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Sommario/riassunto

This is the second in a series of three volumes dealing with important topics in algebra. Volume 2 is an introduction to linear algebra (including linear algebra over rings), Galois theory, representation theory, and the theory of group extensions. The section on linear algebra (chapters 1–5) does not require any background material from Algebra 1, except an understanding of set theory. Linear algebra is the most applicable branch of mathematics, and it is essential for students of science and engineering. As such, the text can be used for one-semester courses for these students. The remaining part of the volume discusses Jordan and rational forms, general linear algebra (linear algebra over rings), Galois theory, representation theory (linear algebra over group algebras), and the theory of extension of groups follow linear algebra, and is suitable as a text for the second and third year students specializing in mathematics. .