CORRECTIONS TO

Elementary Numerical Analysis

Page	Line	Change
11	Line 3 of Thm 1.2.1	... denote the remainder or error in ...
20	Problem 17	Define $f(x) = \int_0^x e^{-t^2} dt$.
289	formula (6.75)	$\|b_1\| > \|c_1\| > 0$ $\|b_j\| \geq \|a_j\| + \|c_j\|, \quad a_j, c_j \neq 0, \quad j = 2, 3, \ldots, n-1$ $\|b_n\| > \|a_n\| > 0$
305	Line $k = 4$ of Table 6.2	Change entry "5.06E−2" to "5.04E−2"
338	Line 1 of Example 7.2.5	Change "Figure 7.2.1" to "Figure 7.6"
344	Line $m = 2$ of Table 7.4	Change entry "−5.03E+0" to "−5.02E+0"
361	Line 4 of Section 7.3.3	Change "(7.54)" to "(7.61)"
375	Line -7	$\frac{\partial f(x,z)}{\partial z} = -2z$
375	Line -6	$g(t) = -2Y(t) = -\frac{2}{t+1}$
381	Line -5	Change "0.001873" to "0.008731"
382	Line -5	... factors of 1.93 and 1.87. The reader ...
385	Line 2 of Problem 1(e)	$Y(x) = (1 + \frac{1}{2}x^2)e^{-x}$
385	Problem 1(g)	$Y'(x) = (3x^2 + 1)\, Y(x)^2, \qquad 0 \leq x \leq 10, \quad Y(0) = -1;$ $Y(x) = -\left[x^3 + x + 1\right]^{-1}$
388	Line -18	... with the special case preceding ...
391	Line 5	Change "0.000818" to "0.000817"
392	Line $x = 1.0$ of Table 8.3	Change entry "9.80E−3" to "9.81E−3"
392	Line 2 of Example 8.3.4	... selected values of x. Note that ...
395	Line 1	Then, subtracting (8.45) from the equation for ...
399	Line 6	Change "accurary" to "accuracy"
409	Table 8.9	Change the *Euler Error* entry 2.83E−3 to 2.83E−2
422	Line 1 of Problem 13	... particle of mass m falling vertically ...
425	Line $x = 6$ of Table 8.17	Change entry "-0.67500371" to "0.68174279"
429	Line $x = 10$ of Table 8.20	Change entry "−1.25E−4" to "−1.275E−4"
429	Line 3 of Example 8.6.5	Change "Table 8.17" to "Table 8.20"
429	Line 5 of Example 8.6.5	Change "Table 8.17" to "Table 8.20"
432	Line 2 of Problem 4	... the first step y_1, use the Euler
439	Line 9 of Table 8.22	$6 \quad 1.92034 \quad 1.59\text{E}-2 \quad 7.69\text{E}-3 \quad 2.1 \quad 8.17\text{E}-3$
439	Line 11 of Table 8.22	$10 \quad -1.67814 \quad 1.26\text{E}-3 \quad 9.44\text{E}-4 \quad 1.3 \quad 3.11\text{E}-4$
444	Line 1	Change "(8.128)" to "(8.129)"
449	Problem 6	Change the first four lines as follows: Verify that any function of the form $Y(x) = c_1\sqrt{x} + c_2 x^4$ satisfies the equation $x^2 Y''(x) - \frac{7}{2} x Y'(x) + 2Y(x) = 0$ Determine the solution of the equation with the boundary conditions $Y(1) = 1, \qquad Y(4) = 2$

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454	Line 4	$\dfrac{\partial^2 u}{\partial y^2}(x_i, y_j) = \dfrac{u(x_i, y_{j+1}) - 2\,u(x_i, y_j) + u(x_i, y_{j-1})}{h_y^2} + O(h_y^2)$
457	Line -10	`n1 = n+1; h = 1/n;`
457	Line -9	`toln = (h^2)*tol;`
458	Line 6	`while ((rel_err>toln) & (itnum<=max_it))`
464	Line 1 of Problem 3	Change x^3 to x^4
464	Line 3 of Problem 3	$\dfrac{\partial^2 u}{\partial x^2} + \dfrac{\partial^2 u}{\partial y^2} = 2x\left(x^3 - 6xy + 6xy^2 - 1\right), \quad 0 < x, y < 1$
464	Line -6	$\cdots\ 0 < x < 1$
464	Line -5	$\cdots\ 0 < y < 1$
468	Line 2 of Section 9.2.2	... we need to choose a stepsize ...
476	Midpage	Change $\gamma g_2(t_{n_x+1})$ to $\gamma g_2(t_k)$
493	Line -1	Change "0.3777" to "0.3778"
495	Line -3	(a, b) and let $f(x)$ be continuous on $[a, b]$. Then ...
506	Top graph	Interchange the labels for $\sin^{-1}(x)$ and $\cos^{-1}(x)$ on the graph
511	Line -3	... In addition, one can use ...
529	Line 10 of Example E.4	$2x_6 = 1.0 \qquad x_7 = 0 \qquad a_6 = 1$
544	Line 8 (in problem 7)	$MD(A \to U) = \frac{1}{2} n\,(n+1) - 1$
546	Line $x = 2$ of table in 2(c)	Change "2.23E−2" to "2.23E−1"
546	Line -2	Use $K = 2 \max\limits_{0 \le x \le b} \lvert 4Y(x) \rvert = 4, \quad$ for $b \ge 1$.
548	Line $x = 6$ of first table	Change "2.70E−5" to "2.55E−5"
549	Problem 2(a)	Append at the second line: y_1 and y_2 obtained using the RK method of order 2 with $\gamma_2 = 1$.