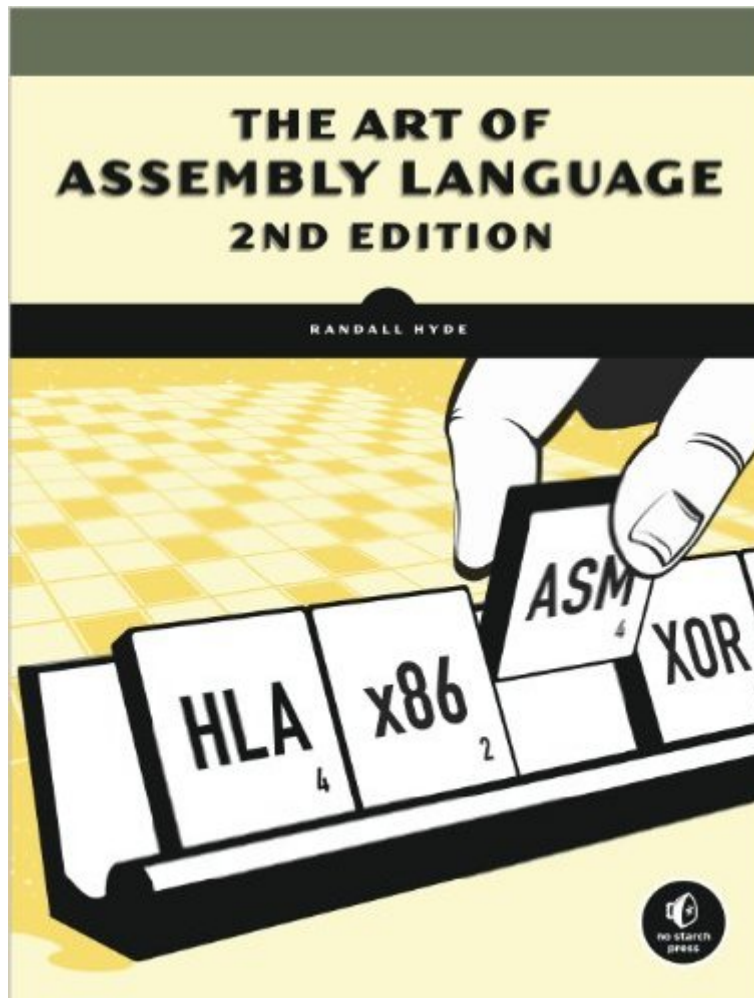# The Art Of Assembly Language

Synopsis

Assembly is a low-level programming language that's one step above a computer's native machine language. Although assembly language is commonly used for writing device drivers, emulators, and video games, many programmers find its somewhat unfriendly syntax intimidating to learn and use.Since 1996, Randall Hyde's The Art of Assembly Language has provided a comprehensive, plain-English, and patient introduction to 32-bit x86 assembly for non-assembly programmers. Hyde's primary teaching tool, High Level Assembler (or HLA), incorporates many of the features found in high-level languages (like C, C++, and Java) to help you quickly grasp basic assembly concepts. HLA lets you write true low-level code while enjoying the benefits of high-level language programming.As you read The Art of Assembly Language, you'll learn the low-level theory fundamental to computer science and turn that understanding into real, functional code.You'll learn how to:Edit, compile, and run an HLA programDeclare and use constants, scalar variables, pointers, arrays, structures, unions, and namespacesTranslate arithmetic expressions (integer and floating point)Convert high-level control structuresThis much anticipated second edition of The Art of Assembly Language has been updated to reflect recent changes to HLA and to support Linux, Mac OS X, and FreeBSD. Whether you're new to programming or you have experience with high-level languages, The Art of Assembly Language, 2nd Edition is your essential guide to learning this complex, low-level language.

