# Corrections for: Introduction to Statistics and Data Analysis

**With Exercises, Solutions and Applications in R**

Version: March 15, 2018

## Chapter 3

- p.52, Example 3.2.4, median absolute deviation: $\frac{1}{10}$ missing after second '=' sign:

$$\begin{aligned} D(\tilde{x}_{0.5,C}) &= \frac{1}{10}\sum_{i=1}^{n}|x_i - \tilde{x}_{0.5}| = \frac{1}{10}|0-0| + ... + |0-0| = 0 \\ D(\tilde{x}_{0.5,A}) &= \frac{1}{10}\sum_{i=1}^{n}|x_i - \tilde{x}_{0.5}| = \frac{1}{10}|-10-0| + ... + |10-0| = 10 \\ D(\tilde{x}_{0.5,S}) &= \frac{1}{10}\sum_{i=1}^{n}|x_i - \tilde{x}_{0.5}| = \frac{1}{10}|3-5| + ... + |7-5| = 1.4 \end{aligned}$$

- p.54, Example 3.2.5, it should read:

  In the above example, the variance within the classes is 3 times lower than the total variance which is a serious underestimation.

- page 54, after equation (3.30):

  It follows that $\bar{y} = \frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})/\tilde{s}_x = 0$ and $\tilde{s}_y^2 = \frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^2/\tilde{s}_x^2 = 1$.

## Chapter 4

- page 72, row 7, equation: one of the pluses is unnecessary:

$$\begin{aligned} n &= \sum_{i=1}^{k} n_{i+} = 62 + 25 + 13 = \sum_{j=1}^{l} n_{+j} = 10 + 36 + 40 + 14 \\ &= \sum_{i=1}^{k}\sum_{j=1}^{l} n_{ij} = 10 + 33 + 15 + 4 + 3 + 20 + 2 + 5 + 8 = 100 \end{aligned}$$

- page 87, row 5 from the bottom: that should be $\gamma$, not $K$:

  It follows that $\gamma = (663 - 760)/(663 + 760) \approx -0.07$ which indicates no clear relationship between the two variables.

## Chapter 7

- page 148, row 3: should be 'dx' instead of 'dy' in second row of equation

$$\begin{aligned} E(XY) &= \int_{-\infty}^{\infty}\int_{-\infty}^{\infty} xyf(x,y)dx\,dy = \int_0^{60}\int_0^{20} xy\frac{1}{1200}dx\,dy \\ &= \int_0^{60}\left[\frac{x}{1200}\frac{y^2}{2}\right]_0^{20} dx = \int_0^{60}\frac{400x}{2400}dx = \left[\frac{1}{6}\frac{x^2}{2}\right]_0^{60} = \frac{3600}{12} = 300\,. \end{aligned}$$

## Chapter 8

- page 163, last row, should read as:

  Consider an urn from which we draw $n$ balls [...]

## Chapter 10

- page 225, under equation (10.9), should be

  The sample mean is $\bar{D} = \sum_{i=1}^{n} D_i/n$ [...]

- page 226, third row from the top should have brackets for '$n-1$':

$$s_d^2 = \sum_{i=1}^{n}(d_i - \bar{d})^2/(n-1)$$

## Appendix B

- p. 361, Exercise 6.1 (a), third bullet point. The correct solution is:

$$A \cap C = \{0\}$$