



Applied Numerical Methods for Engineers Using MATLAB and C

By Robert J. Schilling, Sandra L Harris

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This book provides a comprehensive discussion of numerical computing techniques with an emphasis on practical applications in the fields of civil, chemical, electrical, and mechanical engineering. It features two software libraries that implement the algorithms developed in the text - a MATLAB toolbox, and an ANSI C library. This book is intended for undergraduate students. Each chapter includes detailed case study examples from the four engineering fields with complete solutions provided in MATLAB and C, detailed objectives, numerous worked-out examples and illustrations, and summaries comparing the numerical techniques. Chapter problems are divided into separate analysis and computation sections. Documentation for the software is provided in text appendixes that also include a helpful review of vectors and matrices. The Instructor's Manual includes a disk with software documentation and complete solutions to both problems and examples in the book.

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Bibliography

- Sales Rank: #906430 in Books
- Brand: Cengage Learning
- Published on: 1999-09-16
- Original language: English
- Number of items: 1
- Dimensions: 9.25" h x 7.50" w x 1.25" l, 2.85 pounds
- Binding: Hardcover
- 715 pages

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Editorial Review

Review

1. NUMERICAL COMPUTATION Motivation and Objectives / Number Representation / Machine Precision / Round-Off Error / Truncation Error / Random Number Generation / Numerical Software / Applications / Chapter Summary / Problems 2. LINEAR ALGEBRAIC SYSTEMS Motivation and Objectives / Gauss-Jordan Elimination / Gaussian Elimination / LU Decomposition / Ill-Conditioned Systems / Iterative Methods / Applications / Chapter Summary / Problems 3. EIGENVALUES AND EIGENVECTORS Motivation and Objectives / The Characteristic Polynomial / Power Methods / Jacobi's Method / Householder Transformation / QR Method / Danilevsky's Method / Polynomial Roots / Applications / Chapter Summary / Problems 4. CURVE FITTING Motivation and Objectives / Interpolation / Newton's Difference Formula / Cubic Splines / Least Square / Two-Dimensional Interpolation / Applications / Chapter Summary / Problems 5. ROOT FINDING Motivation and Objectives / Bracketing Methods / Contraction Mapping Method / Secant Method / Muller's Method / Newton's Method / Polynomial Roots / Nonlinear Systems of Equations / Applications / Chapter Summary / Problems 6. OPTIMIZATION Motivation and Objectives / Local and Global Minima / Line Searches / Steepest Descent Method / Conjugate-Gradient Method / Quasi-Newton Methods / Penalty Functions / Simulated Annealing / Applications / Chapter Summary / Problems 7. DIFFERENTIATION AND INTEGRATION Motivation and Objectives / Numerical Differentiation / Noise-Corrupted Data / Newton-Cotes Integration Formulas / Romberg Integration / Gauss Quadrature / Improper Integrals / Multiple Integrals / Applications / Chapter Summary / Problems 8. ORDINARY DIFFERENTIAL EQUATIONS Motivation and Objectives / Euler's Method / Runge-Kutta Methods / Step Size Control / Multi-Step Methods / Bulirsch-Stoer Extrapolation Methods / Stiff Differential Equations / Boundary Value Problems / Applications / Summary / Problems 9. PARTIAL DIFFERENTIAL EQUATIONS Motivation and Objectives / Elliptic Equations / One-Dimensional Parabolic Equations / Two-Dimensional Parabolic Equations / One-Dimensional Hyperbolic Equations / Two-Dimensional Hyperbolic Equations / Applications / Chapter Summary / Problems 10. DIGITAL SIGNAL PROCESSING Motivation and Objectives / Fourier Transform / Fast Fourier Transform (FFT) / Correlation / Convolution Digital Filters / Two-Dimensional FFT / System Identification / Applications / Chapter Summary / Problems / REFERENCES AND FURTHER READING / APPENDIX 1: NLIB USING MATLAB(R) / A Numerical Toolbox: NLIB / Main-Program Support / Linear Algebraic Systems / Eigenvalues and Eigenvectors / Curve Fitting / Root Finding / Optimization / Differentiation and Integration / Ordinary Differential Equations / Partial Differential Equations / Digital Signal Processing / APPENDIX 2: NLIB USING C / A Numerical Library: NLIB / NLIB Data Types / NLIB Core: nlib.c / Tabular Display: show.c / Graphical Display: draw.c / Linear Algebraic Systems: linear.c / Eigenvalues and Eigenvectors: eigen.c / Curve Fitting: curves.c / Root Finding: roots.c / Optimization: optim.c / Differentiation and Integration: integ.c / Ordinary Differential Equations: ode.c / Partial Differential Equations: pde.c / Digital Signal Processing: dsp.c / APPENDIX 3: VECTORS AND MATRICES / Vector and Matrix Notation / Basic Operations / Inverses / Eigenvalues and Eigenvectors / Vector Norms / APPENDIX 4: ANSWERS TO SELECTED PROBLEMS / INDEX

About the Author

Robert J. Schilling is Professor Emeritus of Electrical and Computer Engineering at Clarkson University. Dr. Schilling's teaching interests include digital signal processing, control systems, robotics, nonlinear systems, computer graphics, and C++ and MATLAB programming. His research interests encompass adaptive signal processing, nonlinear system identification, active noise control, and control of robotic manipulators.

Bio: Sandra L. Harris is Associate Professor Emeritus of Chemical Engineering at Clarkson University. Dr. Harris's teaching interests include process control, thermodynamics, and biochemical engineering. Her research interests center around periodic processing, control of systems having varying dead times, and the generation of input signals for efficient process identification.

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