

Errata of
Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C
Fourth Edition

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Thank you all for providing me feedbacks and corrections!

Chapter 1. See a Program Running

- Page 12, Stack point -> stack pointer

Chapter 2. Data Representation

Chapter 3. ARM Instruction Set Architecture

Chapter 4. Arithmetic and Logic

- Page 64, in the table, UMLAL (unsigned long multiply, with ~~subtract~~ accumulate)
- Page 64, ADDS r1, r2, r3, LSL #3 ; r1 = r2 ~~AND~~ + (r3 << 3)
- Page 77 LSR r1, r0, #8 ; r1 = 0x00FFFFFFEF, Logical shift right
- Page 77 ASR r2, r0, #8 ; r2 = 0xFFFFFFFFEF, Arithmetic shift right
- Page 86: the second table, ~~EOR~~ AND r0, r0, r1
- Page 76, MOVS r2, r1, LSR #3 ; r2 = r1 << >> 3

Chapter 5. Load and Store

- Page 97: MOV r0, #0b2_10011100 ; Set r0 to the binary value 10011100

Chapter 6. Branch and Conditional Execution

- Page 118, gray box, “negative flag N” -> “negative and overflow flags N and V.”
- Page 118, gray box, “N is 0” -> “N equals V”
- Page 128, Assume r0 = i and ~~r2~~ r1 = sum
- Page 128, starting with ~~0~~ 1
- Page 126. “What should BXX1 and BXX2 be” -> “What should the if condition be”.
- Page 138: “if (a ≤ b && a < c)” → if (a <= b && a < c)

Chapter 7. Structured Programming

Chapter 8. Subroutines

- Page 173, the processor sets ~~LR~~ PC to PC₂ + 4.
- Page 176, When the caller passes a 128-bit argument, it is contained in registers r0-~~r4~~ r3.
- Page 176, That is why r1 is ~~used for~~ unused in f3.
- Page 183, “copy a to b and b to t” should be “copy b to a and r to b”

- Page 184, `MLS r2, r1, r3, r0 ; r2 = r1 - r3*r0 r2 = r0 - r1*r3`

Chapter 9. 64-bit Data Processing

Chapter 10. Mixing C and Assembly Code

- Page 232, “LDR r2, #1234” should be “LDR r2, =1234”
- Page 234 and 245, “return(x)” should be “return(x);”.
- Page 243, “registers r0 – r4” should be “registers r0 – r3”

Chapter 11. Interrupt

Chapter 12. Fixed-point Arithmetic

Chapter 13. Floating-point Arithmetic

Chapter 14. Instruction Encoding and Decoding

Chapter 15. Generic-purpose I/O

- Page 399, Chapter 15.12, Question 5: denounced -> debounced

Chapter 16. General-purpose Timers

Chapter 17. Direct Memory Access (DMA)

Chapter 18. Analog Input and Output

Chapter 19. Serial Communication Protocols

Chapter 20. Multitasking

Chapter 21. Digital Signal Processing

Appendix: Solution to self-review exercises

- Chapter 6. Question 11. “x <= -5 || x == 6;” should be “x <= -5 || y == 6;”
- Chapter 12, Question 3, “3. 1101.1101;” should be “3. 1100.1000;”
- Chapter 15. Question 9. d -> c