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Descrizione fisica	1 online resource (vii, 320 pages) : digital, PDF file(s)
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Soggetti	Representations of Lie algebras Combinatorial analysis
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Classical Lie algebras and Weyl groups -- Heaps over graphs -- Weyl group actions -- Lie theory -- Minuscule representations -- Full heaps over affine Dynkin diagrams -- Chevalley bases -- Combinatorics of Weyl groups -- The 28 bitangents -- Exceptional structures.
Sommario/riassunto	Minuscule representations occur in a variety of contexts in mathematics and physics. They are typically much easier to understand than representations in general, which means they give rise to relatively easy constructions of algebraic objects such as Lie algebras and Weyl groups. This book describes a combinatorial approach to minuscule representations of Lie algebras using the theory of heaps, which for most practical purposes can be thought of as certain labelled partially ordered sets. This leads to uniform constructions of (most) simple Lie algebras over the complex numbers and their associated Weyl groups,

and provides a common framework for various applications. The topics studied include Chevalley bases, permutation groups, weight polytopes and finite geometries. Ideal as a reference, this book is also suitable for students with a background in linear and abstract algebra and topology. Each chapter concludes with historical notes, references to the literature and suggestions for further reading.

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