

深入浅出C语言 (影印版)

Head First C



Discover the secrets
of the C coding gurus



Learn how make can
change your life



Avoid
embarrassing
pointer
mistakes

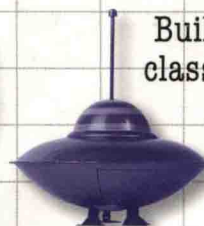
See how variadic
functions helped
Sue be more
flexible



Fool
around
in the C
Standard
Library



Build a retro
classic arcade
game



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David Griffiths &
Dawn Griffiths 著

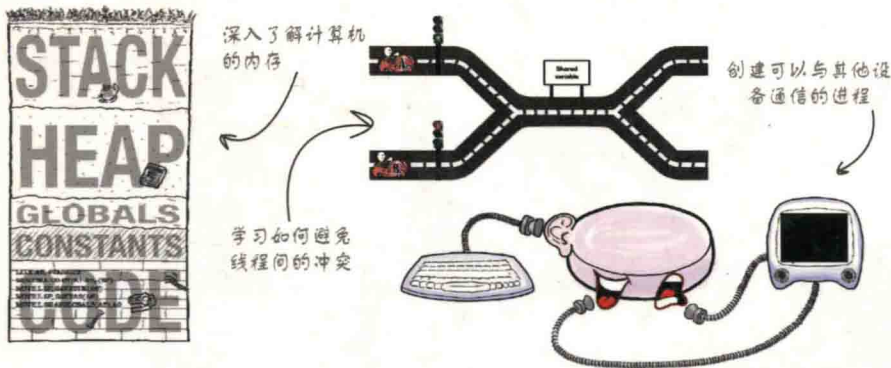
深入浅出C语言 (影印版)

Programming Languages/C

你可以从这本书里学到什么?

你有没有期待过可以用一种更简单的方式来学习C语言?《深入浅出C语言》就是这样一种完整的学习体验,它可以教你如何使用C语言来创建程序。这本书使用了一种独特的方式来帮助你学习C语言。它不仅仅是讲解语法和技术点,而是可以帮助你明白如何才能成为一名杰出的程序员。你会学习一些关键技术,包括语言的基础知识、指针和指针运算,以及动态内存管理。同时《深入浅出C语言》也有着一些高级技术,比如多线程和网络编程,它可以作为大学课程的教材来使用。

另外,就像大学的课程那样,本书还具备一些项目来试图拓展你的能力,测试你的新技术以及锻炼你的自信心。在掌握语言的基本知识之后,你还将学习如何使用编译器、make工具和其他知识来解决实际问题。



为什么这本书看起来如此与众不同?

我们认为你的时间如此宝贵以至于不应该花费在为新概念伤脑筋上面。《深入浅出C语言》运用最新的认知科学和学习理论打造多感官的学习体验,运用适合大脑工作方式的直观的格式编排,而不是令人昏昏欲睡的密密麻麻的文字。

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“《深入浅出C语言》可能很快就会被证明是学习C语言的最佳书籍。我觉得它会成为每所大学C语言的标准教材。很多编程书籍因循守旧。不过这本书却使用了完全不同的方式。它将教你如何成为一名真正的C程序员。”

