. They are developed in a sequence of figures, many without caption or verbal commentary. In addition the book contains general thoughts on and examples of the points of intersection, as well as some typical methods of proving their existence. Many of the examples shown in the book were inspired by questions and suggestions made by students and high-school teachers. Several of those examples have not only a geometrical, but also an intriguing aesthetic, aspect. The book addresses high-school students and students at the undergraduate level as well as their teachers, but will appeal to anyone interested in geometry.

How high can animals jump? What are the fastest thrown balls? How fast can aeroplanes and butterflies fly? What does the sea level tell us about the sun? What are temperature and heat? What is self-organization? This free colour pdf on introductory physics guarantees to be entertaining, surprising and challenging on every page. The text presents the best stories, images, movies and puzzles in mechanics, gravity and thermodynamics - with little mathematics, always starting from observations of everyday life. This first volume also explains conservation laws and the reversibility of motion, explores mirror symmetry, and presents the principle of cosmic laziness: the principle of least action. This popular series

has already more than 160 000 readers. If you are between the age of 16 and 106 and want to understand nature, you will enjoy it! To achieve wonder and thrill on every page, the first volume includes the various "colour of the bear" puzzles and the "picture on the wall" puzzle, explains about the many types of water waves, introduces the art of laying rope, tells about the the dangers of aeroplane toilets, explores the jumping height of different animals, presents the surprising motion of moguls on skiing slopes, explains why ultrasound imaging is not safe for a foetus, gives the ideal shape of skateboard half-pipes, estimates the total length of all capillaries in the human body, explains how it is possible to plunge a bare hand into molten lead, includes a film of an oscillating quartz inside a watch, includes the "handcuff puzzle" and the "horse pulling a rubber with a snail on it" puzzle, explains how jet pilots frighten civilians with sonic superbooms produced by fighter planes, presents the most beautiful and precise sundial available today, shows leap-frogging vortex rings, tells the story of the Galilean satellites of Jupiter, mentions the world records for running backwards and the attempts to break the speed sailing record, and tells in detail how to learn from books with as little effort as possible. Enjoy the reading!

Paper mosaics, silk screen prints, fold-outs, silhouettes, and other types of cards to make yourself.

Glasnik Matemati?kiSerija III.Matematika za ekonomiste kroz primereSa nakjra?im teoretskim uputstvima iz opšte matematikePedagoška StvarnostOsnovi matematike za ekonomisteMatematika za ekonomisteMatematika za ekonomisteStatisti?ka revijaKombinatorikaMatemati?ka bibliotekaRe?nik stranih re?i i izrazaMatematikaDijalektikaRje?nik stranih rije?itu?ice, posu?enice, izrazi, kratice i frazeMatematika za ekonomistezbirka zadataka sa rešenjimaThe Lady Or the Tiger?And Other Logic PuzzlesCourier Corporation

Quantum information and computation is a rapidly expanding and cross-disciplinary subject. This book, first published in 2006, gives a self-contained introduction to the field for physicists, mathematicians and computer scientists who want to know more about this exciting subject. After a step-by-step introduction to the quantum bit (qubit) and its main properties, the author presents the necessary background in quantum mechanics. The core of the subject, quantum computation, is illustrated by a detailed treatment of three quantum algorithms: Deutsch, Grover and Shor. The final chapters are devoted to the physical implementation of quantum computers, including the most recent aspects, such as superconducting qubits and quantum dots, and to a short account of quantum information. Written at a level suitable for undergraduates in physical sciences, no previous knowledge of quantum mechanics is assumed, and only elementary notions of physics are required. The book includes many short exercises, with solutions available to instructors through solutions@cambridge.org.

"This book is the third in an important trilogy of edited collections on the teaching and learning of primary mathematics. To each book the editor, Ian Thompson, has attracted a team of expert contributors, and himself set the characteristically high standard of writing and clarity... When, in 10 or 20 years' time, people want to know about the state of English primary mathematics at the turn of the 21st century, they will turn to this volume. You would do well to read it now." Mathematics in Schools "This is the third book in the popular series edited by Ian Thompson that brings together an impressive array of contributing authors. Current issues are discussed in an informed but concise way that makes research accessible to the wider community of mathematics educators." Julia Anghileri, University of Cambridge This book explores the effect that the National Numeracy Strategy and its successor, the Primary Strategy, have had on the way in which mathematics is taught in primary schools. Prominent contributors examine the Strategies' recommendations from the perspective of their own research areas or interests, and discuss the issues involved, including: Ideas for extending current practice Suggestions of important aspects of mathematics teaching that are being given little or no emphasis Alternative approaches that could be integrated into current practice Aspects of current practice that need to take account of recent research findings or emerging issues. Each chapter discusses implications for teaching and learning primary mathematics. The book will be particularly useful for trainees, practising teachers, mathematics coordinators and numeracy consultants. Contributors: Mundher Adhami, Mike Askew, Carol Aubrey, Margaret Brown, Ann Dowker, Rosemary Hafeez, Steve Higgins, Keith Jones, Lesley Jones, Valsa Koshy, Alison Millett, Claire Mooney, Laurie Rousham, Malcolm Swan, Ian Thompson, Helen J Williams.

