Errata
An Introduction to Difference Equations
Third Edition, 2005
Saber Elaydi

IV: “An Introduction to Difference Equations/Saver” should read “An Introduction to Difference Equations/Saber”

p.18: Exercises 1.3, delete 5(b)

p.21: Eq. (1.4.3), replace \( h g [u, x(u)] \) with \( h g (n, x(n)) \).

p.21: ↓line 15 \( g (x^*) = 0 \) should be replaced by \( g (n, x^*) = 0 \) for all \( n \geq 0 \).

p.29: Theorem 1.15 ↑line 4, “The following statements then hold” should read “assume that \( f \in \mathbb{C}^3 \). Then the following statements hold”

p. 30: ↑lines 4 and 5, “Figures 1.20, 1.21, 1.22, 1.23” should read “Figures 1.20, 1.21”.

p. 31: ↑ line 6, “Problem 14” should read “Problem 14 (see Figures 1.22, 1.23).”

p.32: Theorem 1.16, line 2, “The following statements then hold” should read “Assume that \( f \in \mathbb{C}^3 \). Then the following statements hold”

p.34: ↑line 7 “(1.1.1)” should read “(1.5.1)”

p.34: ↑line 11 “(1.5.1)” should read “(1.5.4)”

p.38: Figure 1.28 ↓ line 2, “\( x(n = 2) \)” should read “\( x(n + 2) \).”

p.40: Exercise 1.6, problem 2, “Example 1.17” should read “Example 1.7”.

p.40: Exercise 1.6, problem 5, “\( x(n + 1) = 1 - x^2 \)” should read “\( x(n + 1) = 1 - x^2(n) \)”

p. 42: ↑ line 7, “\( g(0) = 2 \)” should read “\( \lim_{y \to 0} g(y) = 2 \)”

p.52: ↓ line 7 “\([a, c) (c, b)\)” should read “\([a, c), (c, b)\)”

p. 65: ↑ line 11, “\( y(6) = \cdots = -\frac{3}{2} \)” should read “\( y(6) = \cdots = -\frac{5}{2} \)”

p. 76: Lemma 2.22, line 1, “\( \binom{n}{2} \lambda^2 \frac{n-2}{2} \)” should read “\( \binom{n}{2} \lambda_i^{n-2} \)"
p. 76: ↑ line 1: “\(W(0) = \frac{1}{(2!3!\ldots(m_i-2))}\)” should read “\(W(0) = \frac{1}{2!3!\ldots(m_i-2)!}\)”

pp. 83, 85, 87, 89: Running title “undetmend” should read “undetermined”.

p. 96: ↓ line 3, “minimum” should read “maximum”.

p. 153: In Lemma 3.28
- line 1 ↓ “Let \(B\) be a \(k \times k\)” should read “Let \(C\) be a \(k \times k\)”
- line 2 ↓ “some \(k \times k\) matrix \(C\) such that \(c^m = B\)” should read “some \(k \times k\) matrix \(B\) such that \(B^m = C\)”
- ↓ line 4: “\(P^{-1}BP\)” should read “\(P^{-1}CP\)”
- ↓ line 5: “be the Jordan form of \(B\)” should read “be the Jordan form of \(C\)”

p. 154: ↑ line 3, “Define \(C = \ldots\). Then \(C^m = \ldots = \ldots = B\)” should read “Define \(B = \ldots\). Then \(B^m = \ldots = \ldots = C\)”

p. 162: ↓ line 1, “denoted” should read “given”.

p. 169: ↓ line 8, “lll0.2” should read “0.2”.

p. 174: ↑ line 1, [85] should read [68].

p. 204: ↑ line 15, delete “defend as”.

p. 204: ↑ line 1, “\(B x^*, r\)” should read “\(B (x^*, r)\)”.

p. 219: ↓ line 21, “The” should read “Then”.

p. 227: ↓ line 3, “\((S^*, \lambda)\)” should read “\((S^*, I)\)”.

p. 231: ↓ lines 8 and 10, “\(-2 \alpha x - \ldots\)” should read “\(-2 \alpha x + \ldots\)”.
p.236: In middle of the page after “The equilibrium points are solutions of…” remove * superscript of $P$ and $H$, so $P^*$ should read $P$ and $H^*$ should read $H$ until the end of Equation 7.7.23. After that keep the asterisk $*$. 

p. 236: ↑ line 3, “(4.7.19)” should read “(4.7.23)”. 

p. 238: ↓ line 4, “4.7.24” should read “4.7.28” and “4.7.25” should read “4.7.29”. 

p. 237: correct the graph 4.31
p. 297: ↑ line 15, “expendable” should read “extendable

p. 297: ↓ line 1, “6.16” should read “6.17”.

p. 297: ↓ line 3, “( )” should read “( )”.

p. 299: ↓ line 5, “(3.5.1)” should read “(6.3.1)”.

p. 303: ↓ line 5, “of y^5(0)” should read “of y(n)”.

p. 306: ↑ line 1, \( \frac{1}{2} \) should read \( \frac{1}{z} \)
p. 307: ↓ line 1, \(\frac{1}{2}\) should read \(\frac{1}{z}\)

p. 387: ↑ line 9, “Coffman [22] considers” should read “Coffman [22] considered”

p. 426: ↑ line 4, “(schäfli’s...)” should read (schlafli’s...)

p. 480: ↑ line 10, “\(f_i(0) = -1\)” should read “\(f_i(0) = 1\)”

p. 492: ↑ line 9, “(5.1.20)” should read “(5.1.18)”

p. 492: ↑ line 12, “(5.1.20)” should read “(5.1.18)”

p. 504: ↓ lines 3 and 5, \(P_\star\) should read \(p^\star\).

p. 505: ↑ line 8, “\((-1)^{n+1} (27)4^n\)” should read “\((-1)^{n+1} \times 36 \times 4^n\)”

p. 506: add the answer for problem 16 in Exercise 2.2

\[↓ \text{line 8, insert} \quad 16. \ (n + 1) \sum_{r=0}^{n-1} \frac{(-1)^r}{(r+2)!} \]

p. 507: Exercise 2.6

11. Replace by \(y(0) e^{c(2^n - 1)}\)

13. Replace by \(1 - \cot(c2^n)\)

p. 538: ↓ line 12, “schäfli’s...” should read “schlafli’s...”
An Introduction to Difference Equations
Elaydi, S.
2005, XXII, 540 p., Hardcover