

# 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:

$$D(\tilde{x}_{0.5,C}) = \frac{1}{10} \sum_{i=1}^n |x_i - \tilde{x}_{0.5}| = \frac{1}{10} |0 - 0| + \dots + |0 - 0| = 0$$

$$D(\tilde{x}_{0.5,A}) = \frac{1}{10} \sum_{i=1}^n |x_i - \tilde{x}_{0.5}| = \frac{1}{10} |-10 - 0| + \dots + |10 - 0| = 10$$

$$D(\tilde{x}_{0.5,S}) = \frac{1}{10} \sum_{i=1}^n |x_i - \tilde{x}_{0.5}| = \frac{1}{10} |3 - 5| + \dots + |7 - 5| = 1.4$$

- 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:

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