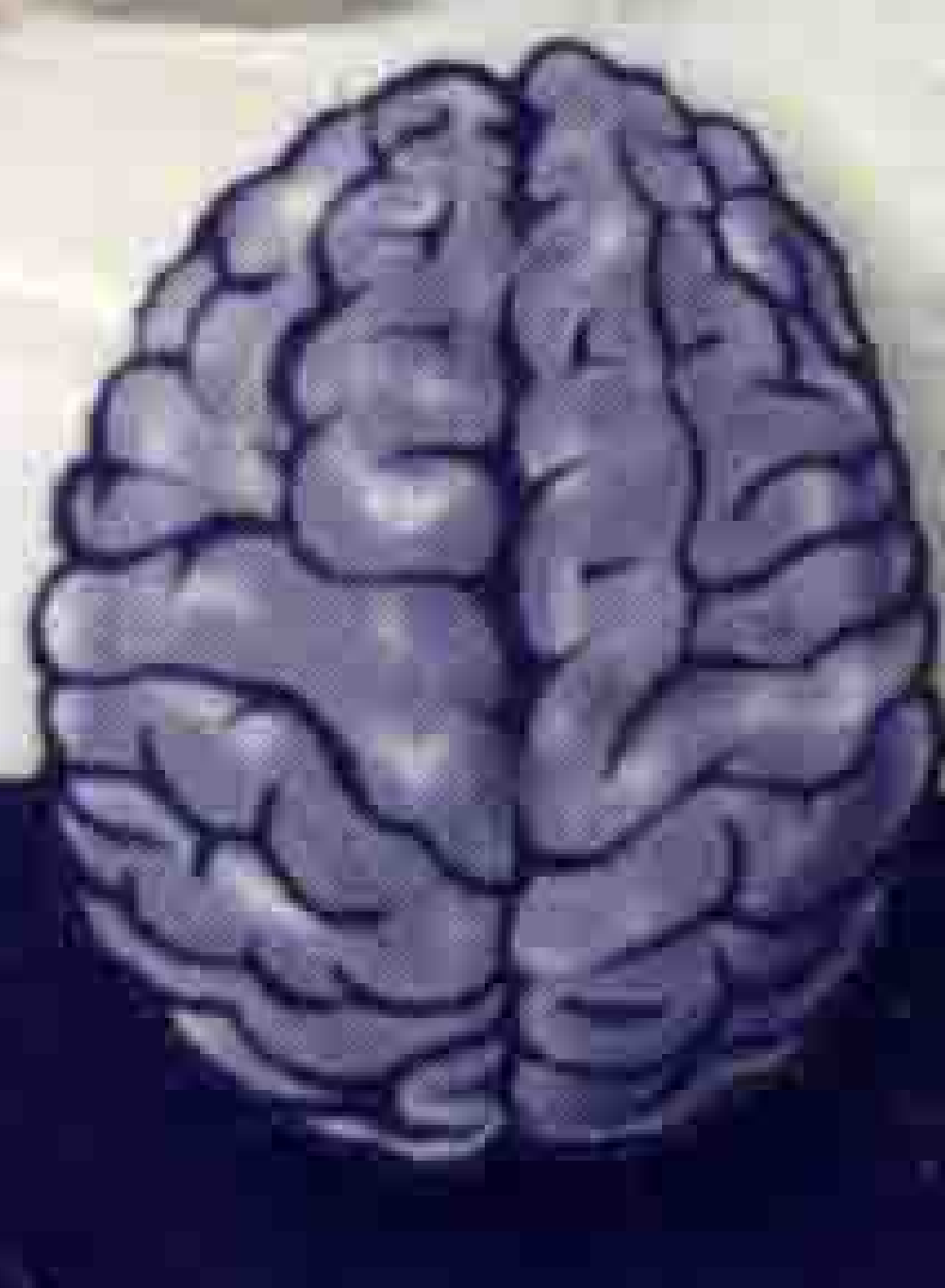
——Dave Kitabjian,
NetCarrier Telecom
软件开发部主任

“《深入浅出C语言》是这样一本教材,它用经典的‘深入浅出’的方式轻松地介绍C语言。图片、笑话、练习以及实践让读者逐渐地但是又稳固地掌握C语言的基础知识……由此读者可以进入Posix和Linux系统编程中更高级的技术殿堂。”

——Vince Milner,
软件开发人员

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深入
浅出



语言

(影
印
版)

Griffiths &
Griffiths 著

东南大学出版社

O'REILLY®

深入浅出C语言 (影印版)

Head First C

Wouldn't it be dreamy if there were a book on C that was easier to understand than the space shuttle flight manual? I guess it's just a fantasy...



David Griffiths
Dawn Griffiths

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Advance Praise for *Head First C*

“*Head First C* could quite possibly turn out to be the best C book of all time. I don’t say that lightly. I could easily see this become the standard C textbook for every college C course. Most books on programming follow a fairly predictable course through keywords, control-flow constructs, syntax, operators, data types, subroutines, etc. These can serve as a useful reference, as well as a fairly academic introduction to the language. This book, on the other hand, takes a totally different approach. It teaches you how to be a real C programmer. I wish I had had this book 15 years ago!”

