

- *Includes a quick reference to all C89 and C99 library functions.* Appendix D in the first edition described all C89 standard library functions. In this edition, the appendix covers all C89 and C99 library functions.
- *Expanded coverage of GCC.* In the years since the first edition, use of GCC (originally the GNU C Compiler, now the GNU Compiler Collection) has spread. GCC has some significant advantages, including high quality, low (i.e., no) cost, and portability across a variety of hardware and software platforms. In recognition of its growing importance, I've included more information about GCC in this edition, including discussions of how to use it as well as common GCC error messages and warnings.
- *New coverage of abstract data types.* In the first edition, a significant portion of Chapter 19 was devoted to C++. This material seems less relevant today, since students may already have learned C++, Java, or C# before reading this book. In this edition, coverage of C++ has been replaced by a discussion of how to set up abstract data types in C.
- *Expanded coverage of international features.* Chapter 25, which is devoted to C's international features, is now much longer and more detailed. Information about the Unicode/UCS character set and its encodings is a highlight of the expanded coverage.
- *Updated to reflect today's CPUs and operating systems.* When I wrote the first edition, 16-bit architectures and the DOS operating system were still relevant to many readers, but such is not the case today. I've updated the discussion to focus more on 32-bit and 64-bit architectures. The rise of Linux and other versions of UNIX has dictated a stronger focus on that family of operating systems, although aspects of Windows and the Mac OS operating system that affect C programmers are mentioned as well.
- *More exercises and programming projects.* The first edition of this book contained 311 exercises. This edition has nearly 500 (498, to be exact), divided into two groups: exercises and programming projects.
- *Solutions to selected exercises and programming projects.* The most frequent request I received from readers of the first edition was to provide answers to the exercises. In response to this request, I've put the answers to roughly one-third of the exercises and programming projects on the web at knking.com/books/c2. This feature is particularly useful for readers who aren't enrolled in a college course and need a way to check their work. Exercises and projects for which answers are provided are marked with a **W** icon (the "W" stands for "answer available on the Web").
- *Password-protected instructor website.* For this edition, I've built a new instructor resource site (accessible through knking.com/books/c2) containing solutions to the remaining exercises and projects, plus PowerPoint presentations for most chapters. Faculty may contact me at cbook@knking.com for a password. Please use your campus email address and include a link to your department's website so that I can verify your identity.