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| Autore | Mathieu Martin |
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| Descrizione fisica | 1 online resource (159 pages) |
| Collana | Mathematics and Statistics Series |
| Disciplina | 512.4 |
| Soggetti | Mathematics Algebra Commutative algebra Commutative rings Algebra, Homological Commutative Rings and Algebras Category Theory, Homological Algebra |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Introduction -- Chapter 1. Motivation from Ring Theory -- Chapter 2. Constructions with Modules -- Chapter 3. The Isomorphism Theorems -- Chapter 4. Noetherian Modules -- Chapter 5. Artinian Modules -- Chapter 6. Simple and Semisimple Modules -- Chapter 7. The Artin-Wedderburn Theorem -- Chapter 8. Tensor Products of Modules -- Chapter 9. Exchange Modules and Exchange Rings -- Chapter 10. Semiprimitivity of Group Rings -- Bibliography -- Index of Symbols -- Index. . |
| Sommario/riassunto | Classically Semisimple Rings is a textbook on rings, modules and categories, aimed at advanced undergraduate and beginning graduate students. The book presents the classical theory of semisimple rings from a modern, category-theoretic point of view. Examples from algebra are used to motivate the abstract language of category theory, which then provides a framework for the study of rings and modules, culminating in the Wedderburn–Artin classification of semisimple rings. |

In the last part of the book, readers are gently introduced to related topics such as tensor products, exchange modules and C^* -algebras. As a final flourish, Rickart's theorem on group rings ties a number of these topics together. Each chapter ends with a selection of exercises of varying difficulty, and readers interested in the history of mathematics will find biographical sketches of important figures scattered throughout the text. Assuming previous knowledge in linear and basic abstract algebra, this book can serve as a textbook for a course in algebra, providing students with valuable early exposure to category theory.
