

Errata for “Computational Physics” 2nd Edition by Giordano and Nakanishi

Where	Incorrect	Correct
p.23, in the caption for Fig.2.2	The drag coefficient was 0.5.	The drag coefficient was 1.
p.27, bottom 2 lines	$F_{drag,x} = -(B_2 / m) v v_{x,i}, F_{drag,y} = -(B_2 / m) v v_{y,i}$	$F_{drag,x} = -B_2 v v_{x,i}, F_{drag,y} = -B_2 v v_{y,i}$
p.45, 7 th line	$C \approx 1/2$	$C \approx 1$
p.45, lines 8 and 12	$7.0 / \nu$	$14.0 / \nu$
p.45, 12 th & last lines, p.46, line 2 in Ex.2.24	$C = 1/2$	$C = 1$
p.45, Eq.(2.34)	$F_{drag} = -C \rho A v^2$	$F_{drag} = -(1/2) C \rho A v^2$
p.48, just before Eq.(3.1)	The parallel forces add to zero since we assume that the string ... break,	The net parallel force provides the centripetal acceleration to keep the pendulum motion in a circular arc,
p.49, 4 th line from top	... the string	... the string and θ is measured in radians
p.58, line 3 of Example 3.3	$-(g/l) \sin \theta_i \dots$	$+[-(g/l) \sin \theta_i \dots$
p.98, last row of Table 4.1	$\sim 6.0 \times 10^{24}$	1.3×10^{22}
p.125, just below Eq.(4.25)	$I = m_1 r_1 ^2 + m_2 r_2 ^2$ is the moment of inertia	$I = m_1 d_1^2 + m_2 d_2^2$ is the moment of inertia and d_1 and d_2 are distances measured from the center of mass of the two particles to each particle
p.131, line 6 from top and paragraph 2 line 5	Fig. 12.47	Fig. 5.1
p.138, paragraph 3 line 2	Fig. 12.47	Fig. 5.1
p.157, Eq.(6.4)	ρ on the extreme right	μ
p.193, lines 3 and 10	Table 7.3	Table 7.1
p.196, in Eq.(7.20)	$\dots = \dots$	$\dots = D \dots$ (i.e., insert D to right of “=”)
p.220, within 4 th bullet of Example 7.4	Text in 2 nd tertiary (dot) bullet	This text should have appeared in a box.
p.221, just above Example 7.5	...the box in Example 7.8	...the box in Example 7.4
p.225, just after Example 7.6	in Example 7.3	in Example 7.2
p.229, 4 th line from bottom	consequence effect	consequence
p.265, just below Eq.(8.32)	$t \equiv 1 - zJ / k_B T = (T - T_C) / T_C$	$t \equiv 1 - zJ / k_B T \equiv (T - T_C) / T_C$
p.274, 3 rd line from bottom	1.8×10^{-12} s	2.2×10^{-12} s
p.280, in Eq.(9.9)	$v^2 / k_B T$	$v / k_B T$
p.296, in Eq.(9.17) (two places)	$1/(\Delta t)^2, \beta/(\Delta t)^2$	$(\Delta t)^2, \beta(\Delta t)^2$

p.311, 2 nd bullet in Example 10.1	$\psi_0 = \psi_{-1} = 0$	$\psi_0 = \psi_{-1} = 1$
p.317, in caption for Fig. 10.8	for $E = -1.969$ the derivatives match fairly well, so this is an acceptable approximation ...	for $E = -1.969$ the derivatives match better. The best match for this case is obtained for about $E = -1.890$; so that is an acceptable approximation ...
p.327, in 3 rd line	(10.17)	(10.18)
p.335, in Eq.(10.41)	$-(\Delta t)V(x)I(x, t + \Delta t / 2)$	$+(\Delta t)V(x)I(x, t + \Delta t / 2)$
p.339, in 3 rd sentence of caption for Fig. 10.17	... $x = I$ $x = I$ in the Crank-Nicholson method.
p.345, in Eq.(10.56), last line	... + $R(x, y + \Delta x, t) + \dots$... + $R(x, y + \Delta y, t) + \dots$
p.384, in 2 nd line of Eq.(11.31)	$p(i, n + 1) = p(i, n - 1) - \dots$	$p(i, n + 1) = p(i, n) - \dots$
p.440, in 2 nd line of Eq.(12.23)	$e^{-V/20}$	$e^{-V/80}$
p.460, in caption of Fig.A.2	$\Delta t = 1$ and $\tau = 0.5$	$\Delta t = 0.5$ and $\tau = 1$
p.472, 5 th line in B.2	$x_1 < x_2 < x_3$	$x_a < x_b < x_c$
p.472, 3 rd bullet in Example B.1	$g(x_0) \leq g(x_1)$	$g(x_0) \geq g(x_1)$
p.480, end of line 1 to beginning of line 2	sines of cosines	sines and cosines
p.484, line 8	can seen ... (C.3)	can be seen ... (C.6)
p.484, line 10	$m = 0, 2, \dots, 7$	$m = 0, 1, \dots, 7$
p.486, in footnote 7	(hertz) Hz	hertz (Hz)
p.488, line 2	Figure A2.4	Fig. C.4
p.490, in Eq.(C.13)	$d\tau$	dt
p.490, in Eq.(C.14)	$\int_{-\infty}^{\infty} \dots d\tau$	$\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \dots dt d\tau$
p.498, 2 nd line after Eq.(D.18)	(??)	(D.18)
p.502, in Eq.(E.9)	$\sum_{i=1}^{n-1} f(x_i) + \frac{1}{2}[f(a) + f(b)]$	$\sum_{i=1}^{n-1} f(x_i)\Delta x + \frac{1}{2}[f(a) + f(b)]\Delta x$
p.518, in Eq.(F.4)	$\exp[(y - y_c)^2 / \sigma^2]$	$\exp[-(y - y_c)^2 / \sigma^2]$
p.527, line 5	was also be	can also be
p.528, in Eq.(H.4)	$\dots + a_{1N}x_1 = b_1$	$\dots + a_{1N}x_N = b_1$
p.528, in Eq.(H.5)	$\dots + a_{2N}x_2 = b_2$	$\dots + a_{2N}x_N = b_2$
p.534, just after Eq.(H.27)	$\mathbf{A} \cdot \mathbf{x} = \mathbf{f}$	$\mathbf{A} \cdot \mathbf{x} = \mathbf{b}$
p.534, just after Eq.(H.30)	$\mathbf{E}^{(n)}$	\mathbf{E}^n