MARTIN DAVIS received his doctorate from Princeton in 1950. Davis's book *Computability and Unsolvability* (1958) has been called "one of the few real classics in computer science." He is best known for his work in automated deduction and for his contributions to the solution of Hilbert's tenth problem, for which later he was awarded the Chauvenet and Lester R. Ford Prizes by the American Mathematical Association. Davis has been on the faculty of the Courant Institute, New York University, since 1965. He is Professor of Mathematics and Computer Science and has been Chair of the Computer Science Department.

RON SIGAL was a systems programmer before receiving his Ph.D. in Computer Science from New York University in 1983. Since then he has held positions at the City University of New York, the University of Catania in Italy, and Yale University. His research interests include computational complexity, logic programming, and programming language semantics.

ELAINE J. WEYUKER received her Ph.D. in Computer Science from Rutgers, the State University of New Jersey, in 1977. Although her dissertation work was in the area of the theory of computation, most of her research has been in the area of software engineering, particularly software testing and software metrics. She has been the secretary/treasurer of ACM/SIGSOFT and is currently a member of the executive committee of the IEEE/Computer Society Technical Committee on Software Engineering. She has been a charter member of the Committee on the Status of Women of both the ACM and the Computing Research Association. She is currently Professor of Computer Science at the Courant Institute, New York University, and has been on the faculty there since 1977.

This book is a rigorous but readable introduction to some of the central topics in theoretical computer science. The main subjects are computability theory, formal languages, logic and automated deduction, computational complexity (including NP-completeness), and programming language semantics.

Features of the second edition:

Computability theory is introduced in a manner that makes maximum use of previous programming experience, including a "universal" program that takes up less than a page.

The number of exercises included has more than tripled.

Automata theory, computational logic, and complexity theory are presented in a flexible manner and can be covered in a variety of different arrangements.

A new section on the denotational and operational semantics of recursion equations has been added.