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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Frontmatter -- Preface -- Contents -- Chapter 1. Directed and undirected graphs -- Chapter 2. Graphs and matrices -- Chapter 3. Categories and functors -- Chapter 4. Binary graph operations -- Chapter 5. Line graph and other unary graph operations -- Chapter 6. Graphs and vector spaces -- Chapter 7. Graphs, groups and monoids -- Chapter 8. The characteristic polynomial of graphs -- Chapter 9. Graphs and monoids -- Chapter 10. Compositions, unretractivities and monoids -- Chapter 11. Cayley graphs of semigroups -- Chapter 12. Vertex transitive Cayley graphs -- Chapter 13. Embeddings of Cayley graphs - genus of semigroups -- Bibliography -- Index -- Index of symbols
Sommario/riassunto	Graph models are extremely useful for almost all applications and applicators as they play an important role as structuring tools. They allow to model net structures - like roads, computers, telephones - instances of abstract data structures - like lists, stacks, trees - and functional or object oriented programming. In turn, graphs are models for mathematical objects, like categories and functors. This highly self-contained book about algebraic graph theory is written with a view to keep the lively and unconventional atmosphere of a spoken text to

communicate the enthusiasm the author feels about this subject. The focus is on homomorphisms and endomorphisms, matrices and eigenvalues. It ends with a challenging chapter on the topological question of embeddability of Cayley graphs on surfaces.