Errata of
*Embedded Systems with ARM Cortex-M 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**
- Page 59, “analog-todigital” should be “analog-to-digital”.
- Page 70, “funcation” should be “function”

**Chapter 2. Data Representation**
- Page 38, last figure, “Barrow” should be “Borrow”.

**Chapter 3. ARM Instruction Set Architecture**
- Page 52, in the C code of strlen, “while( pStr[i] ){ i++ ;}” should be “while( pStr[i] ){ i++ ;}”
- Page 56, last paragraph, “smart match” should be “smart watch”.
- Page 60, the paragraph under Figure 3-4, “to order to” should be “in order to”
- Page 64, bullet 3, “a register shifted to a constant amount of bits” should read as “a register shifted by a constant amount of bits”

**Chapter 4. Arithmetic and Logic**
- Page 75, Section 4.1, first paragraph, “overflow (O)” should be “overflow (V)”.
- Page 75, the bottom paragraph, “the process combines them” should be “the processor combines them”
- Page 92, in the middle, “MOV r1, #1, LSL #31” should be “MOV r1, #1<<(31)”.
- Page 92, above the table, “because the result of exclusive OR is 0” should read as “because the result of AND is 0”.
- Page 85, “These operations run” should be “These operations run”.

**Chapter 5. Load and Store**
- Page 109, Question 5, we should add square brackets to register r0.
  - LDRSB r1, [r0]
  - LDRSH r1, [r0]
  - LDRB r1, [r0]
  - LDRH r1, [r0]

**Chapter 6. Branch and Conditional Execution**
- Page 111, Section 61. “Table 2-3 lists the conditional flags” should be “Table 6-1 lists the conditional flags”
- Page 116, “their equivalent implement” should be “their equivalent implementation”
- Page 128, in Example 6-17, “r6 is branch index” should be “r2 is branch index”

Chapter 7. Structured Programming
- Page 138, “a program should reuses” should be “a program should reuse”.
- Page 139, Figure 7-5, all three “DCW” should be “DCD”.
- Page 140, Figure 7-6, all “DCW” should be “DCD”.
- Page 152, Add “#” before immediate numbers. “LDRB r4, [r1], -1” should be “LDRB r4, [r1], #-1”

Chapter 8. Subroutines
- Page 162, first paragraph of Section 8.1, “use the branch and link (BL) instruction call a subroutine.” Should be “use the branch and link (BL) instruction to call a subroutine”
- Page 171, Example 8-4, “won’t update callee’s n” should be “won’t update caller’s n”.
- Page 174, Example 8-6, “STR r1, [r3, 4]” should be “STR r1, [r3, #4]”.
- Page 185, “BGE exit” should be “BGE exit_i”.

Chapter 9. 64-bit Data Processing
- Page 209, “Table 9-1 illustrate” should read as “Table 9-1 illustrates”
- Page 212, “unsigned_devision_64_bits” should be “unsigned_division_64_bits”.
- Page 205, “must of 0xFFFFFFFF” should be “must be 0xFFFFFFFF”.
- Page 206, Figure 9-3, the most significant bit of the lower word should be “b31”.
- Page 207, Figure 9-4, the most significant bit of the lower word should be “b31”.

Chapter 10. Mixing C and Assembly
- Page 215, “can directly accesssee” should be “can directly access”.
- Page 228, “declare a with” should be “declare a function with”
- Page 228, First sentence of Section 10.3.1, “A C program can have inline assembly can by using the “__asm” keyword” should read as “A C program can have inline assembly by using the “__asm” keyword”
- Page 230, Example 10-14, “extern void strlen(char *s)” should be “extern int strlen(char *s)”

Chapter 11. Interrupt
- Page 251, under Figure 11-9, “processor might a different clocking scheme” should read as “processor might use a different clocking scheme”

Chapter 12. Fixed-point and Floating-point Arithmetic
- Page 238, section 11.2, “The processor serves stops” should read as “The processor stops the currently running interrupt handler”.
- Page 255, in Table 11-4, “mamufacturer” should be “manufacturer”.
- Page 258, “popes” should be “pops”.
• Page 265, “the actual value of 1/3 is 1.333...,” should be “the actual value of 1/3 is 0.333...,”
• Page 266, “uses integer arithmetic” should be “use integer arithmetic”
• Page 268, “implement” should be “implements”. “bit digits” should be “binary digits”.
• Page 268, the last item in the equation “1 × 2⁻²” should be “1 × 2⁻³”
• Page 269, Example 2, “Convent” should be “Convert”.
• Page 269, “round the product” should be “rounding the product”.
• Page 275, in the title of Example 12-3, “Q16.16” should be “UQ16.16”.

Chapter 13. Instruction Encoding and Decoding
• Page 320, “note that register r₀ is both source operand and the destination operand” should read as “note that register r₁ is both source operand and the destination operand”.

