ERRATA for T. Shifrin and M. Adams's *Linear Algebra: A Geometric Approach*, second edition

p. 85, **Example 2**. The matrix B should be

$$\begin{bmatrix} 4 & 1 & 0 & -2 \\ -1 & 1 & 5 & 1 \end{bmatrix}.$$

(Thanks to Katie at Duke for pointing out the error.)

p. 89, **Exercise 4**. In part c., the "$= A(B + B')$" should be removed at the end of the argument. (Thanks to Quinn Culver for pointing this out.)

p. 109, **Exercise 3**. In part b., the exponent should be an arbitrary positive integer k. (Thanks to Quinn Culver for pointing this out.)

p. 116, **Example 4**. In the first line, we should have "the first n rows" and then

$$E = \begin{bmatrix} 1 & \frac{1}{2} & 0 \\ 0 & -\frac{1}{2} & 0 \\ 0 & -\frac{1}{2} & 1 \end{bmatrix} \begin{bmatrix} 1 & 0 & 0 \\ -1 & 1 & 0 \\ -2 & 0 & 1 \end{bmatrix} = \begin{bmatrix} \frac{1}{2} & \frac{1}{2} & 0 \\ \frac{1}{2} & -\frac{1}{2} & 0 \\ -\frac{3}{2} & -\frac{1}{2} & 1 \end{bmatrix}.$$

(Thanks to Xiaoshen Li for pointing out these errors.)

p. 137, **footnote**. Sections 3 and 4.

p. 169, **Exercise 13**. Here we intend that U be an echelon form *of* A. (Thanks to Radu Grosu for pointing out the ambiguity.)

p. 170, **Exercise 25**. The last line should refer to Exercise 4.4.24.

p. 211, **Example 5**. Delete the last sentence. (Thanks to Mark Faucette for pointing out the discrepancy.)

p. 227, **line 3** of Proof of Proposition 4.1. $\mathbf{v} = T^{-1}(T(\mathbf{v})) = T^{-1}(\mathbf{0}) = \mathbf{0}$.

p. 235 , **Exercise 7c**. $V \neq \{0\}$.

p. 283, **lines 3 and 4**. $=$ rather than $\leq$ (not that it matters) and $a_{i\ell}^{(k+1)} = a_{ir}^{(k)} a_{r\ell} + \sum_{q \neq r} a_{iq}^{(k)} a_{q\ell}$, respectively. (Thanks to Radu Grosu.)

p. 308, **line 10**. $\mathbb{C}^3$, not $\mathbb{R}^3$. (Thanks again to Quinn Culver.)

Solutions Manual, pp. 35–36, **1.5.9**. The Solutions Manual addresses the wrong matrix. The matrix is singular when $\alpha = \pm 1, 2$. For $\alpha = -1$, for $A\mathbf{x} = \mathbf{b}$ to be consistent we must have $3b_1 + 2b_2 + b_3 = 0$; for $\alpha = 2$, we must have $b_2 - b_3 = 0$.

Solutions Manual, p. 37, **1.5.15**. Thus, there is at least one free variable in the general solution of $A\mathbf{x} = \mathbf{0}$, and so $r < n$. (Thanks to Emma Previato for pointing out the error.)

Solutions Manual, pp. 59, **2.3.7**. Our given examples violate the terms of the exercise. For a, let $A = \begin{bmatrix} 1 \\ 0 \end{bmatrix}$; then $B = \begin{bmatrix} 1 & 5 \end{bmatrix}$ is a left inverse, but there can be no right inverse because $A\mathbf{x} = \begin{bmatrix} 0 \\ 1 \end{bmatrix}$ has no solution. For b, take $A = \begin{bmatrix} 1 & 0 \end{bmatrix}$; then $B = \begin{bmatrix} 1 \\ 5 \end{bmatrix}$ is a right inverse, but there can be no left inverse because $A\mathbf{x} = \mathbf{0}$ has infinitely many solutions. (Thanks to Emma Previato for pointing out the error.)

Solutions Manual, pp. 59, **2.3.10b**. We need the first row of $(A - I)^{-1}$, which is $\begin{bmatrix} 0 & 0 & 1 \end{bmatrix}$, and the correct answer is 232.

Solutions Manual, p. 177, **6.2.4**. The entries above the diagonal should clearly be $1, 2, \ldots, k-1$. (Thanks to Emma Previato for pointing out the error.)

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