

Probability and information guide and errata

Introduction

This file and the solutions manual are plain LaTeX files; the macros you need to run them are simply macros.sty and epsf.sty.

If you have any comments, corrections or requests for further information please contact David Tranah at Cambridge University Press, email dtranah@cup.cam.ac.uk.

We hope you enjoy using *Probability and Information* by David Applebaum.

Errata

Page 43, 12 lines up: ‘conditional probability of B given A’ should be replaced by ‘conditional probability of A given B’.

Page 47: Bayes’ theorem as stated and proved in theorem 4.3(a) is incorrect but it becomes correct when $P(A)$ and $P(B)$ are interchanged on the right hand sides of the relevant formulae. A similar remark applies to theorem 4.3(b).

Page 78. Line 3. Change $(X = k)$ to $(X + Y = k)$.

Page 83, 9 lines down. The range should be $\mathbb{N} \cup \{0\}$. Both the sums that appear in the next three lines should start at $r = 0$ and not $r = 1$.

Page 94, 13 lines up: should read ‘ $I(E) = +\infty$.’

Page 99. Change n to m in (6.6). In line above change $H_j(X)$ to $H_j(Y)$.

Page 116, 4 lines down: should read ‘Exercise 7.2’.

Page 116, 9 lines up: should read ‘The number $n \dots$ ’.

Page 117, 8 lines up: should read ‘CAT’.

Page 121, 10 Change r^{l_j} to r^{-l_j} .

Page 121, last line: should read

$$r^{-l_j} \leq p_j < r^{-l_j+1}$$

Page 122, 8 lines up: should read

$$r^{-l_j} \leq p_j < r^{-l_j+1}$$

Page 123, 8 lines down: should read ‘011, 110, 00, 01011, 1111 and 0100’.

Page 153: In equation 8.19, on the right hand side instead of $\frac{1}{2}\sigma^2t$ it should read $\frac{1}{2}\sigma^2t^2$

Page 161: There are two errors with exercises 8.8.

The solution to (i) given on page 205 for the mean should read $\frac{1}{2}(b+a)$;

The statement of (ii) is wrong – on the right hand side $(b-a)^n$ should be deleted and replaced by $b^n + ab^{n-1} + a^2b^{n-2} + \dots + a^{n-1}b + a^n$

Page 175 two lines up $F_Y(x)$ should be $F_Y(y)$.

Page 176 three lines below figure $f_Y(x)$ should be $f_Y(y)$.

Page 178 two lines from bottom $h_2(x)$ should be $h_2(y)$.

Page 181, 12 lines up: the formula for the mean of Y_x is incorrect and it should read $\nu = \mu_2 + \frac{\sigma_2}{\sigma_1}\rho(x - \mu_1)$. An appropriate correction should also be made to the previous line.

Page 184 $dx dy$ is missing in the integral on the rhs of (9.21).

Page 184 18 lines from bottom. Change f_Y to f_{Y_x} .

Page 188. In Problem 9.14 replace \mathbb{N} with $\mathbb{N} \cup \{0\}$.