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Sommario/riassunto	This is the second of three volumes providing a comprehensive presentation of the fundamentals of scientific computing. This volume discusses more advanced topics than volume one, and is largely not a prerequisite for volume three. This book and its companions show how to determine the quality of computational results, and how to measure the relative efficiency of competing methods. Readers learn how to determine the maximum attainable accuracy of algorithms, and how to select the best method for computing problems. This book also discusses programming in several languages, including C++, Fortran and MATLAB. There are 49 examples, 110 exercises, 66 algorithms, 24 interactive JavaScript programs, 77 references to software programs and 1 case study. Topics are introduced with goals, literature references and links to public software. There are descriptions of the current algorithms in LAPACK, GSLIB and MATLAB. This book could be

used for a second course in numerical methods, for either upper level undergraduates or first year graduate students. Parts of the text could be used for specialized courses, such as nonlinear optimization or iterative linear algebra.

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