Errata of

Embedded Systems with ARM Cortex-M3 Microcontrollers in Assembly Language and C

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Thank you all for providing me feedbacks and corrections!

Chapter 1. See a Program Running

Chapter 2. Data Representation

Chapter 3. ARM Instruction Set Architecture

Chapter 4. Arithmetic and Logic

Chapter 5. Load and Store

- Page 100, Question 3, “STR r1, [r0, 4]” should be “STR r1, [r0, #4]”.

Chapter 6. Branch and Conditional Execution

Chapter 7. Structured Programming

Chapter 8. Subroutines

- Page 162, example 8-5, the comment “LR points to Stop” should be “LR points to LDR”.
- Page 162, example 8-5

Textbook	**Correction**

`MOV  r3, #2    ;`
`MOV  r4, #0    ; 2nd 64-bit argument`
	`MOV  r2, #2    ;`
	`MOV  r3, #0    ; 2nd 64-bit argument`

`ADDS r0, r0, r3 ; Add lower 32 bits`
`ADC  r1, r1, r3 ; Add upper 32 bits`
	`ADDS r0, r0, r2 ; Add lower 32 bits`
	`ADC  r1, r1, r3 ; Add upper 32 bits`

Chapter 9. 64-bit Data Processing

Chapter 10. Mixing C and Assembly

Chapter 11. Fixed-point and Floating-point Arithmetic

- Page 230, “The bias constant is defined as 127 for single precision and 1203 for double precision” should be “The bias constant is defined as 127 for single precision and 1023 for double precision.”

Chapter 12. Interrupt

- On Page 256, Example 12-1, we should add one more line of code “**LSL r2, r2, #2.**”

```
    Peripheral_Interrupt_Enable   PROC
       PUSH  {r0-r4, lr}
       AND   r2,r0,#0x1F      ; Bit offset in a word
       MOV   r3,#1
       LSL   r3,r3,r2         ; r3 = 1 << (IRQn & 0x1F)
       LDR   r4,=NVIC_BASE
       CMP   r1,#0
       LDRNE r1,=NVIC_ISER0   ; Enable register base address
       LDREQ r1,=NVIC_ICER0   ; Disable register base address
       ADD   r1,r4,r1         ; Address of NVIC->ISER0 or NVIC->ICER0
       LSR   r2,r0,#5         ; Memory offset (in words): IRQn >> 5
       LSL   r2,r2,#2         ; Calculate byte offset
       STR   r3,[r1,r2]       ; Enable/Disable interrupt
       POP   {r0-r4, pc}
       ENDP
```

Chapter 13. Instruction Encoding and Decoding

Chapter 14. Generic-purpose I/O

Chapter 15. General-purpose Timers

Chapter 16. Stepper Motor Control

Chapter 17. Liquid-crystal Display (LCD)

Chapter 18. Real-time Clock (RTC)

- Page 377, the caption of Example 18-2 “Initialize LCD in assembly program” should be “Initialize RTC in assembly program”.

Chapter 19. Direct Memory Access (DMA)

Chapter 20. Analog-to-Digital Converter

Chapter 21. Digital-to-Analog Converter

Chapter 22. Serial Communication Protocols

Chapter 23. Multitasking

Appendix A: Cortex-M3 16-bit Thumb-2 Instruction Encoding