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Nota di contenuto	Cover -- Table of Contents -- Chapter 0. Fundamentals -- Chapter 1. Solving Equations -- Chapter 2. Systems of Equations -- Chapter 3. Interpolation -- Chapter 4. Least Squares -- Chapter 5. Numerical Differentiation and Integration -- Chapter 6. Ordinary Differential Equations -- Chapter 7. Boundary Value Problems -- Chapter 8. Partial Differential Equations -- Chapter 9. Random Numbers and Applications -- Chapter 10. Trigonometric Interpolation and the FFT -- Chapter 11. Compression -- Chapter 12. Eigenvalues and Singular Values -- Answers to Selected Exercises -- Bibliography -- Index.
Sommario/riassunto	Numerical Analysis, Second Edition, is a modern and readable text for the undergraduate audience. This book covers not only the standard topics but also some more advanced numerical methods being used by computational scientists and engineers-topics such as compression, forward and backward error analysis, and iterative methods of solving equations-all while maintaining a level of discussion appropriate for undergraduates. Each chapter contains a Reality Check, which is an extended exploration of relevant application areas that can launch individual or team projects. MATLAB® is used throughout to demonstrate and implement numerical methods. The Second Edition features many noteworthy improvements based on feedback from users, such as new coverage of Cholesky factorization, GMRES methods, and nonlinear PDEs.