

can be embedded into the multiplicative group  $\mathbf{C}^*$  of complex numbers. And why simplify the true state of affairs and assert that *any* odd prime has a representation as a sum of two squares (Theorem 2.7)? Why, conversely, make something simple as *Pratt's test* (Section 2.6) so complicated that it actually becomes wrong? One can only admire the originality of the mistakes that are made.

In conclusion, this tour of *Primality and Cryptography* should not be taken by number theorists that wish to be informed about the many connections that exist between number theory and cryptography; the primality excursion is somewhat *adventurous*; and what is said about cryptography is not likely to be of interest outside the theoretical computer science community. But who knows, one day it may become just as useful as number theory itself.

H. W. LENSTRA, JR.

Department of Mathematics  
University of California, Berkeley  
Berkeley, California 94720

**9[68-01, 68Q25].**—LYDIA KRONSJÖ, *Algorithms: Their Complexity and Efficiency*, 2nd ed., Wiley, Chichester, 1987, xiii + 363 pp., 23½ cm. Price \$49.95.

The first edition of this book was reviewed in [1]. At that time, the book provided a welcome contrast to other books on algorithms by concentrating on the analysis of basic techniques used in Scientific Computing. The majority of these texts still remains centered around problems from Graph Theory, Combinatorics, Operations Research, and Logic. So it is nice that this different approach continues to be a viable alternative.

The overall structure of the book remains the same: about two thirds devoted to numerical techniques, and one third to sorting and searching. The apparent deficiency of not addressing NP-completeness has not been remedied by incorporating this subject into the text. Rather, the author opted to write a companion book devoted to treating NP-completeness in detail.

On the whole, this is a book one should consider using in a seminar on a modern approach to numerical analysis or on a more diversified view of algorithms.

CHRISTOPH M. HOFFMANN

Department of Computer Sciences  
Purdue University  
West Lafayette, Indiana 47907

1. C. M. HOFFMANN, Review **5**, *Math. Comp.*, v. 38, 1982, pp. 651–652.

**10[65-06].**—EDUARDO L. ORTIZ (Editor), *Numerical Approximation of Partial Differential Equations*, North-Holland Mathematics Studies, vol. 133, North-Holland, Amsterdam, 1987, xii + 433 pp., 24 cm. Price \$77.75/Dfl. 175.00.

This volume contains selected papers from the International Symposium on Numerical Analysis held at the Polytechnic University of Madrid on September 17–19,