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# Preface to the first edition

C is a general-purpose programming language with features economy of
expression, modern flow control and data structures, and a rich set of
operators. C is not a ``very high level'' language, nor a ``big'' one, and is
not specialized to any particular area of application. But its absence of
restrictions and its generality make it more convenient and effective for
many tasks than supposedly more powerful languages.

C was originally designed for and implemented on the UNIX operating system on
the DEC PDP-11, by Dennis Ritchie. The operating system, the C compiler, and
essentially all UNIX applications programs (including all of the software
used to prepare this book) are written in C. Production compilers also exist
for several other machines, including the IBM System/370, the Honeywell 6000,
and the Interdata 8/32. C is not tied to any particular hardware or system,
however, and it is easy to write programs that will run without change on any
machine that supports C.

This book is meant to help the reader learn how to program in C. It contains
a tutorial introduction to get new users started as soon as possible,
separate chapters on each major feature, and a reference manual. Most of the
treatment is based on reading, writing and revising examples, rather than on
mere statements of rules. For the most part, the examples are complete, real
programs rather than isolated fragments. All examples have been tested
directly from the text, which is in machine-readable form. Besides showing
how to make effective use of the language, we have also tried where possible
to illustrate useful algorithms and principles of good style and sound
design.

The book is not an introductory programming manual; it assumes some
familiarity with basic programming concepts like variables, assignment
statements, loops, and functions. Nonetheless, a novice programmer should be
able to read along and pick up the language, although access to more
knowledgeable colleague will help.

In our experience, C has proven to be a pleasant, expressive and versatile
language for a wide variety of programs. It is easy to learn, and it wears
well as on's experience with it grows. We hope that this book will help you
to use it well.

The thoughtful criticisms and suggestions of many friends and colleagues
have added greatly to this book and to our pleasure in writing it. In
particular, Mike Bianchi, Jim Blue, Stu Feldman, Doug McIlroy Bill Roome,
Bob Rosin and Larry Rosler all read multiple volumes with care. We are also
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