Errata for 4th Edition:
Numerical Methods Using MATLAB,
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Page 8 Line directly above Theorem 1.12 should read:

\[ S = \lim_{n \to \infty} S_n \ldots \]

Page 19 Line directly above Scientific Notation should read: \( S = 3/124 \).

Page 25 Second sentence of Example 1.15 (3a) should read: “Therefore \( \hat{x} \) approximates \( x \) to three significant digits.”

Page 26 Next to last sentence of Example 1.16 should read: “\( \ldots p = 0.544987104184 \) to six significant digits.”

Page 27 Sentence following formula (6) should read: “...is obtained by rounding the number \( d_kd_{k+1}d_{k+2} \) to the nearest integer.”

Page 33 Formula (17) should read: \( pq = (\hat{p} + \epsilon_p)(\hat{q} + \epsilon_q) \ldots \)

Page 34 Last line on page should read:

\[
= \left( \frac{4}{3^n} - \frac{3}{3^n} \right) A + \left( \frac{4}{3} - \frac{1}{3} \right) B \ldots
\]

Page 35 Fourth line should read:

\[
= \left( \frac{10}{3^n} - \frac{9}{3^n} \right) A + (10 - 1) 3^{n-2} B
\]

Page 48 The bottom of Case(i) and Case(ii) should read “Since \( |g'(x)| \geq \frac{3}{2} \ldots \) and “Since \( |g'(x)| \leq \frac{1}{2} \ldots \), respectively.

Page 62 The next to last sentence of Exercise 14 should read: “...is not equal to 1, 2, or 3 for any \( n \geq 0 \), then...”

Page 62 The next to last sentence in Exercise 15 should read: “If \( a_0 \) and \( b_0 \) are selected such that the zeros of \( f(x) \) lie in the interval \([a], b_0\) and \( c_n = \frac{(a_n+b_n)}{2} \) is not equal to any of the zeros of \( f(x) \) for any \( n \geq 0 \), then...”

Page 82 Last sentence of first paragraph should read: “Indeed, if we replace \( p_k \) by \( p_{k-1} \) in (28) then the right side becomes the same as the right side of (21) in Example 2.14.”

Page 82 Line below formula (29) should read: “... and the relation in (29) is valid only at simple roots.”

Page 93 Sentence after formula (17) should read: “... from among the old \{p_0, p_1, p_2\}...”

Page 104 Formula (21) should read: “\( 0 + X = X = X + 0 \)”

Page 107 Formula (41) should read: “\( 0 + A = A = A + 0 \)”
Page 136  Third line of (b) should read: “\([a, j] = max(abs(A(1:4,1)))\)”

Page 158  the first equations in formulas (5) and (6) should read:
\[ x = \frac{-15 + y + 5z}{2} \quad \text{and} \quad x_{k+1} = \frac{-15 + y_k + 5z_k}{2}, \]
respectively.

Page 168  The first equation in formula (3) should read: “\(x^2 - 2x - y + 0.5 = 0\)”

Page 190  Expression four lines below formula (5) should read:
\[ |E_{15}(1)| = \frac{|f^{(16)}(c)|}{16!} = \frac{e^c}{16!} < \frac{3}{16!} < 1.433844 \times 10^{-13} \]

Page 192  Line following formula (8) should read: “where \(M \geq \max\{|f^{(N+1)}(z)| : x_0 - R \leq z \leq x_0 + R\}\)”

Page 224  In Table 4.8, last entry of fifth column should read: “\(f[x_1, x_2, x_3, x_4]\)”

Page 269  Second row second column entry should read: “\(y = \frac{1}{C}(xy) + D\)”

Page 354  Second line above formula (3) should read: “\(\ldots, P_n^{(n+1)}(x) = (n+1)!a_{n+1} \text{ for } \ldots\)”

Page 420  Formula (20) should read:
\[ G = h(f'(p_1) - f'(p_0)) = 3\alpha(1 - 2\gamma) + 2\beta \]

Page 462  Caption for Figure 9.4 should read: “The slope field for the differential equation \(y' = f(t, y) = (t - y)/2\).”

Page 486  In Table 9.7 header for last column should read: “O\(h^4\) \(\approx Ch^4 \ldots\)”

Page 588  First line of Theorem 11.3 should read: “Let \(K_1, K_2, \ldots, K_m\) be vectors in \(\mathbb{R}^n\).”

Page 600  Third line below Table 11.1 should read: “The sequence of vectors converges to \(V = \left[\frac{2}{3} + 1\right]', and the \ldots\)”

Page 601  Last line on page should read:
\[ X_k = \frac{\lambda_k^k}{c_1c_2\cdots c_k} \left( b_1 V_1 + b_2 \left( \frac{\lambda_2}{\lambda_1} \right)^k V_2 + \cdots + b_n \left( \frac{\lambda_n}{\lambda_1} \right)^k V_n \right) \]

Page 647  Section 1.3 5(a) should read: “\(\ln((x+1)/2) \text{ or } \ln(1+1/x)\)”

Page 655  Section 4.1 8(c) should read: “\(\ldots \text{ the maximum of } \ldots\)”