— **Dave Kitabjian, Director of Software Development, NetCarrier Telecom**

“*Head First C* is an accessible, light-hearted introduction to C programming, in the classic Head First style. Pictures, jokes, exercises, and labs take the reader gently but steadily through the fundamentals of C—including arrays, pointers, structs, and functions—before moving into more advanced topics in Posix and Linux system programming, such as processes and threads.”

— **Vince Milner, software developer**

Praise for other *Head First* books

“Kathy and Bert’s *Head First Java* transforms the printed page into the closest thing to a GUI you’ve ever seen. In a wry, hip manner, the authors make learning Java an engaging ‘what’re they gonna do next?’ experience.”

—**Warren Keuffel, *Software Development Magazine***

“Beyond the engaging style that drags you forward from know-nothing into exalted Java warrior status, *Head First Java* covers a huge amount of practical matters that other texts leave as the dreaded ‘exercise for the reader...’ It’s clever, wry, hip, and practical—there aren’t a lot of textbooks that can make that claim and live up to it while also teaching you about object serialization and network launch protocols. ”

— **Dr. Dan Russell, Director of User Sciences and Experience Research,
IBM Almaden Research Center;
artificial intelligence instructor, Stanford University**

“It’s fast, irreverent, fun, and engaging. Be careful—you might actually learn something!”

— **Ken Arnold, former Senior Engineer at Sun Microsystems;
coauthor (with James Gosling, creator of Java),
*The Java Programming Language***

“I feel like a thousand pounds of books have just been lifted off of my head.”

— **Ward Cunningham, inventor of the Wiki and founder of the Hillside Group**

“Just the right tone for the geeked-out, casual-cool guru coder in all of us. The right reference for practical development strategies—gets my brain going without having to slog through a bunch of tired, stale professor-speak.”

— **Travis Kalanick, founder of Scour and Red Swoosh;
member of the MIT TR100**

“There are books you buy, books you keep, books you keep on your desk, and thanks to O’Reilly and the Head First crew, there is the penultimate category, Head First books. They’re the ones that are dog-eared, mangled, and carried everywhere. *Head First SQL* is at the top of my stack. Heck, even the PDF I have for review is tattered and torn.”

— **Bill Sawyer, ATG Curriculum Manager, Oracle**

“This book’s admirable clarity, humor, and substantial doses of clever make it the sort of book that helps even nonprogrammers think well about problem solving.”

— **Cory Doctorow, coeditor of *Boing Boing*;
author, *Down and Out in the Magic Kingdom*
and *Someone Comes to Town, Someone Leaves Town***

Praise for other *Head First* books

"I received the book yesterday and started to read it...and I couldn't stop. This is definitely très 'cool.' It is fun, but they cover a lot of ground, and they are right to the point. I'm really impressed."

— **Erich Gamma, IBM Distinguished Engineer and coauthor of *Design Patterns***

"One of the funniest and smartest books on software design I've ever read."

— **Aaron LaBerge, VP Technology, ESPN.com**

"What used to be a long trial-and-error learning process has now been reduced neatly into an engaging paperback."

— **Mike Davidson, CEO, Newsvine, Inc.**

"Elegant design is at the core of every chapter here, each concept conveyed with equal doses of pragmatism and wit."

— **Ken Goldstein, Executive Vice President, Disney Online**

"I ♥ *Head First HTML with CSS & XHTML*—it teaches you everything you need to learn in a 'fun coated' format."

— **Sally Applin, UI designer and artist**

"Usually when reading through a book or article on design patterns, I'd have to occasionally stick myself in the eye with something just to make sure I was paying attention. Not with this book. Odd as it may sound, this book makes learning about design patterns fun."

"While other books on design patterns are saying 'Bueller...Bueller...Bueller...', this book is on the float belting out 'Shake it up, baby!'"

— **Eric Wuehler**

"I literally love this book. In fact, I kissed this book in front of my wife."

— **Satish Kumar**

To Dennis Ritchie (1941–2011), the father of C.

