1. Record Nr. UNINA9910300255403321

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Titolo	Eulerian Numbers / / by T. Kyle Petersen
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Birkhäuser, , 2015
ISBN	1-4939-3091-5
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (XVIII, 456 p. 78 illus., 4 illus. in color.)
Collana	Birkhäuser Advanced Texts Basler Lehrbücher, , 2296-4894
Disciplina	511.6
Soggetti	Discrete mathematics Topology Number theory Group theory Discrete Mathematics Number Theory Group Theory and Generalizations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Eulerian Numbers -- Narayana Numbers -- Partially Ordered Sets -- Gamma-nonnegativity -- Weak Order, Hyperplane Arrangements, and the Tamari Lattice -- Refined Enumeration -- Simplicial Complexes -- Barycentric Subdivision -- Coxeter Groups -- W-Narayana Numbers -- Cubes, Carries, and an Amazing Matrix -- Characterizing f-vectors -- Combinatorics for Coxeter groups of Types Bn and Dn -- Affine Descents and the Steinberg Torus -- Hints and Solutions.
Sommario/riassunto	This text presents the Eulerian numbers in the context of modern enumerative, algebraic, and geometric combinatorics. The book first studies Eulerian numbers from a purely combinatorial point of view, then embarks on a tour of how these numbers arise in the study of hyperplane arrangements, polytopes, and simplicial complexes. Some topics include a thorough discussion of gamma-nonnegativity and real-rootedness for Eulerian polynomials, as well as the weak order and the shard intersection order of the symmetric group. The book also includes a parallel story of Catalan combinatorics, wherein the Eulerian numbers are replaced with Narayana numbers. Again there is a progression from combinatorics to geometry, including discussion of

the associahedron and the lattice of noncrossing partitions. The final chapters discuss how both the Eulerian and Narayana numbers have analogues in any finite Coxeter group, with many of the same enumerative and geometric properties. There are four supplemental chapters throughout, which survey more advanced topics, including some open problems in combinatorial topology. This textbook will serve a resource for experts in the field as well as for graduate students and others hoping to learn about these topics for the first time.