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Errata

for:The Theory of Differential Equations: Classical and Qualitative, Pearson Prentice Hall, Upper Saddle River, N. J. (2004) (with Walter Kelley)

- Page 8, line 2-: Replace "Velhurst" by "Verhulst"
- Page 12, line 3-: Replace "f(\lambda,t)" by "f(\lambda,x)"
- Page 40, line 17: Replace "charcteristic" by "characteristic"
- Page 45, line 9-: The last row of this matrix should be 0 1 3
- Page 47, line 1: Replace "A^n\frac{t^n}{n!}" by "A^k\frac{t^k}{k!}"
- Page 49, line 1- and 7-: Replace "\mathbb{R}" by "I"
- Page 55, line 10: Replace "Ax_k" by "Ax_{k_j}"
- Page 55, line 1-: The lower limit of summation should be "1"
- Page 57: In part (iv) of Theorem 2.56 replace "\mu(A)+\mu(B)" by "\|A-B\|"
- Page 57, line 1-: Replace "I-hA" by "I+hA"
- Page 60, line 16-: Replace "maximum" by "traffic"
- Page 67, line 12-: Replace "asymptotically" by "globally asymptotically"
- Page 68, line 2-: Replace "a" by "a nontrivial"
- Page 76, line 5-: Replace "(g)" by "(vii)"
- Page 76, line 4-: Replace "(c)" by "(iii)"
- Page 78, line 14: These norms are the max norm, traffic norm, and Euclidean norm respectively.
- Page 78, line 18: These norms are the max norm and traffic norm respectively.
- Page 101, line 6-,7-, Omit the parenthetecal comment "(Alternatively we can use the fact that $ \theta'=-b=5$)"
- Page 103, line 12-: Replace "u\in U" by "x\in U"
- Page 111, line 10-: Replace "\lambda_1" by "\lambda_2"
- Page 125, line 5-: Replace "(3.5))" by "(3.5)"
- Page 127, line 17: Replace "is" by "is globally"
- Page 145, line 13: Replace "xf(x)>0" by "xf(x)<0"
- Page 147: Part (ii) of Exercise 3.25 is the same as part (i) of Exercise 3.24. Change part (ii) of Exercise 3.25 to the system $x'=-2x-3xy^4$, $y'=2x^4y-y$
- Page 190, line 8: Replace "x_1=" by "x_1:="
- Page 195, line 2: Replace "\mathbb{R}" by "I"
- Page 196, line 13: Don't indent.
- Page 226, line 15: There should be a "ds" under the first integral
- Page 243, line 23: The upper limit of integration should be $\frac{\pi}{2}\sqrt{\frac{m}{k}}$
- Page 261, line 16: Replace "quaranteed" by "guaranteed"
- Page 265, line 1: Replace "a" by "a homogeneous"

- Page 265, line 7: Replace "Q(tau)=q(t(tau))" by "Q(tau)=p(t(tau))q(t(tau))"
- Page 267, line 7: Replace "-" by "+"
- Page 267, line 15: Replace the "c" under the limit sign by "t"
- Page 267, line 18: Replace "nonoscillation" by "disconjugate"
- Page 268, line 7: Replace "x"-3x'+2x=0" by "x"-5x'+6x=0" since this exercise is the same as Example 5.60
- Page 268, line 15: Replace "solution of" by "solution of some IVP for"
- Page 270, line 6-: Replace "2t" by "2t^5"
- Page 271, line 6: Omit the "+3t^2"
- Page 275, line 10-: Replace "roll" by "row"
- Page 291, line 10: Replace "w[e^{-t},e^t]" by "w[e^t,e^{2t}]"
- Page 291, line 12: Replace "w[e^{-t},e^t,e^{2t}]" by "w[e^t,e^{2t},e^{-t}]"
- Page 295, line 4: Replace "an" by "a nonsingular"
- Page 295, line 14: Insert "Z(t)" right before the +
- Page 296, line 1-: Replace "u^{(k-j-1)}" by "u^{(k-j-1)}(t)"
- Page 297, line 10: Replace "n" by "2" in both places "u^{(k-j-1)}(t)"
- Page 299, line 10-: Replace "x(t)" by "y(t)"
- Page 303, line 5: Under the integral in three places replace "t" by the dummy variable "s"
- Page 306, line 7: Replace "$\sin t$" by "$\sin x$"
- Page 306, line 8: Replace "$\sin t$" by "$\sin x$"
- Page 306, line 9: Replace "$\cos t$" by "$\cos x$"
- Page 306, line 7-: Replace "1-t" by "t-1"
- Page 306, line 3-: Replace "sence" by "sense"
- Page 312, line 3-: Replace "v'(a)" by "v'(b)"
- Page 312, line 1-: Replace "A" by "B"
- Page 326, line 17: Replace "< t_0" by "\le t_0"
- Page 326, line 5-: Omit "dt" "\le t_0"
- Page 328, line 10: Replace "t_1" by "t_2"
- Page 331, line 16: Replace "such that" by "$,x\neq y,$ such that"
- Page 347, line 15-: Replace in two places "D" by "E"
- Page 350, line 3: Omit "$\frac{\alpha}{2^m}$"
- Page 350, line 4: Omit "$\frac{\alpha}{2^m}$"
- Page 351, line 12-: Replace "finite" by "countable"
- Page 352, line 15-: Replace "[17]" by "[18]"
- Page 357, line 3: Replace "m_k" by "m_{k-1}"
- Page 360, line 6: Replace "j>J" by "j\ge J"
- Page 363, line 18: Replace "dy_1\cdots dy_n" by "dy_n\cdots dy_1"
- Page 376, line 1: Replace "the" by "is the"
- Page 377, line 10: Replace first "(t,u(t;t_0,y_0,\lambda_0),\lambda_0)" by "(t,u(t;t_0,y_0,\lambda_0),\cdots,u^{n-1}(t;t_0,y_0,\lambda_0),\lambda_0)"
- Page 379, line 16: Replace "\omega" by "\omega_n"
- Page 386, line 7-: Replace "x^p" by "|x|^p"
- Page 394, line 8: Replace "$\pm\frac{4}{3\sqrt{2}}$" by "$\pm\frac{2}{3\sqrt{3}}$"