The years 2006 and 2007 mark a dramatic change of peoples view regarding c- mate change and energy consumption. The new IPCC report makes clear that - mankind plays a dominant role on climate change due to CO_2 emissions from en- ergy consumption, and that a significant reduction in CO_2 emissions is necessary within decades. At the same time, the supply of fossil energy sources like coal, oil, and natural gas becomes less reliable. In spring 2008, the oil price rose beyond 100 $/barrel for the first time in history. It is commonly accepted today that we have to reduce the use of fossil fuels to cut down the dependency on the supply countries and to reduce CO_2 emissions. The use of renewable energy sources and increased energy efficiency are the main strategies to achieve this goal. In both strategies, heat and cold storage will play an important role. People use energy in different forms, as heat, as mechanical energy, and as light. With the discovery of fire, humankind was the first time able to supply heat and light when needed. About 2000 years ago, the Romans started to use ceramic tiles to store heat in under floor heating systems. Even when the fire was out, the room stayed warm. Since ancient times, people also know how to cool food with ice as cold storage.

This unique textbook takes the student from the initial steps in modeling a dynamic system through development of the mathematical models needed for feedback control. The generously-illustrated, student-friendly text focuses on fundamental theoretical development rather than the application of commercial software. Practical details of machine design are included to motivate the non-mathematically inclined student.

Swarm intelligence algorithms are a form of nature-based optimization algorithms. Their main inspiration is the cooperative behavior of animals within specific communities. This can be described as simple behaviors of individuals along with the mechanisms for sharing knowledge between them, resulting in the complex behavior of the entire community. Examples of such

behavior can be found in ant colonies, bee swarms, schools of fish or bird flocks. Swarm intelligence algorithms are used to solve difficult optimization problems for which there are no exact solving methods or the use of such methods is impossible, e.g. due to unacceptable computational time. This set comprises two volumes: Swarm Intelligence Algorithms: A Tutorial and Swarm Intelligence Algorithms: Modifications and Applications. The first volume thoroughly presents the basics of 24 algorithms selected from the entire family of swarm intelligence algorithms. It contains a detailed explanation of how each algorithm works, along with relevant program codes in Matlab and the C ++ programming language, as well as numerical examples illustrating step-by-step how individual algorithms work. The second volume describes selected modifications of these algorithms and presents their practical applications. This book presents 24 swarm algorithms together with their modifications and practical applications. Each chapter is devoted to one algorithm. It contains a short description along with a pseudo-code showing the various stages of its operation. In addition, each chapter contains a description of selected modifications of the algorithm and shows how it can be used to solve a selected practical problem.

Can language hide thoughts? This question, posed by the German Academy for Language and Literature in 1965 as the topic of its first essay competition, was taken up by the philologist Harald Weinrich, with far-ranging results. The most immediate was his claiming first prize with this volume's title essay, published the following year as Linguistik der Luge. Weinrich's influential essay, now in its sixth printing in Germany, is presented here for the first time in English, with an updated preface by the author and additional essays selected by him. With wit and clarity, Weinrich brings sophisticated thinking about semantics to bear on the question of how, and how much, language corresponds to thought. He argues that lying is a function not of words but of sentences; it belongs to the semantic aspect of language. His survey of the different ways in which language is untrue forges striking links between linguistic and literary categories on the one hand and ethics and even good manners on the other. In contrast with scholars of an earlier generation, for whom literary and cultural theory circumscribed the issue of style within a fixed aesthetic framework, Weinrich demonstrates that stylistic analysis is closely linked with analysis in the domains of sociology and anthropology. The essays "Jonah's Sign: On the Very Large and the Very Small in Literature," "Politeness, an Affair of Honor," "Politeness and Sincerity," and "The Style Is the Man Is the Devil" complement "The Linguistics of Lying" in their focus on real and false representations in literature and in life, and notably on the immensely destructive lies, Adolf Hitler's in particular, that marked the politics of the twentieth century.

This book invites the reader to understand our Universe, not just marvel at it. From the clock-like motions of the planets to the catastrophic collapse of a star into a black hole, gravity controls the Universe. Gravity is central to modern physics, helping to answer the deepest questions about the nature of time, the origin of the Universe and the unification of the forces of nature. Linking key experiments and observations through careful physical reasoning, the author builds the reader's insight step-by-step from simple but profound facts about gravity on Earth to the frontiers of research. Topics covered include the nature of stars and galaxies, the mysteries of dark matter and dark energy, black holes, gravitational waves, inflation and the Big Bang. Suitable for general readers and for undergraduate courses, the treatment uses only high-school level mathematics, supplemented by optional computer programs, to explain the laws of physics governing gravity.

Achieving immortality is only half of the problem. The other half is knowing how to live with it once it's been made possible—and inescapable!

This book offers a well-organized, easy-to-follow introduction to combinatorial theory, with examples, notes and exercises. ". . . a very good introduction to combinatorics. This book can warmly be recommended first of all to students interested in combinatorics." Publicationes Mathematicae Debrecen

1. The increasing number of research papers appeared in the last years that either make use of aggregation functions or contribute to its theoretieal study asses its growing importance in the field of Fuzzy Logie and in others where uncertainty and imprecision play a relevant role. Since these papers are pub lished in many journals, few books and several proceedings of conferences, books on aggregation are partieularly welcome. To my knowledge, "Agrega tion Operators. New Trends and Applications" is the first book aiming at generality , and I take it as a honour to write this Foreword in response to the gentle demand of its editors, Radko Mesiar, Tomasa Calvo and Gaspar Mayor. My pleasure also derives from the fact that twenty years aga I was one of the first Spaniards interested in the study of aggregation functions, and this book includes work by several Spanish authors. The book contains nice and relevant original papers, authored by some of the most outstanding researchers in the field, and since it can serve, as the editors point out in the Preface, as a small handbook on aggregation, the book is very useful for those entering the subject for the first time. The book also contains apart dealing with potential areas of application, so it can be helpful in gaining insight on the future developments.