Authors of Head First C



David Griffiths



Dawn Griffiths

David Griffiths began programming at age 12, when he saw a documentary on the work of Seymour Papert. At age 15, he wrote an implementation of Papert's computer language LOGO. After studying pure mathematics at university, he began writing code for computers and magazine articles for humans. He's worked as an agile coach, a developer, and a garage attendant, but not in that order. He can write code in over 10 languages and prose in just one, and when not writing, coding, or coaching, he spends much of his spare time traveling with his lovely wife—and coauthor—Dawn.

Before writing *Head First C*, David wrote two other Head First books: *Head First Rails* and *Head First Programming*.

You can follow David on Twitter at <http://twitter.com/dogriffiths>.

Dawn Griffiths started life as a mathematician at a top UK university, where she was awarded a first-class honors degree in mathematics. She went on to pursue a career in software development and has over 15 years experience working in the IT industry.

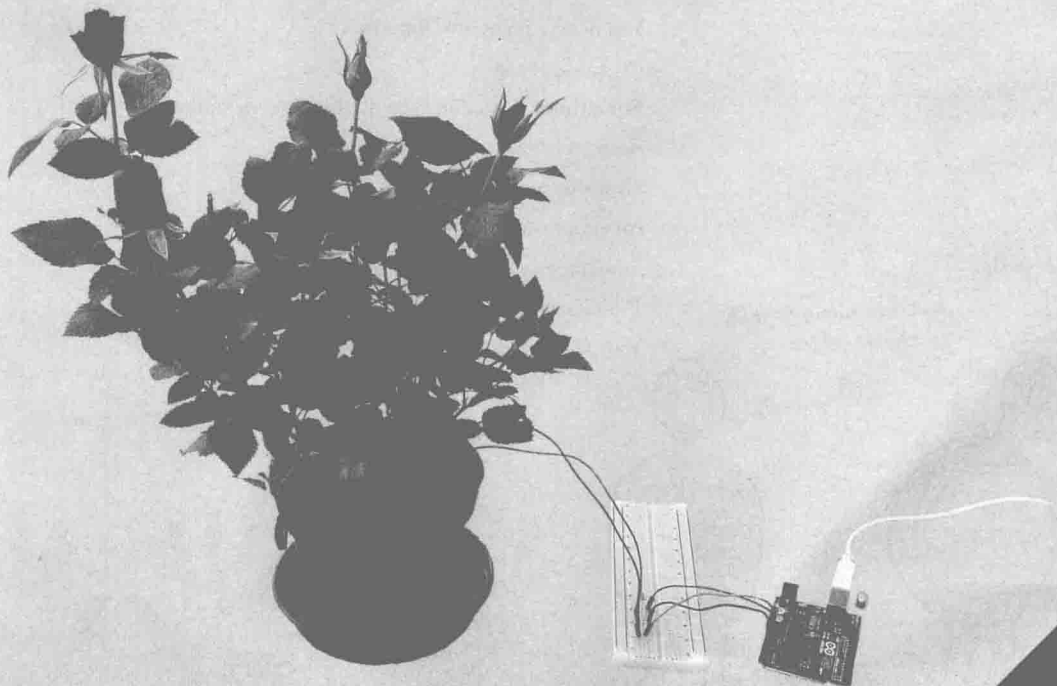
Before joining forces with David on *Head First C*, Dawn wrote two other Head First books (*Head First Statistics* and *Head First 2D Geometry*) and has also worked on a host of other books in the series.

When Dawn's not working on Head First books, you'll find her honing her Tai Chi skills, running, making bobbin lace, or cooking. She also enjoys traveling and spending time with her husband, David.

