Errata "Multivariate statistics: Exercises & Solutions"

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page 34, Exercise 2.5 (missing assumption):

Suppose that a is a $(p \times 1)$ vector and that $\mathcal{A}$ is a $(p \times p)$ symmetric matrix and prove that $\frac{\partial a^\top x}{\partial x} = a$, $\frac{\partial x^\top \mathcal{A} x}{\partial x} = 2\mathcal{A}x$, and $\frac{\partial^2 x^\top A x}{\partial x \partial x^\top} = \frac{\partial 2\mathcal{A}x}{\partial x} = 2\mathcal{A}$.

page 49, first unnumbered equation (three extra parentheses):

$$\begin{aligned} \mathcal{S}_{\mathcal{X}_*} &= \operatorname{Var}(\mathcal{H}\mathcal{X}\mathcal{D}^{-1/2}) \\ &= \operatorname{Var}(\mathcal{I}_n\mathcal{X}\mathcal{D}^{-1/2}) + \operatorname{Var}(n^{-1}1_n 1_n^\top)\mathcal{X}\mathcal{D}^{-1/2} \\ &= \mathcal{D}^{-1/2}\operatorname{Var}(\mathcal{X})\mathcal{D}^{-1/2} \\ &= \mathcal{D}^{-1/2}\mathcal{S}_{\mathcal{X}}\mathcal{D}^{-1/2} \\ &= \mathcal{R}_{\mathcal{X}}. \end{aligned}$$

page 110, first unnumbered equation (wrong order of multiplication):

$$\begin{aligned} \frac{\partial}{\partial\theta}E(t^\top) &= \frac{\partial}{\partial\theta}\int t^\top(\mathcal{X};\theta)L(\mathcal{X};\theta)d\mathcal{X} \\ &= \int\left(\frac{\partial}{\partial\theta}t^\top(\mathcal{X};\theta)L(\mathcal{X};\theta)\right)d\mathcal{X} \\ &= \int\left(L(\mathcal{X};\theta)\frac{\partial t^\top}{\partial\theta} + \frac{\partial}{\partial\theta}L(\mathcal{X};\theta)t^\top\right)d\mathcal{X} \\ &= \int L(\mathcal{X};\theta)\frac{\partial t^\top}{\partial\theta}d\mathcal{X} + \int L(\mathcal{X};\theta)s(\mathcal{X};\theta)t^\top d\mathcal{X} \\ &= \mathrm{E}\left(\frac{\partial t^\top(\mathcal{X};\theta)}{\partial\theta}\right) + \mathrm{E}(s(\mathcal{X};\theta)t^\top(\mathcal{X};\theta)) \end{aligned}$$

page 114, exercise 7.3 (extra superscript in denominator):

$$f(x_1,x_2) = \frac{1}{\theta_1^2\theta_2 x_2}e^{-\left(\frac{x_1}{\theta_1 x_2}+\frac{x_2}{\theta_1\theta_2}\right)}, \quad \text{for } x_1, x_2 > 0.$$

page 121, exercise 7.9, line -6, typing error in formula:

$\operatorname{abs}(\rho) > \sqrt{3 - 5/5.99}$