

1. Record Nr.	UNINA9910792489003321
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Titolo	Undergraduate Algebra [[electronic resource] /] / by Serge Lang
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Springer, , 1990
ISBN	1-4757-6898-2
Edizione	[2nd ed. 1990.]
Descrizione fisica	1 online resource (XI, 371 p.)
Collana	Undergraduate Texts in Mathematics, , 0172-6056
Classificazione	13-01 15-01
Disciplina	512
Soggetti	Algebra
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	I The Integers -- II Groups -- III Rings -- IV Polynomials -- V Vector Spaces and Modules -- VI Some Linear Groups -- VII Field Theory -- VIII Finite Fields -- IX The Real and Complex Numbers -- X Sets -- §1. The Natural Numbers -- §2. The Integers -- §3. Infinite Sets.
Sommario/riassunto	This book, together with Linear Algebra, constitutes a curriculum for an algebra program addressed to undergraduates. The separation of the linear algebra from the other basic algebraic structures fits all existing tendencies affecting undergraduate teaching, and I agree with these tendencies. I have made the present book self contained logically, but it is probably better if students take the linear algebra course before being introduced to the more abstract notions of groups, rings, and fields, and the systematic development of their basic abstract properties. There is of course a little overlap with the book Linear Algebra, since I wanted to make the present book self contained. I define vector spaces, matrices, and linear maps and prove their basic properties. The present book could be used for a one-term course, or a year's course, possibly combining it with Linear Algebra. I think it is important to do the field theory and the Galois theory, more important, say, than to do much more group theory than we have done here. There is a chapter on finite fields, which exhibit both features from general field theory, and special features due to characteristic p. Such fields have become important in coding theory.