C Lab 1

Arduino

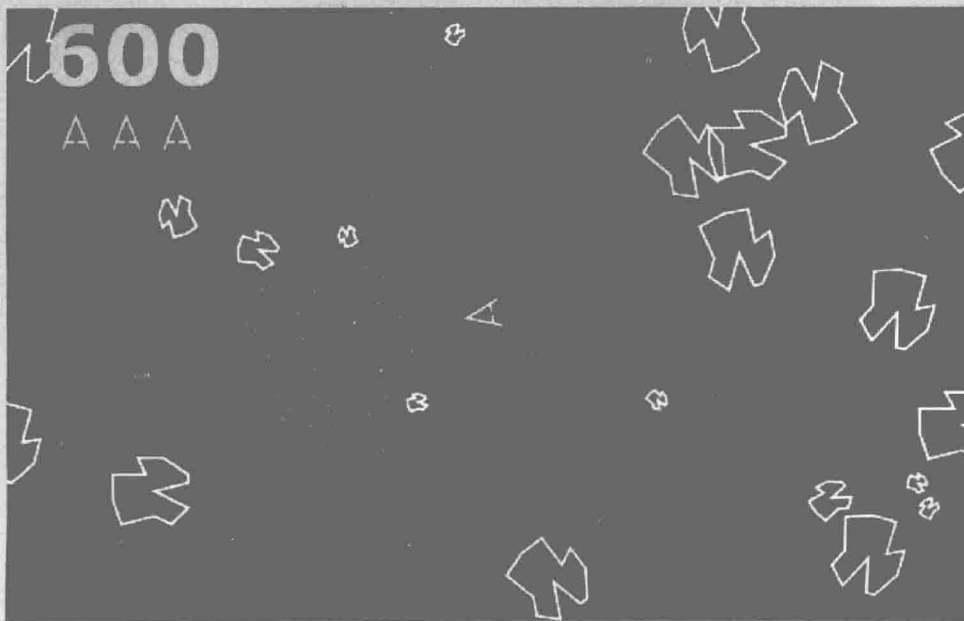
Ever wished your plants could tell you when they need watering? Well, with an Arduino, they can! In this lab, you'll build an Arduino-powered plant monitor, all coded in C.



C Lab 3

Blasteroids

In this lab, you're going to pay tribute to one of the most popular and long-lived video games of them all. It's time to write Blasteroids!



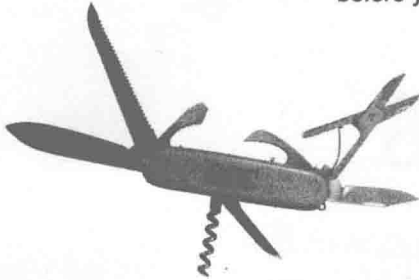
leftovers

The top ten things (we didn't cover)



Even after all that, there's still a bit more.

There are just a few more things we think you need to know. We wouldn't feel right about ignoring them, even though they need only a brief mention, and we really wanted to give you a book you'd be able to lift without extensive training at the local gym. So before you put the book down, **read through these tidbits.**



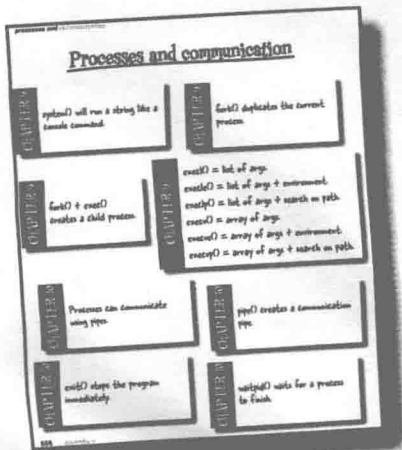
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c topics

Revision roundup

Ever wished all those great C facts were in one place?

