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Nota di contenuto	Preface -- Notation.- 1. Walks in graphs -- 2. Cubes and the Radon transform -- 3. Random walks -- 4. The Sperner property -- 5. Group actions on boolean algebras -- 6. Young diagrams and q-binomial coefficients -- 7. Enumeration under group action -- 8. A glimpse of Young tableaux -- Appendix. The RSK algorithm -- Appendix. Plane partitions -- 9. The Matrix–Tree Theorem -- Appendix. Three elegant combinatorial proofs -- 10. Eulerian diagraphs and oriented trees -- 11. Cycles, bonds, and electrical networks -- 12. Miscellaneous gems of algebraic combinatorics -- Hints -- References.
Sommario/riassunto	Written by one of the foremost experts in the field, Algebraic Combinatorics is a unique undergraduate textbook that will prepare the next generation of pure and applied mathematicians. The combination of the author’s extensive knowledge of combinatorics and classical and practical tools from algebra will inspire motivated students to delve deeply into the fascinating interplay between algebra and combinatorics. Readers will be able to apply their newfound knowledge to mathematical, engineering, and business models. The text is primarily intended for use in a one-semester advanced undergraduate course in algebraic combinatorics, enumerative combinatorics, or graph theory. Prerequisites include a basic knowledge of linear algebra over a

field, existence of finite fields, and rudiments of group theory. The topics in each chapter build on one another and include extensive problem sets as well as hints to selected exercises. Key topics include walks on graphs, cubes and the Radon transform, the Matrix–Tree Theorem, de Bruijn sequences, the Erds-Moser conjecture, electrical networks, and the Sperner property. There are also three appendices on purely enumerative aspects of combinatorics related to the chapter material: the RSK algorithm, plane partitions, and the enumeration of labeled trees. Richard Stanley is currently professor of Applied Mathematics at the Massachusetts Institute of Technology. Stanley has received several awards including the George Pólya Prize in applied combinatorics, the Guggenheim Fellowship, and the Leroy P. Steele Prize for mathematical exposition. Also by the author: Combinatorics and Commutative Algebra, Second Edition,