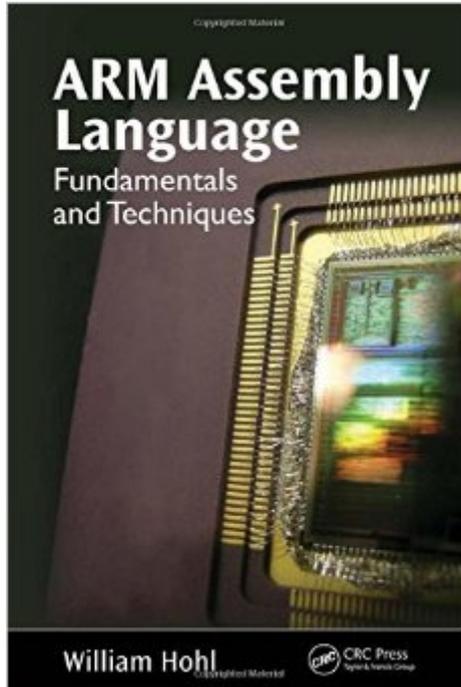# ARM Assembly Language: Fundamentals And Techniques

Synopsis

Written by the director of ARMâ ™s worldwide academic program, this volume gives computer science professionals and students an edge, regardless of their preferred coding language.Â For those with some basic background in digital logic and high-level programming, the book examines code relevant to hardware and peripherals found on today's microcontrollers and looks at situations all programmers will eventually encounter. The bookâ ™s carefully chosen examples teach easily transferrable skills that will help readers optimize routines and significantly streamline coding, especially in the embedded space. This book is easily adaptable for classroom use. Instructors can access features that include a solutions manual, assembly language basics, problems, and actual code. The book also provides access to a fully functional evaluation version of the RealView Microcontroller Development Kit from Keil. While it is still an important skill, getting good instruction in assembly language is not easy. The availability of languages such as C and Java foster the belief that engineers and programmers need only address problems at the highest levels of a program's operation. Yet, even modern coding methods, when done well, require an understanding of basic assembly methods such as those gained by learning ARM. Certain features that are the product of todayâ ™s hardware, such as coprocessors or saturated math operations, can be accessed only through the hardwareâ ™s native instructions. For that matter, any programmer wishing to achieve results as exact as his or her intentions needs to possess a mastery of machine code basics as taught in the pages of this book. Of the 13 billion microprocessor-based chips shipped in the last year, nearly 3 billion were ARM-based, making operational knowledge of ARM an essential component of any programmerâ ™s tool kit. That it can be applied with most any language makes it invaluable.

Book Information

Hardcover: 372 pages

Publisher: CRC Press; 1 edition (March 13, 2009)

Language: English

ISBN-10: 1439806101

ISBN-13: 978-1439806104

Product Dimensions: 6.1 x 0.9 x 9.2 inches

Shipping Weight: 1.2 pounds

Average Customer Review: 3.6 out of 5 starsÂ Â See all reviewsÂ (9 customer reviews)

Best Sellers Rank: #523,752 in Books (See Top 100 in Books)   #56 inÂ Books > Computers &

Customer Reviews

The book begins with a short but informative intro to RISC and ARM. This opening sets the stage for where ARM fits in the industry and why its importance has grown. By the time you're done with the first 25 pages, you'll also know tech concepts well enough to understand low-level computing systems and how bits become software.The second chapter provides an introduction to ARM's programming model. Chapter 3 gets you up and running with simple programs. The book refers to a freely available IDE you can use to run programs. The author writes, "Learning assembly requires an adventurous programmer" and your first adventure may be looking for more details on the IDE (in Appendix B.)After installing the IDE, you'll soon be stepping through your first simple assembly language programs on your own. Run sample programs while reading to keep things interesting.If you press on beyond the simpler examples, Chapter 4 provides Assembler Directives you'll need for more complicated programs. Chapters 5 thru 11 cover essential, common ingredients in program design - addressing, arithmetic, looping. branching, tables, subroutines, stacks, exceptions etc. If you've previously worked with a higher level language like C, you'll see how ARM's assembly code relates. In a number of descriptive examples, C code snippets are translated directly into Assembly Language.Chapter 12 was my favorite - rolling the prior chapter lessons into an embedded system design with UART, D/A converter, memory map and more. The book's final two chapters cover THUMB, a 16-bit subset of ARM's instruction set, and guidance for mixing C with Assembly.This book mixes great technical content with a hands-on opportunity to work in ARM code.

ARM Assembly Language Programming & Architecture: Second Edition (Mazidi & Naimi ARM Books Book 1) Arm Action, Arm Path, and the Perfect Pitch: Building a Million-Dollar Arm ARM Assembly Language: Fundamentals and Techniques, Second Edition ARM Assembly Language: Fundamentals and Techniques PC Assembly Language: learn how computer work easy ways to learn assembly language TI MSP432 ARM Programming for Embedded Systems: Using C Language (Mazidi & Naimi ARM Books) Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C Embedded Systems with ARM Cortex-M3 Microcontrollers in Assembly Language and C 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 Arm Knitting: 24 Simple and Popular Arm Knitting Patterns: (Modern Crochet, Knitting Projects, Cochet Projects, DIY Projects, Crochet For Beginners, Crochet ... Tunisian Crochet,Make Money With Crochet)) 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 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) 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) Radial Arm Saw Techniques NLP: NLP TECHNIQUES: HYPNOTIC LANGUAGE PATTERNS to Easily Attract More Success (PLUS: FREE BONUS AUDIOBOOK) (NLP books, NLP sales, sales techniques, NLP techniques, NLP Book 4)