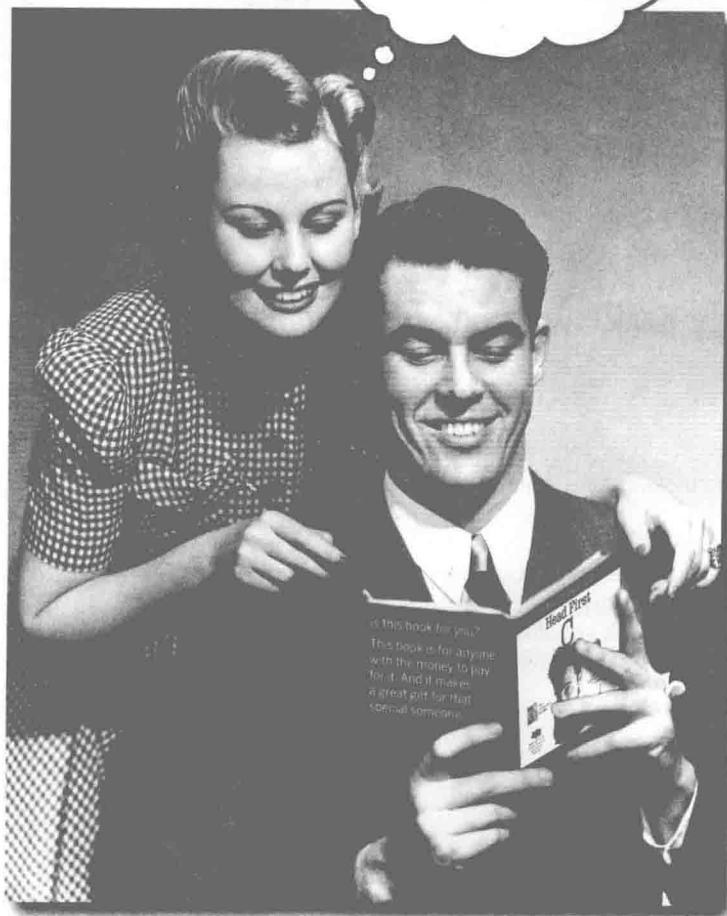
This is a roundup of all the C topics and principles we've covered in the book. Take a look at them, and see if you can remember them-all. Each fact has the chapter it came from alongside it, so it's easy for you to refer back if you need a reminder. You might even want to cut these pages out and tape them to your wall.



how to use this book

Intro

I can't believe they put *that* in a C book.



In this section, we answer the burning question:
"So why DID they put that in a C book?"

Who is this book for?

If you can answer “yes” to all of these:

- 1 Do you already know how to program in another programming language?
- 2 Do you want to master C, create the next big thing in software, make a small fortune, and retire to your own private island?
- 3 Do you prefer actually doing things and applying the stuff you learn over listening to someone in a lecture rattle on for hours on end?

← OK, maybe that one's a little far-fetched. But, you gotta start somewhere, right?

this book is for you.

Who should probably back away from this book?

If you can answer “yes” to any of these:

- 1 Are you looking for a quick introduction or reference book to C?
- 2 Would you rather have your toenails pulled out by 15 screaming monkeys than learn something new? Do you believe a C book should cover *everything* and if it bores the reader to tears in the process, then so much the better?

this book is **not** for you.



[Note from Marketing: this book is for anyone with a credit card... we'll accept a check, too.]

We know what you're thinking

“How can *this* be a serious C book?”

“What's with all the graphics?”

“Can I actually *learn* it this way?”

We know what your *brain* is thinking

Your brain craves novelty. It's always searching, scanning, *waiting* for something unusual. It was built that way, and it helps you stay alive.

So what does your brain do with all the routine, ordinary, normal things you encounter? Everything it *can* to stop them from interfering with the brain's *real* job—recording things that *matter*. It doesn't bother saving the boring things; they never make it past the “this is obviously not important” filter.

How does your brain *know* what's important? Suppose you're out for a day hike and a tiger jumps in front of you—what happens inside your head and body?

Neurons fire. Emotions crank up. *Chemicals surge.*

And that's how your brain knows...

This must be important! Don't forget it!

But imagine you're at home or in a library. It's a safe, warm, tiger-free zone. You're studying. Getting ready for an exam. Or trying to learn some tough technical topic your boss thinks will take a week, ten days at the most.

Just one problem. Your brain's trying to do you a big favor. It's trying to make sure that this *obviously* unimportant content doesn't clutter up scarce resources. Resources that are better spent storing the really *big* things. Like tigers. Like the danger of fire. Like how you should never have posted those party photos on your Facebook page. And there's no simple way to tell your brain, “Hey brain, thank you very much, but no matter how dull this book is, and how little I'm registering on the emotional Richter scale right now, I really *do* want you to keep this stuff around.”

Your brain thinks
THIS is important.



Great. Only 600
more dull, dry,
boring pages.

Your brain thinks
THIS isn't worth
saving.

