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Nota di contenuto	Chapter 1. Linear Algebra in every day life -- Chapter 2. Basic mathematical concepts -- Chapter 3. Algebraic structures -- Chapter 4. Matrices -- Chapter 5. The echelon form and the rank of matrices -- Chapter 6. Linear systems of equations -- Chapter 7. Determinants of matrices -- Chapter 8. The characteristic polynomial and eigenvalues of matrices -- Chapter 9. Vector spaces -- Chapter 10. Linear maps -- Chapter 11. Linear forms and bilinear forms -- Chapter 12. Euclidean and unitary vector spaces -- Chapter 13. Adjoints of linear maps -- Chapter 14. Eigenvalues of endomorphisms -- Chapter 15. Polynomials and the Fundamental Theorem of Algebra -- Chapter 16. Cyclic subspaces, duality and the Jordan canonical form -- Chapter 17. Matrix functions and systems of differential equations -- Chapter 18. Special classes of endomorphisms -- Chapter 19. The singular value decomposition -- Chapter 20. The Kronecker product and linear matrix equations.
Sommario/riassunto	This self-contained textbook, now in a thoroughly revised and expanded second edition, takes a matrix-oriented approach to Linear Algebra. It presents a complete theory, including all details and proofs, culminating in the Jordan canonical form and its derivation. Throughout, the book emphasizes the practical applicability of results. It therefore also covers special topics in Applied Linear Algebra, such as matrix functions, the singular value decomposition, the Kronecker product, and linear matrix equations. New to this edition are topics

such as the Frobenius canonical form and a more detailed treatment of infinite-dimensional vector spaces, along with many additional exercises. The book’s matrix-oriented approach enhances intuition and simplifies abstract concepts, making them easier to understand and to apply in real-world scenarios. Key applications are illustrated through detailed examples. Additionally, several "MATLAB Minutes" allow students to explore concepts and results through computational experiments, supported by a brief introduction to MATLAB fundamentals. Together with over 380 exercises, this encourages active engagement with the material.