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SECOND VOLUME IN *WRITE GREAT CODE* SERIES:
Thinking Low-Level, Writing High-Level

Explains how compilers work and how to get the best quality output from them

March 8, 2006, San Francisco— How do programmers choose their high-level language statements to produce efficient code? Unfortunately, a lot of them simply don't. They've never considered how compilers generate machine code for those high-level language statements and data structures, and the result is sloppy code.

Praise for Write Great Code, Vol. 1: Understanding the Machine
"If you are programming without benefit of formal training, or if you lack the aegis of a mentor, Randall Hyde's Write Great Code series should rouse your interest." —UnixReview.com

Write Great Code, Volume 2: Thinking Low-Level, Writing High-Level (No Starch Press, March 2006) fills the void created by a lack of traditional computer science training, with the same clear and instructive content that has made the first Write Great Code installment such a valuable resource. In this second volume in his series, popular No Starch Press author Randall Hyde takes teaches readers how their compilers work to translate their high level language statements into low-level machine code.

In the early days of computing, programmers used high-level language code sparingly, because they knew that a high-level language compiler would generate poor-quality low-level machine code for their software. Today, however, programmers routinely write in high-level languages like C, C++, Pascal, Java, or BASIC, and count on their compilers to generate efficient machine code.But compilers can only generate great machine code if the original high-level source code is also great.

Write Great Code, Vol. 2, provides the critical knowledge a programmer needs to write source code that the compiler can translate into efficient machine code. Armed with that understanding, programmers will be better able to choose a proper mix of high-level language statements to produce more efficient software – all without having to give up the productivity and portability benefits of a high-level language. (The majority of the examples in the book are in C/C++, but the concepts apply to most imperative programming languages.)

"Like Hyde's *Art of Assembly Language*, the Write Great Code series captures years of hard-earned valuable experience and education in an accessible and affordable format," said Bill Pollock, founder of No Starch Press. "Randy speaks to this new generation of programmer that hasn't been taught assembly language or been trained in a computer science curriculum."

Included in **Write Great Code, Vol. 2: Thinking Low-Level, Writing High-Level**:

- How to analyze the output of a compiler to verify that it generates good machine code.

- The type of machine code statements that compilers typically generate for common control structures, so that readers can choose the best statements when writing high-level language (HLL) code.

- A primer on x86 and PowerPC assembly language that teaches just enough assembly language to read compiler output.

- How compilers convert constant and variable objects into machine data so that readers can adjust the way they use these objects to write faster and shorter programs.

ABOUT THE AUTHOR: Randall Hyde is the author of *The Art of Assembly Language* (No Starch Press), one of the most highly recommended resources on assembly, and Volume 1 of *Write Great Code*. He is also the co-author of *The Waite Group's MASM 6.0 Bible*. He has written for *Dr. Dobb's Journal* and *Byte*, as well as professional journals.

Write Great Code, Volume 2: Thinking Low-Level, Writing High-Level by Randall Hyde
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Available at fine bookstores everywhere, from www.oreilly.com/nostarch, or directly from No Starch Press (www.nostarch.com, orders@nostarch.com, 800.420.7240).

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