
2 Chapter 2

Fix page: 14 line -4
1330_{eight} should be 1770_{eight}

Fix page: 20 line Table 2.1
Z Format for 3.4e+38 should be ’7f7fffff’ rather than ’7fefffff’

Fix page: 20 line 1
display should read V = Z’BF800000’ and not Z’C1100000’

Fix page: 20 line -14
change 4 to 3 and 8 to 9 in parenthetical remark to read 3 more than the single’s 9

Fix page: 23 line 5
change sign in equation (2.5.1) to read
\[ \sum_{i=1}^{n} (x_i - \bar{x})^2 = \sum_{i=2}^{n} (x_i - x)_{1})^2 - n(x_1 - \bar{x})^2 \]

Fix page: 31 line -7
sign of b should be negative in equation (2.7.7) to read
\[ 2c/ [-b + \sqrt{b^2 - 4ac}] \]

Fix page: 34 line 4
the fourth digit on Euler’s gamma in Exercise 2.12 is wrong
\[ H_n = 1 + \frac{1}{2} + \frac{1}{3} + \cdots + \frac{1}{n} = .577215664 + \log(n) + o(n) \]

Fix page: 34 line 25, 26
Exercise 2.16 (c), (d) variable should be \( x \)
\[
(c) f(x) = \log(1 + x) \\
(d) f(x) = \Phi^{-1}(x)
\]

3 Chapter 3

Fix page: 41 line 23
in the third display of code, second line, the variable subtracting should be ’ii’ to read
\( i=n+1-ii \) ! count down from \( n \) to \( 1 \)

Fix page: 42 line -5
entries in \( M^{(2)} \) which are neither 0 nor 1 are \(-A^{(1)}_{32}/A^{(1)}_{22}\) and \(-A^{(1)}_{12}/A^{(1)}_{22}\) (the numerator subscripts should be 22 and 32 instead of 31 and 41)
Fix page: 47 line -7
superscript of last matrix $L^{[k]}_{[k]}$ (not k-1)

Fix page: 48 line -11
in equation (3.5.4), superscript for $D$ is $[k - 1]$, not $[k]$

Fix page: 49 line 13
Example 3.3, change $A_{21}$ to $L_{21}$ in line for $k = 2$ for the unknown $L_{21}$

Fix page: 53 line 14
change $n - 1$ to $n - i$ in penultimate binomial coefficient

\[(A^{-1})_{ij} = B_{ij} = (-1)^{i+j} j \binom{i+j-2}{i-1} \binom{i+n-1}{i-1} \binom{j+n-1}{n-i} \binom{n}{j}\]

Fix page: 59 line 16
In Exercise 3.23, Sherman-Morrison-Woodbury formula is incorrect, although correctly given in (5.9.4) on p. 99

\[(A + uv^T)^{-1} = A^{-1} - \frac{1}{1 + v^T A^{-1} u} A^{-1} uv^T A^{-1}\]

4 Chapter 4

Fix page: 67 line -9
denominator should be $1^T A_n 1$

\[Q = z^T A_n^{-1} z - (1^T A_n^{-1} A_n)^2 / 1^T A_n^{-1} 1\]

Fix page: 79 line -7
denominator in general case should be $(j-d)$ to read

\[r(j) = (j - 1 + d) * r(j - 1)/(j - d)\]

5 Chapter 5

Fix page: 97 line lots
seven negative signs should be positive

We have $X = \begin{bmatrix} 1 & 1 \\ 1 & 2 \\ 1 & 3 \\ 1 & 4 \end{bmatrix}$, so use $\begin{bmatrix} 1 \\ 1 \end{bmatrix}$; then

\[U_{12}X = \begin{bmatrix} 1/\sqrt{2} & 1/\sqrt{2} & 0 & 0 \\ -1/\sqrt{2} & 1/\sqrt{2} & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} 1 \\ 1 \\ 1 \\ 1 \end{bmatrix} = \begin{bmatrix} \sqrt{2} & 3/\sqrt{2} \\ 0 & 1/\sqrt{2} \\ 1 & 3 \\ 1 & 4 \end{bmatrix}\]

Use $\begin{bmatrix} \sqrt{2} \\ 1 \end{bmatrix}$ to get $U_{13}$, so
\[
U_{13} U_{12} X = \begin{bmatrix}
\sqrt{2/3} & 0 & 1/\sqrt{3} & 0 \\
0 & 1 & 0 & 0 \\
-1/\sqrt{3} & 0 & 1/\sqrt{2/3} & 0 \\
0 & 0 & 0 & 1
\end{bmatrix}
\begin{bmatrix}
\sqrt{2} & 3/\sqrt{2} \\
0 & +1/\sqrt{2} \\
1 & 3 \\
1 & 4
\end{bmatrix}
= \begin{bmatrix}
\sqrt{3} & 2\sqrt{3} \\
0 & +1/\sqrt{2} \\
0 & \sqrt{3/2} \\
1 & 4
\end{bmatrix};
\]

use \[\frac{+1/\sqrt{2}}{\sqrt{3/2}}\] to get \(U_{23}\), so

\[U_{23} U_{13} U_{12} X = \begin{bmatrix}
1 & 0 & 0 & 0 \\
0 & +1/2 & \sqrt{3/2} & 0 \\
0 & -\sqrt{3/2} & +1/2 & 0 \\
0 & 0 & 0 & 1
\end{bmatrix}
\begin{bmatrix}
\sqrt{3} & 2\sqrt{3} \\
0 & +1/\sqrt{2} \\
0 & \sqrt{3/2} \\
1 & 4
\end{bmatrix}
= \begin{bmatrix}
\sqrt{3} & 2\sqrt{3} \\
0 & \sqrt{2} \\
0 & 0 \\
1 & 4
\end{bmatrix};
\]