Book Information

File Size: 2556 KB

Print Length: 760 pages

Simultaneous Device Usage: Unlimited

Publisher: No Starch Press; 2 edition (March 15, 2010)

Publication Date: April 1, 2010

Sold by: Â Digital Services LLC

Language: English

ASIN: B003SNK99I

Text-to-Speech: Enabled

X-Ray: Not Enabled

Word Wise: Not Enabled

Lending: Not Enabled

Enhanced Typesetting: Not Enabled

Customer Reviews

I started reading assembly language by looking at object output from various C compilers. I learned a fair amount by writing gradually more complex programs and reading the corresponding assembler. But eventually I wanted a concept-driven perspective to help me understand more of the whys and wherefores. So I turned to Randall Hyde because I'd read two other books of his, Write Great Code: Volume 1: Understanding the Machine and Write Great Code, Volume 2: Thinking Low-Level, Writing High-Level. Vol. 2 inspired me in particular because its contents matched the subtitle well, and the book led me in a very likely direction for my interests.I blithely assumed Art of Assembly would take things a step further, but it is not that book. It covers High Level Assembly, a software package of Hyde's invention that probably makes it easier for high-level language programmers to adapt to assembly code. The reader could learn enough HLA, Hyde proposes, to write low-level assembly directly. I think this point is questionable, and easily lost on some number of readers who are drawn in by the title. Not because it can't be done, but because most people adopting technologies on the go don't have the time or the need for small first steps into a complex, technically demanding topic. And why would you do this with HLA anyway, when you could immediately start doing this with C and the proper compiler switch?

I picked up Art of Assembly because I'm trying to brush up on my assembly programming skills. I've been programming in the higher languages for years but haven't even looked at assembly code since college.I've looked at several books on the subject and most if not all include a library or two that the author created to speed the learning process. AoA takes that further by including an actual compiler of the author's own creation. However, as many have pointed out, one begins to question if this book would be more aptly titled, "Art of HLA". Take the following section from the book:"The 80x86 CPU family provides from just over a hundred to many thousands of different machine instructions, depending on how you define a machine instruction. Even at the low end of the count (greater than 100), it appears as though there are far too many machine instructions to learn in a short time. Fortunately, you don't need to know all the machine instructions. In fact, most assembly language programs probably use around 30 different machine instructions. Indeed, you can

certainly write several meaningful programs with only a few machine instructions. The purpose of this section is to provide a small handful of machine instructions so you can start writing simple HLA assembly language programs right away."Besides the repetitive use of "machine instructions" in each and every sentence, the thing I noted was the last sentence...writing simple HLA. Maybe that was unintentional, but I wanted a book on assembly, not a book on Randal Hyde's Assembly Language which, as I kept going, this book seemed more and more geared toward. The first several chapters are all about HLA to the point where I started to question what this book was really teaching.

PC Assembly Language: learn how computer work easy ways to learn assembly language Body Language: Body Language Training - Attract Women & Command Respect, by Mastering Your High Status Body Language (Body Language Attraction, Body Language ... Language Secrets, Nonverbal Communication) Some Assembly Required: Assembly Language Programming with the AVR Microcontroller The Gun Digest Book of Firearms Assembly/Disassembly Part I - Automatic Pistols: Pt. 1 (Gun Digest Book of Firearms Assembly/Disassembly: Part 1 Automatic Pistols) The Gun Digest Book of Tactical Weapons Assembly/Disassembly (Gun Digest Book of Firearms Assembly/Disassembly) The Gun Digest Book of Revolvers Assembly/Disassembly (Gun Digest Book of Firearms Assembly/Disassembly) Gun Digest Book of Revolvers Assembly/Disassembly (Gun Digest Book of Firearms Assembly/Disassembly) The Gun Digest Book of Firearms Assembly/Disassembly Part V - Shotguns: Shotguns Pt.5 (Gun Digest Book of Firearms Assembly/Disassembly: Part 5 Shotguns) A Communication from Sir Charles Brisbane, K.C.B. Governor of Saint Vincent: To the House of Assembly of That Colony, Enclosing Lord Bathurst's ... Assembly; and a Letter Depicting the Alarm The Art of Assembly Language BODY LANGUAGE : Decoding Alpha Male Body Language, Instantly Attract Any Woman Without Saying a Single word. (Body Language 101, Alpha male, Attract woman, ... Seduce Women, Eye Contact, Body Language) Body Language: Master the Art of Reading Anyone Through Nonverbal Communication (Body Language 101, Body Language Mastery, Read Everyone) MIPS Assembly Language Programming 80X86 IBM PC and Compatible Computers: Assembly Language, Design and Interfacing Vol. I and II (3rd Edition) Microcontrollers: From Assembly Language to C Using the PIC24 Family Assembly Language for the IBM PC Family (3rd Edition) Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C Embedded Systems with ARM Cortex-M3 Microcontrollers in Assembly Language and C ARM Assembly Language: Fundamentals and Techniques, Second Edition ARM Assembly Language: Fundamentals and Techniques