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Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Graph Edge Coloring: Vizing's Theorem and Goldberg's Conjecture; CONTENTS; Preface; 1 Introduction; 1.1 Graphs; 1.2 Coloring Preliminaries; 1.3 Critical Graphs; 1.4 Lower Bounds and Elementary Graphs; 1.5 Upper Bounds and Coloring Algorithms; 1.6 Notes; 2 Vizing Fans; 2.1 The Fan Equation and the Classical Bounds; 2.2 Adjacency Lemmas; 2.3 The Second Fan Equation; 2.4 The Double Fan; 2.5 The Fan Number; 2.6 Notes; 3 Kierstead Paths; 3.1 Kierstead's Method; 3.2 Short Kierstead's Paths; 3.3 Notes; 4 Simple Graphs and Line Graphs; 4.1 Class One and Class Two Graphs 4.2 Graphs whose Core has Maximum Degree Two4.3 Simple Overfull Graphs; 4.4 Adjacency Lemmas for Critical Class Two Graphs; 4.5 Average Degree of Critical Class Two Graphs; 4.6 Independent Vertices in Critical Class Two Graphs; 4.7 Constructions of Critical Class Two Graphs; 4.8 Hadwiger's Conjecture for Line Graphs; 4.9 Simple Graphs on Surfaces; 4.10 Notes; 5 Tashkinov Trees; 5.1 Tashkinov's Method; 5.2 Extended Tashkinov Trees; 5.3 Asymptotic Bounds; 5.4 Tashkinov's Coloring Algorithm; 5.5 Polynomial Time Algorithms; 5.6 Notes; 6 Goldberg's Conjecture

6.1 Density and Fractional Chromatic Index6.2 Balanced Tashkinov Trees; 6.3 Obstructions; 6.4 Approximation Algorithms; 6.5 Goldberg's Conjecture for Small Graphs; 6.6 Another Classification Problem for Graphs; 6.7 Notes; 7 Extreme Graphs; 7.1 Shannon's Bound and Ring Graphs; 7.2 Vizing's Bound and Extreme Graphs; 7.3 Extreme Graphs and Elementary Graphs; 7.4 Upper Bounds for ' Depending on and ; 7.5 Notes; 8 Generalized Edge Colorings of Graphs; 8.1 Equitable and Balanced Edge Colorings; 8.2 Full Edge Colorings and the Cover Index; 8.3 Edge Colorings of Weighted Graphs
8.4 The Fan Equation for the Chromatic Index 'f8.5 Decomposing Graphs into Simple Graphs; 8.6 Notes; 9 Twenty Pretty Edge Coloring Conjectures; Appendix A: Vizing's Two Fundamental Papers; A.1 On an Estimate of the Chromatic Class of a p-Graph; References; A.2 Critical Graphs with a Given Chromatic Class; References; Appendix B: Fractional Edge Colorings; B.1 The Fractional Chromatic Index; B.2 The Matching Polytope; B.3 A Formula for 'f*; References; Symbol Index; Name Index; Subject Index

Sommario/riassunto

"Written by world authorities on graph theory, this book features many new advances and applications in graph edge coloring, describes how the results are interconnected, and provides historial context throughout. Chapter coverage includes an introduction to coloring preliminaries and lower and upper bounds; the Vizing fan; the Kierstead path; simple graphs and line graphs of multigraphs; the Tashkinov tree; Goldberg's conjecture; extreme graphs; generalized edge coloring; and open problems. It serves as a reference for researchers interested in discrete mathematics, graph theory, operations research, theoretical computer science, and combinatorial optimization, as well as a graduate-level course book for students of mathematics, optimization, and computer science"--