

Feynman and Computation: Exploring the Limits of Computers. Edited by Anthony J. G. Hey. Perseus Books, Reading, MA. (1999). 438 pages. \$50.00.

Contents:

Contributor list. Overview (Anthony J.G. Hey). I. Feynman's course on computation. 1. Feynman and computation (John J. Hopfield). 2. Neural networks and physical systems with emergent collective computational abilities (John J. Hopfield). 3. Feynman as a colleague (Carver A. Mead). 4. Collective electrodynamics I (Carver A. Mead). 5. A memory (Gerald Jay Sussman). 6. Numerical evidence that the motion of Pluto is chaotic (Gerald Jay Sussman and Jack Wisdom). II. Reducing the size. 7. There's plenty of room at the bottom (Richard P. Feynman). 8. Information is inevitably physical (Rolf Landauer). 9. Scaling of MOS technology to submicrometer feature sizes (Carver A. Mead). 10. Richard Feynman and cellular vacuum (Marvin Minsky). III. Quantum limits 11. Simulating physics with computers (Richard P. Feynman). 12. Quantum robots (Paul Benioff). 13. Quantum information theory (Charles H. Bennett). 14. Quantum computation (Richard J. Hughes). IV. Parallel computation. 15. Computing machines in the future (Richard P. Feynman). 16. Internetics: Technologies, applications and academic fields (Geoffrey C. Fox). 17. Richard Feynman and the connection machine (W. Daniel Hillis). 18. Crystalline computation (Norman H. Margolus). V. Fundamentals. 19. Information, physics, quantum: The search for links (John Archibald Wheeler). 20. Feynman, Barton and the reversible Schrödinger difference equation (Ed Fredkin). 21. Action, or the fungibility of computation (Tommaso Toffoli). 22. Algorithmic randomness, physical entropy, measurements, and the demon of choice (Wojciech Zurek). Index. Name index.

OpenSources: Voices from the Open Source Revolution. Edited by Chris DiBona, Sam Ockman and Mark Stone. O'Reilly, Sebastopol, CA. (1999). 272 pages. \$24.95.

Contents:

Acknowledgments. Introduction (Chris DiBona, Sam Ockman and Mark Stone). A brief history of hackerdom (Eric S. Raymond). Twenty years of Berkeley Unix: From AT&T-owned to freely redistributable (Marshall Kirk McKusick). The Internet Engineering Task Force (Scott Bradner). The GNU operating system and the free software movement (Richard Stallman). Future of Cygnus Solutions: An entrepreneur's account (Michael Tiemann). Software engineering (Paul Vixie). The Linux edge (Linus Torvalds). Giving it away: How Red Hat software stumbled across a new economic model and helped improve an industry (Robert Young). Diligence, patience, and humility (Larry Wall). Open Source as a business strategy (Brian Behlendorf). The Open Source Definition (Bruce Perens). Hardware, software, and infoware (Tim O'Reilly). Freeing the source: The story of Mozilla (Jim Hamerly and Tom Paquin with Susan Walton). The revenge of the hackers (Eric S. Raymond). Appendices. A. The Tanenbaum-Torvalds debate. B. The Open Source Definition, Version 1.0. Contributors.

A Mathematical Mystery Tour: Discovering the Truth and Beauty of the Cosmos. By A. K. Dewdney. John Wiley & Sons, Inc., New York. (1999). 218 pages. \$22.95.

Contents:

Preface. Point of departure. I. The holos. 1. Death of a dream. 2. The birth of a theorem. II. Al Jabr. 4. The spheres. III. The vanishing act. 5. The message. 6. The ultimate reality. IV. The engines of thought. 7. Hopring Zooks. 8. Mind machines. Epilogue: Cosmos and holos. Index.

Handbook of Numerical Analysis: Volume VI, Numerical Methods for Solids (Part 3), Numerical Methods for Fluids (Part 1). Edited by G. G. Ciarlet and J. L. Lions. Elsevier, Amsterdam. (1998). 688 pages. \$164.00.

Contents:

General preface. Numerical methods for solids (Part 3). Iterative finite element solutions in nonlinear solid mechanics (R.M. Ferencz and T.J.R. Hughes). Obituary—Juan Carlos Simo. Numerical analysis and simulation of plasticity (J.C. Simo). Numerical methods for fluids (Part 1). Navier-Stokes equations: Theory and approximation (M. Marion and R. Temam).

Learning Perl/Tk. By Nancy Walsh. O'Reilly, Sebastopol, CA. (1999). 358 pages. \$32.95.

Contents:

Preface. 1. Introduction to Perl/Tk. 2. Geometry management. 3. The basic button. 4. Checkbuttons and radiobuttons. 5. Label and entry widgets. 6. Scrollbars. 7. The Listbox widget. 8. The text widget. 9. The canvas widget. 10. The scale widget. 11. Menus. 12. Frames. 13. Toplevel widgets. 14. Binding events. 15. Composite widgets. 16. Methods for any widget. Appendices. A. Configuring widgets with configure and cget. B. Operating system differences. C. Fonts. Index.

Beginning Partial Differential Equations. By Peter V. O'Neil. John Wiley & Sons, Inc., New York. (1999). 500 pages. \$51.95.

Contents:

Preface. 1. First order partial differential equations. 2. Linear second order partial differential equations. 3. Elements of Fourier analysis. 4. The wave equation. 5. The heat equation. 6. Dirichlet and Neumann problems. 7. Conclusion. Index.