About the Author

Kenneth H. Rosen received his B.S. in Mathematics from the University of Michigan, Ann Arbor (1972), and his Ph.D. in Mathematics from M.I.T. (1976), where he wrote his thesis in number theory under the direction of Harold Stark. Before joining Bell Laboratories in 1982, he held positions at the University of Colorado, Boulder; The Ohio State University, Columbus; and the University of Maine, Orono, where he was an associate professor of mathematics. He enjoyed a long career as a Distinguished Member of the Technical Staff at AT&T Bell Laboratories (and AT&T Laboratories) in Monmouth County, New Jersey. While working at Bell Labs, he taught at Monmouth University, teaching courses in discrete mathematics, coding theory, and data security. After leaving AT&T Labs, he became a visiting research professor of computer science at Monmouth University, where he has taught courses in algorithm design, computer security and cryptography, and discrete mathematics.

Dr. Rosen has published numerous articles in professional journals on number theory and on mathematical modeling. He is the author of the widely used *Elementary Number Theory and Its Applications*, published by Pearson, currently in its sixth edition, which has been translated into Chinese. He is also the author of *Discrete Mathematics and Its Applications*, published by McGraw-Hill, currently in its eighth edition. *Discrete Mathematics and Its Applications* has sold more than 450,000 copies in North America during its lifetime, and hundreds of thousands of copies throughout the rest of the world. This book has also been translated into many languages, including Spanish, French, Portuguese, Greek, Chinese, Vietnamese, and Korean. He is also coauthor of *UNIX: The Complete Reference*; *UNIX System V Release 4: An Introduction*; and *Best UNIX Tips Ever*, all published by Osborne McGraw-Hill. These books have sold more than 150,000 copies, with translations into Chinese, German, Spanish, and Italian. Dr. Rosen is also the editor of both the first and second editions (published in 1999 and 2018, respectively) of the *Handbook of Discrete and Combinatorial Mathematics*, published by CRC Press. He has served as the advisory editor of the CRC series of books in discrete mathematics, sponsoring more than 70 volumes on diverse aspects of discrete mathematics, many of which are introduced in this book. He is an advisory editor for the CRC series of mathematics textbooks, where he has helped more than 30 authors write better texts. Dr. Rosen serves as an Associate Editor for the journal *Discrete Mathematics*, where he handles papers in many areas, including graph theory, enumeration, number theory, and cryptography.

Dr. Rosen has had a longstanding interest in integrating mathematical software into the educational and professional environments. He has worked on several projects with Waterloo Maple Inc.'s Maple™ software in both these areas. Dr. Rosen has devoted a great deal of energy to ensuring that the online homework for *Discrete Mathematics and its Applications* is a superior teaching tool. Dr. Rosen has also worked with several publishing companies on their homework delivery platforms.

At Bell Laboratories and AT&T Laboratories, Dr. Rosen worked on a wide range of projects, including operations research studies, product line planning for computers and data communications equipment, technology assessment and innovation, and many other efforts. He helped plan AT&T's products and services in the area of multimedia, including video communications, speech recognition, speech synthesis, and image networking. He evaluated new technology for use by AT&T and did standards work in the area of image networking. He also invented many new services, and holds more than 70 patents. One of his more interesting projects involved helping evaluate technology for the AT&T attraction that was part of EPCOT Center. After leaving AT&T, Dr. Rosen has worked as a technology consultant for Google and for AT&T.