Access Database Design and Programming, Second edition. By Steven Roman. O'Reilly, Sebastopol, CA. (1999). 409 pages. $27.95.

Contents:

Preface. I. Database design. 1. Introduction. 2. The entity-relationship model of a database. 3. Implementing entity-relationship models: Relational databases. 4. Database design principles. II. Database queries. 5. Query languages and the relational algebra. 6. Access Structured Query Language (SQL). III. Database architecture. 7. Database system architecture. IV. Visual basic for applications. 8. The visual basic editor, Part I. 9. The visual basic editor, Part II. 10. Variables, data types, and constants. 11. Functions and subroutines. 12. Built-in functions and statements. 13. Control statements. V. Data access objects. 14. Programming DAO: Overview. 15. Programming DAO: Data definition language. 16. Programming DAO: Data manipulation language. VI. ActiveX data objects. 17. ADO and OLE DB. VII. Appendixes. A. DAO 3.0/3.5 collections, properties, and methods. B. The quotient: An additional operation of the relational algebra. C. Open database connectivity (ODBC). D. Obtaining or creating the sample database. E. Suggestions for further reading. Index.

Theories of Programming Languages. By John C. Reynolds. Cambridge University Press, Cambridge. (1998). 500 pages. $49.95.

Contents:

Preface. 1. Predicate logic. 2. The simple imperative language. 3. Program specifications and their proofs. 4. Arrays. 5. Failure, input-output, and continuations. 6. Transition semantics. 7. Nondeterminism and guarded commands. 8. Shared-variable concurrency. 9. Communicating sequential processes. 10. The lambda calculus. 11. An eager functional language. 12. Continuations in a functional language. 13. Iswim-like languages. 14. A normal-order language. 15. The simple type system. 16. Subtypes and intersection types. 17. Polymorphism. 18. Module specification. 19. Algol-like languages. Appendix. Mathematical background. Bibliography. Index.

Delta Functions: An Introduction to Generalised Functions. By R. F. Hoskins. Horwood Publishing, Chichester. (1999). 262 pages. £25.00.

Contents:

1. Results from elementary analysis. 2. The Dirac delta function. 3. Properties of the delta function and its derivatives. 4. Time-invariant linear systems. 5. The Laplace transform. 6. Fourier series and Fourier transforms. 7. Other types of generalised function. 8. Introduction to distributions. 9. Integration theory. 10. NSA and generalised functions. Solutions to exercises. References. Index.

Computational Partial Differential Equations: Numerical Methods and Diffpack Programming. By Hans Petter Langtangen. Springer-Verlag, Berlin. (1999). 682 pages. $69.95, DM 98.00, öS 716.00, sFr 89.50, GBP 37.50.

Contents:

1. Getting started. 2. Introduction to finite element discretization. 3. Programming of finite element solvers. 4. Nonlinear problems. 5. Solid mechanics applications. 6. Fluid mechanics applications. 7. Coupled problems. Appendices. A. Mathematical topics. B. Diffpack topics. C. Iterative methods for sparse linear systems. D. Software tools for solving linear systems. Bibliography. Index.

A Reformulation-Linearization Technique for Solving Discrete and Continuous Nonconvex Problems. By Hanif D. Sherali and Warren P. Adams. Kluwer Academic Publishers, Dordrecht. (1999). 514 pages. $252.00, NLG 420.00, GBP 147.00.

Contents:

Preface. Acknowledgments. Copyright permissions. 1. Introduction. I. Discrete nonconvex programs. 2. RLT hierarchy for mixed-integer zero-one problems. 3. Generalized hierarchy for exploiting special structures in mixed-integer zero-one problems. 4. RLT hierarchy for general discrete mixed-integer problems. 5. Generating valid inequalities and facets using RLT. 6. Persistency in discrete optimization. II. Continuous nonconvex programs. 7. RLT-based global optimization algorithms for nonconvex polynomial programming programs. 8. Reformulation-convexification technique for quadratic programa and some convex envelope characterizations. 9. Reformulation-convexification technique for polynomial programs: Design and implementation. III. Special applications to discrete and continuous nonconvex programs. 10. Applications to discrete problems. 11. Applications to continuous problems. References.

Deadline Scheduling for Real-Time Systems: EDF and Related Algorithms. By John A. Stankovic, Marco Spuri, Krithi Ramamritham and Giorgio C. Buttazzo. Kluwer Academic Publishers, Boston, MA. (1998). 273 pages. $79.00, NLG 180.00, GBP 53.75.

Contents:

List of figures. List of tables. Preface. 1. Introduction. 2. Terminology and assumptions. 3. Fundamentals of EDF scheduling. 4. Response times under EDF scheduling. 5. Planning-based scheduling. 6. EDF scheduling for shared resources. 7. Precedence constraints and shared resources. 8. Aperiodic task scheduling. 9. Distributed scheduling, Part I. 10. Distributed scheduling, Part II. 11. Summary and open questions. Index.