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Sommario/riassunto

This book delves into the intricate world of interval programming, offering a comprehensive exploration of mathematical programming problems characterized by interval data. Interval data, often arising from uncertainties like measurement errors or estimations, are also pivotal in analyzing stability, sensitivity, and managing numerical issues. At the heart of this book is the principle of interval analysis, ensuring that all possible realizations of interval data are accounted for. Readers will uncover a wealth of knowledge as the author meticulously examines how variations in input coefficients affect optimal solutions and values in linear programming. The chapters are organized into three parts: foundational concepts of interval analysis, linear programming with interval data, and advanced extensions into multiobjective and nonlinear problems. This book invites readers to explore critical questions about stability, duality, and practical applications across diverse fields. With contributions from eminent scholars, it provides a unique blend of theoretical insights and practical case studies. Designed for both researchers and students with a basic understanding of mathematics, this book serves as an essential resource for anyone interested in mathematical programming. Whether used as a monograph or a lecture textbook, it offers clear explanations and comprehensive proofs to make complex concepts accessible. Scholars in operations research, applied mathematics, and related disciplines will find this volume invaluable for advancing their understanding of interval programming.