

# Errata

## A Modern Introduction to Probability and Statistics First printing

*2 september 2006*

### In the main text

- p.336 Solution to Quick Exercise 22.2. “Rewriting  $\hat{\alpha} = \bar{y}_n - \hat{\beta}$ ,” should read “Rewriting equation (22.2):  $\hat{\alpha} = \bar{y}_n - \hat{\beta}\bar{x}_n$ ”.
- p.366  $h^{-1}$  en  $g^{-1}$  should be  $h^{\text{inv}}$  en  $g^{\text{inv}}$ .
- p.393 Third line of this page:  $\theta_0 \neq \theta_0$  should be  $\theta \neq \theta_0$ .
- p.402 In Quick Exercise 27.2: “at level  $\alpha = 0.05$ ”.
- p.405 Replace “annual mortality rate (percentage of deaths)” by “annual mortality rate (number of deaths per 100 000)”.

### In the figures

- p.237 in Figure 16.4 left hand side the  $y$ -axis should be expressed in seconds—as the right hand side.
- p.264 In the caption of Figure 17.12 “and empirical distribution function” is added.
- p.330 In Figure 22.1: instead of “The regression line  $y = \alpha x = \beta$ .” the text labeling the regression line should read “The regression line  $y = \alpha + \beta x$ .”
- p.406 Replace “mortality rate (%)” by “mortality rate” in Figure 27.3. Also: multiply the numbers on the vertical axis by 1 000.

## In the exercises

p.39  $\square$  symbol has been added in Exercises 3.14 and 3.16.

p.39 Exercise 3.16**b** is not complete. Addendum:

The “unconscious” way to do this is to replace  $P(D)$  by the answer you found in **a** and then perform the calculation from part **a** again. If you do it the *conscientious* way, you try to compute  $P(D | S \cap T)$ , where  $S$  is the event “the second test says you have the disease”. You will find that you need the independence assumption  $P(S \cap T | D) = P(S | D)P(T | D)$  and a similar one for  $D^c$ .

p.52 In Exercise 4.4: add ”(once!)” to “each coin is tossed again”.

p.113 Exercise 8.16 is pointing to a non-existing exercise in Chapter 11. Action: remove the ‘Remark’.

p.113 Add in Exercise 8.17: ‘continuous’ (it points to Exercise 8.9).

p.144 Exercise 10.1 has been replaced by a completely new exercise. Although not wrong, the old exercise was somewhat peculiar since it was taking expectations of hair colors.

p.146 For the sake of uniformity: exchange  $a$  en  $b$  in Exercise 10.7 en change  $p_X(a)$  en  $p_Y(b)$  into  $P(X = a)$  and  $P(Y = b)$ .

p.203 Exercise 14.1 is not wrong, but its solution is 1, which is confusing for certain students. The question now is  $P(X_1 + \dots + X_{144} > 264)$ ; the answer is then  $1 - \Phi(-1)$ .

p.241 In Exercise 16.4, it is better to give the sample mean as 492/11 instead of 44.7). Similarly write  $\sqrt{482/11}$  for the standard deviation for the Wick data in Exercise 16.5.

p.281 Since Exercise 18.6**a** is the same as Exercise 5.11 this has been set in the text.

p.371 Exercise 24.9: “ $\leq c_u$ ” should be “ $\geq c_u$ ”.

p.428 In Exercise 28.6 **d** en **e**  $S_p^2$  should be changed to  $S_d^2$ .

### In the answers and full solutions

- p.445 The full solution answer to Exercise 2.14**b** is not correct: “candidate wins the car” is the event  $\{(a, b), (a, c)\}$ .
- p.435 Answer to Exercise 4.1**c**:  $25/36$  instead of  $253/36$ .
- p.450 In the Full solution of Exercise 6.12 replace “We sell the our shares” by “We sell our shares”.
- p.450 In the Full solution of Exercise 7.15**a** a “)” and “2” a should be interchanged.
- p.452 Full solution to Exercise 9.9**c** is not correct: A factor 2 is missing in the second integral.
- p.438 Answer van Exercise 11.1**a** is not correct: for  $k$  between 7 and 12 the summation runs over  $\ell = k - 6, \dots, 6$ . Also: in the answer of Exercise 11.1**b** the last  $2N$  should be  $N$ .
- p.457 Remove the **e** following Exercise 12.1. Also: replace 1,2,3,4,5 by a,b,c,d,e.
- p.458 Full solution to Exercise 13.4**c**: change “size 0.2 or” ... “or” to “size 0.2 or larger occurs”
- p.439 The answer to Exercise 13.8**a**: change “where  $\bar{Y}_n$  as in” to “with  $\bar{Y}_n$  as in”; also change “the standard deviation” in **a** to “variance.”
- p.439 Answer to Exercise 13.8**b**: change 801 in to 799.
- p.439 Answer to Exercise 14.6**a**:  $P(X < 26) \approx 0.5910$ .
- p.463 In the full solution to Exercise 18.8**a**: replace “ $\bar{x}_n$  is” by “ $\bar{x}_n^*$  is”.
- p.464 In the full solution to both 18.8**b** and 18.8**c**: replace “ $\bar{x}_n$  is” by “ $\bar{x}_n^*$  is”.
- p.464 In the full solution of Exercise 19.1**b**:  $g''(x) = x^{-3/2}/4$ .
- p.466 In the full solution of Exercise 21.8**b**:  
the equation should be  $3839\theta^2 + 1655\theta - 64 = 0$ .
- p.443 In the answer of Exercise 26.6**b** the critical region consists of integers:  $\{1536, 1537, \dots\}$ .



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