

Mistakes

Section numbers within Section 12.3 are miscounted

Page xi, change 12.3.4 to 12.3.2

Page xi, change 12.3.4 to 12.3.3

Page 1, last sentence on page. change

Interfacing I/O devices to build embedded systems is presented in Chapters 8, 9, 11, 12, and 13.

to

Interfacing I/O devices to build embedded systems is presented in Chapters 8, 9, 11, and 12.

Page 74, Example 3.6, Program 3.1. change

```
anda #$BF ;PT5 low
```

to

```
anda #$DF ;PT5 low
```

Page 96, Example 3.14. change

```
add #1265 ;230*N+1265, 0 to 59915
```

to

```
add #1265 ;230*N+1265, 1265 to 59915
```

Page 96, Example 3.14. change

```
idiv ;(230*N+1265)/100, 0 to 599
```

to

```
idiv ;(230*N+1265)/100, 12 to 599
```

Page 193, **Change +127 to +255**

Indexed addressing mode uses a fixed offset with the 16-bit registers: X, Y, SP, or PC. The offset can be 5-bit (-16 to +15), 9-bit (-256 to +255), or 16-bit.

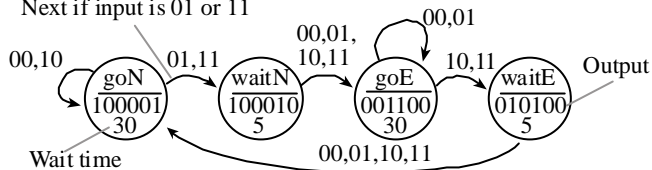
Page 205, Program 6.7, add additional comment to line with mul instruction

```
;Column index J in RegB, Row index I in RegA
;RegX is the base address of M[I,J]
Matrix_Read pshb ;Save J on stack
            ldab #3 ;number of columns
            mul ;3*I (assume 3*I<256)
            addb 1,SP+ ;3*I+J
            ldaa B,X ;read value at M[I,J]
            rts
```

Program 6.7. Assembly function to access a two by three row-major matrix.

Page 218, Mistake Figure 6.20 (label from goE to waitE should be **10,11** not 01,11)

Next if input is 01 or 11



Page 220, Program 6.23 C version,

Change

```
PTT = FSM[n].Out<2; // set lights
```

To

```
PTT = FSM[n].Out<<2; // set lights
```

Page 238. There are two Homework 6.5s. I suggest we combine 6.6 with the second 6.5

Change

Homework 6.5: Write assembly code that adds 10 to Register X and subtracts 100 from Register Y.

Homework 6.6: Write assembly code that sets Register X equal to Register Y plus 100.

Homework 6.5: Write assembly code that adds Register D to Register X and stores the sum in Register Y.
To

Homework 6.5: Write assembly code that adds 10 to Register X and subtracts 100 from Register Y.

Homework 6.6: Write assembly code that sets Register X equal to Register Y plus 100. Write assembly code that adds Register D to Register X and stores the sum in Register Y.

Page 280, Homework 7.20, change PA0 to PT0

Page 366 **Edit Homework 9.15:**

Homework 9.15: Assume the PLL is running so the E clock is 25 MHz. Redesign the FSM in **Example 6.6** ~~Homework 6.25~~ to run in the background using input capture and output compare interrupts. ~~The FSM is run whenever there is a rising edge on PT3.~~ There are no backward jumps in the ISR.

Change

Homework 9.15: Assume the PLL is running so the E clock is 25 MHz. Redesign the FSM in Homework 6.25 to run in the background using input capture and output compare interrupts. The FSM is run whenever there is a rising edge on PT3. There are no backward jumps in the ISR.

To

Homework 9.15: Assume the PLL is running so the E clock is 25 MHz. Redesign the FSM in Example 6.6 to run in the background using output compare interrupts. There are no backward jumps in the ISR.

Page 418, Change Homework 11.2 to MAX515

Homework 11.2: The Maxim ~~MAX515~~ ~~MAX539~~ is a 1-channel ~~10~~12-bit DAC similar to the MAX550. Search the <http://www.maxim-ic.com/> web site for a data sheet for the ~~MAX515~~ ~~MAX539~~. Show the circuit diagram connecting the DAC chip to an SPI port. Develop DACinit and DACout functions similar to the MAX550 example in the chapter, except the DACout function takes a ~~10~~12-bit number in Register D.

Change

Homework 11.2: The Maxim MAX539 is a 1-channel 12-bit DAC similar to the MAX550. Search the <http://www.maxim-ic.com/> web site for a data sheet for the MAX539. Show the circuit diagram connecting the DAC chip to an SPI port. Develop DACinit and DACout functions similar to the MAX550 example in the chapter, except the DACout function takes a 12-bit number in Register D.

To

Homework 11.2: The Maxim MAX515 is a 1-channel 10-bit DAC similar to the MAX550. Search the <http://www.maxim-ic.com/> web site for a data sheet for the MAX515. Show the circuit diagram connecting the DAC chip to an SPI port. Develop DACinit and DACout functions similar to the MAX550 example in the chapter, except the DACout function takes a 10-bit number in Register D.

Page 418-9, Change Register A to Register D four places

Homework 11.8: Write an assembly language subroutine that samples ADC channel 2 four times, calculates the average of the four samples, and returns the result in Register ~~D~~ ~~A~~.

Homework 11.9: Write an assembly language subroutine that samples all 8 ADC channels, calculates the average of the eight samples, and returns the result in Register ~~D~~ ~~A~~.

Homework 11.10: Write an assembly language subroutine that samples all 8 ADC channels, calculates the minimum and maximum of the eight samples, and returns the range (maximum-minimum) in Register ~~D~~ ~~A~~.

Homework 11.11: Write an assembly language subroutine that samples ADC channels 0,1,2, calculates the median of the three samples, and returns the result in Register ~~D~~ ~~A~~.

Page 419, Change Register A to D, Register B to X

Homework 11.14: Assume an AC waveform is connected to analog channel 0. Write an initialization ritual. Write a subroutine that samples the analog input 256 times, and returns the DC amplitude (average) in Register ~~D~~ ~~A~~, and the AC amplitude (maximum-minimum) in Register ~~X~~ ~~B~~.

Page 476, Change Port K to Port J

Homework 12.20: Design a simplex communication channel between two 9S12 using the Ports H and ~~J~~ using FIFO queues and keywakeup interrupts as appropriate. Assume each 9S12 runs a separate initialization routine at about the same time. Write a public function for the transmitter called by the main program to send a byte and a public function for the receiver called by its main program to accept a byte. Package it up into a module hiding the mechanisms from the policies. Estimate the maximum bandwidth of the channel.

Section numbers within Section 12.3 are miscounted

Page 440, change 12.3.4 to 12.3.2

Page 444, change 12.3.4 to 12.3.3