Chapter 14. Generic-purpose I/O
• Page 338, title of Figure 14-3, “Non-inverting means \( V_{\text{out}} \) is connected to the non-inverting terminal (i.e., the plus input lead)” should read as “Non-inverting means \( V_{\text{in}} \) is connected to the non-inverting terminal (i.e., the plus input lead)”
• Page 338, “hysterisis” should be “hysteresis”
• Page 354, last paragraph, “loop up” should be “look up”
• Page 355, in Figure 14-22 flowchart, the “Yes” and “No” to the question “Is key released” should be swapped. In the same figure, we need to add a “No” to the branch of the second question “Are all column inputs one?”
• Page 356, in the second bullet point, “should changes the mode” should be “should change the mode”

Chapter 15. General-purpose Timers
• Page 365, first paragraph, “should sets” should be “should set”.
• Page 370, “the the auto-reload” should be “the auto-reload”
• Page 372, in Figure 15-11, “Brightness” should be “Brightness”.
• Page 374, “MOV r1, =TIM.ARR.ARR” should be “MOV r1, #TIM.ARR.ARR”.
• Page 374, “STR r0, [r7, #TIM.PSC]” should be “STR r1, [r7, #TIM.PSC]”.
• Page 381, bottom of the page, the comment “// Detect only rising edges in this example” should be read as “// Detect both rising and falling edges in this example”.

Chapter 16. Stepper Motor Control
• Page 396, “Figure 16-11 shows the activation sequence of half-stepping: A ̅\( B \), A, AB, B, \( \bar{A} \), \( \bar{A} \bar{B} \), and \( \bar{B} \)” should read as “Figure 16-11 shows the activation sequence of half-stepping: A ̅\( B \), A, AB, B, \( \bar{A} \bar{B} \), \( \bar{A} \), and \( \bar{B} \)”.
• Page 400, in the program, “CCR_MicroSteping” should be “CCR_MicroStepping”.

Chapter 17. Liquid-crystal Display (LCD)
• Page 415, “For example, the ASCII value of letter ‘A’ is 0x40” should read as “For example, the ASCII value of letter ‘A’ is 0x41”.

Chapter 18. Real-time Clock (RTC)
• Page 429, “RTC->TR = 0<<22 | 1<<21 | 1<<16 | 3<<12 | 2<<8;” should be “RTC->TR = 0<<22 | 1<<20 | 1<<16 | 3<<12 | 2<<8;”.
• Page 431, Example 18-2, the title of example 18-2 “Initializing LCD in assembly program” should read as “Initializing RTC in assembly”

Chapter 19. Direct Memory Access (DMA)
• Page 442, in Example 19-1, “DMAChannel1_IRQHandler” should be “DMA1_Channel1_IRQHandler”.
• Page 437, “Interfacing a Peripheral” should read as “Interfacing a Peripheral”
• Page 435, last sentence, “manufactures” should be “manufacturers”
• Page 436, second paragraph, “are connected a bus matrix” should be “are connected to a bus matrix”. “schedule algorithm” should be “scheduling algorithm”
• Page 437, “write the data” should be “writes the data”
• Page 438, “when multiple channels have the software priority” should be “when multiple channels have the same software priority”
• Page 438, “a half tranfer” should be “a half transfer”

Chapter 20. Analog-to-Digital Converter
• Page 444, “oscilloscopes HDTV” should read as “oscilloscopes, HDTV”
• Page 447, “is to set as” should read as “is set as”
• Page 481, Example 21-6, “twinke” should be “twinkle”

Chapter 21. Digital-to-Analog Converter
• Page 464, “faster s than” should be “faster than”
• Page 466, “The date are could be” should be “The data could be”
• Page 466, “data holder register” should be “data holding register”
• Page 476, in Example 21-5, “Because CCR1 is read in this application, software has to clear CC1IF.” should read as “Because CCR1 is not read in this application, software has to clear CC1IF.”
• Page 469, in Example 21-1, “si” should be replaced with “sine_table” in the printf statements.
• Page 470, in the title of Example 21-2, “C program that table lookup” should be “C program that uses the table lookup”
• Page 472, first paragraph in 21.6, “controls” should be “control”.
• Page 473, first sentence, “AR = 8” should be “ARR = 18”
• Page 473, second sentence, “in the TIM4_IRQHandler” should be “in the TIM4_IRQHandler”.

Chapter 21. Digital-to-Analog Converter
• Page 468, last sentence, “The program also offsets the output by 2028” should be “The program also offsets the output by 2048”.
• Page 470, in Example 21-2, “4086 – sine_table[x-180]” should “4096 – sine_table[x-180]”.

Chapter 22. Serial Communication Protocols
• Page 498, the clock the clock of” should be “the clock of”.
• Page 493, first paragraph, “moderns” should be “modems”.
• Page 496, “The transmitter release” should be “The transmitter releases”.
• Page 512, Title of Figure 22-25 and 22-26, “3.3KΩ” should be “1.5KΩ”.
• Page 530, Title of Figure 22-31, “All communications occurs” should be “All communications occur”.

Chapter 23. Multitasking

Chapter 24. Digital Signal Processing
• Page 570, “canot” should be “cannot”.
• Page 580, “y[t] = y[t] + a[i]*x(t-i);  ” should be “y[t] = y[t] + a[i]*x[t-i];  ”
• Page 593, in vector_negate_Q15 example, the comment “Store two Q7 values, post-index” should read as “Store two Q15 values, post-index”.