Fix page: 108 line -3
file name is 'chex57', not 'chkx57'

Fix page: 110 line 21
Exercise 5.11: sign is wrong in expression for \(S_i\)

\[S_i = S_{i-1} + (iy_i - T_i)^2 / [i(i-1)]\]

\section*{6 Chapter 6}

Fix page: 122 line 23
missing \(r\) ...without forming the matrix \(A_k - rI\);

\section*{7 Chapter 7}

Fix page: 144 line 8
equation (7.3.9), error in subscript in expression for \(d_1\)

\[d_1 = 6(s_2 - z_1') / h_2\]

Fix page: 145 line 8
below equation (7.3.10), replace \(y\) with \(z\) in condition \(|z^{(4)}| \leq M\)

Fix page: 149 line 12
correct meaning of \textit{completeness} to read

Completeness of a set of orthonormal functions means that a function orthogonal to every member is a function with zero norm.

Fix page: 166 line 3
Exercise 7.9, correct display to read

\[\tilde{F}(y + \log m) = \exp(-e^{-y})\]

Fix page: 166 line 12
Exercise 7.15 should refer to Exercise 7.14

Fix page: 166 line 14
Exercise 7.16 should refer to Exercise 7.14
8 Chapter 8

Fix page: 173 line 1
last two Fibonacci numbers need correcting $F_9 = 55$ and $F_{10} = 89$

Fix page: 173 line -6,-7
errors beginning with 'next step' The next step finds $f(5) < f(6)$, and we finish at $k = 7$, finding $f(7) < f(6)$. The mode is $k = 6$.

Fix page: 185 line 13
delete $\eta$ . . . the relative change is $[(x + \eta x) - x]/x = \eta$.

Fix page: 188 line 18
correct function in Example 8.4 to read

$$f(x - ud) = f(\begin{pmatrix} 1 - 4u \\ 2 - 4u \end{pmatrix}) = 2(1 - 4u)^2 + (2 - 4u)^2$$

Fix page: 188 line 19
correct line after display in Example 8.4 to read which has a minimum at $u = 1/3$ (not $2/3$)

9 Chapter 9

Fix page: 222 line 1
wrong sign for step in (9.8.5)

$$\beta^{(j+1)} = \beta^{(j)} + (G^T G)^{-1} G^T (Y - g)$$

Fix page: 222 line 19
wrong sign for step in (9.8.6)

$$\beta^{(j+1)} = \beta^{(j)} + (G^T G + \lambda I_p)^{-1} G^T (Y - g)$$

Fix page: 223 line 15
wrong sign for step in (9.8.7)

$$\beta^{(j+1)} = \beta^{(j)} + (G^T G + T^j + \lambda I_p)^{-1} G^T (Y - g)$$

Fix page: 224 line 13
expression for $C_4$ is missing $\hat{\sigma}^2$

$$C_4 = \hat{\sigma}^2 (G^T G + T(\hat{\beta}))^{-1} \left[ \sum_{i=1}^{n} (y_i - g_i(\hat{\beta}))^2 G_i G_i^T \right] (G^T G + T(\hat{\beta}))^{-1}$$

Fix page: 232 line 3
missing 2 in expression variance of $n/S(\hat{\beta})$ in multiple regression is $2\gamma^2/n$ to terms ...
10 Chapter 10

Fix page: 243 line -9
delete second summation in (10.3.5)

\[ M_n(f) = h \sum_{i=1}^{n} f(a + (b-a) \frac{2i-1}{2n}) \]

Fix page: 252 line -8 and -7
missing parentheses and extra \( t_1 \) to read

\[ \ell_n(t) = n_1 \log [2t_1 t_2] + n_2 \log [t_1 (2 - t_1 - 2t_2)] + n_3 \log [t_2 (2 - t_2 - 2t_1)] + 2n_4 \log [1 - t_1 - t_2] \]

Fix page: 271 line – last third of page
** Most of these results depend on \( Y \) having a multivariate normal distribution, and some of these results are just plain wrong. *** Look for corrections in next edition.

Fix page: 275 line at bottom
Exercise 10.24 – depends of getting correct results on swindles

11 Chapter 11

Fix page: 293 line -14,-11
corrections needed in Algorithm D1 (gchirv) step (3) (b) should read

(b) If \( Z < 0 \) then \( r = r + Z^2 / [3(Z + \eta)] \)

step (5) – delete minus sign:

If \( 2 \log U < \log h_\eta(Z) \) then \ldots

Fix page: 293 line -5
wrong expression for \( \gamma \) to generate gamma(\( \alpha, \beta \)), call D1 with \( \gamma = 2\alpha 

Fix page: 297 line 6
correct expression for \( x \) the vector \( x = (\sqrt{k/Z})y \), where \( y \ldots 

12 Chapter 12

Fix page: 342 line 8
upper case \( R \)

\[ T_3(R) = w_0(R)G(0) + 2w_1(R)G(R)exp\{R^2/2\} \]

13 Acknowledgements

I would like to thank Dr. Karen E. Chiswell for her contributions to this list.