- Page 395: In Exercise 2.34 replace the last row of this matrix by -sin(t) cos(t)
- Page 396: In Exercise 2.57 replace $\mu_1=e^{\pi}, \mu_2=e^{-\pi}$ by $\mu_1=-e^{\pi}, \mu_2=-e^{-\pi}$
- Page 396: In Exercise 3.8 part (i) the answer should be: Since $\lambda_1=-3<\lambda_2=-2<0$ the origin is a stable node.
- Page 396: In Exercise 3.10 part (ii) the answer should be: Since $\lambda_1=-2<\lambda_2=-1<0 $ the origin is a stable node.
- Page 398: In Exercise 5.1 part (v) the answer should be: "((t+3)^2 x')'+\lambda x=0".
- Page 398: In Exercise 5.11 part (iii) the answer should be: "\frac{1}{5}t^2-\frac{1}{4}t^3+\frac {1}{20}t^7".
- Page 398, line 4- Replace "n^2(pi)^2" by "1+n^2(pi)^2". Also replace "\frac{1}{2}" by "\frac{1} {t}".
- Page 399, line 4 Replace "X" by "R".
- Page 399, In Exercise 5.40 part (iii) should have $z(t)=\frac{Ct^2-1}{Ct^2+1}$
- Page 400, line 8 Replace "x" by "\theta".
- Page 400, line 16 Replace "0\le t\le s\le 1" by "a\le t\le s\le b".
- Page 400, line 17 Replace "s" by "t" in lower limit of integration.
- Page 400, line 16 Replace "0\le s\le t\le 1" by "a\le s\le t\le b".
- Page 401, line 4 Correct answer is $y(t)=-frac{1}{3}t^3-t^2-2t-2+2e^t$
- Page 401, line 5 Correct answer is $y(t)=frac{1}{24}e^{3t}-\frac{1}{4}e^t -\frac{1}{8}e^{-t}+ \frac{1}{3}$
- Page 401, In the answer to 6.19 Part (iii) replace $\frac{1}{2}st^2-\frac{1}{6}t^2$ by $-\frac{1} {6}t^3$. Also replace $\frac{1}{2}ts^2 -\frac{1}{6}s^3$ by $-\frac{1}{2}t^2s+\frac{1}{2}ts^2- \frac{1}{6}s^3$. Also in two places replace $\frac{\pi}{2}$ by 1.
- Page 401, In the answer to 6.20 Part (iv) replace $\cos t$ by $\sin t$
- Page 402, In the answer to Exercise 8.7 replace $(-infty,\frac{1}{8})$ by $(-infty,\frac{3}{2})$
- Page 402, In the answer to Exercise 8.23 replace $-t^{\frac{1}{3}}$ by $t^{\frac{1}{3}}$
- Page 406, line 2- Replace "Velhurst" by "Verhulst"