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This book is intended for courses on numerical methods at the junior and senior level as well as at the beginning graduate level. The book also serves as a reference for numerical methods in engineering. Fortran and C programs, along with illustrative examples, are given in each chapter to implement many of the numerical methods discussed in that chapter. The use of commercial numerical softwares—MATLAB,¹ MAPLE² and MATHCAD³—in the solution of practical problems is demonstrated in every chapter. Even when a program from a software package is used, we need to understand the basic principles, purpose, and limitations of the program. Often, in many engineering applications, an available standard program cannot be

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