

Errata II: Second Printing of Mitzenmacher/Upfal Probability and Computing

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The following errors were found after the posting the first errata, and after the second printing of the book:

- Page 10, line -5: replace “are mutually disjoint sets such that” with “are mutually disjoint events in the sample space Ω such that”, and replace “= E ” with “= Ω ”.
- Page 12, the equation in line 3, last part: change “ 2^i ” to “ 2^{i+1} ”. In line 5, change “ 2^{100} ” to “ 2^{101} ”
- Page 12, line 3, change “ $2/n(n-1)$ ” to “ $2/(n(n-1))$ ”.
- Page 21, line 15, change

$$\Pr\left(\bigcap_{i \in I} X_i = x_i\right).$$

to

$$\Pr\left(\bigcap_{i \in I} (X_i = x_i)\right).$$

- Page 36, Replace “There is a also” with “There is also”.
- Page 38, Exercise 2.3: Replace “ \leq ” with “ $<$ ” and “ \geq ” with “ $>$ ”.
- Page 60, Exercise 3.23: change the second sentence to “Bound the error probability and the running time of the resulting algorithm.”

- Page 64, line -8: change “ $\Pr(X_i) = p_i$ ” to “ $\Pr(X_i = 1) = p_i$ ”.
- Page 64, line -5: change “ $<$ ” to “ \leq ”.
- Page 66, line 2: change “ $\Pr(X_i) = p_i$ ” to “ $\Pr(X_i = 1) = p_i$ ”.
- Page 67, line 1: change “ $\Pr(X_i) = p_i$ ” to “ $\Pr(X_i = 1) = p_i$ ”.
- Page 73, line -10: change “ $2nN$ ” to “ nN ”.
- Page 86: Exercise 4.16: change “ $\Pr(X_i) = p_i$ ” to “ $\Pr(X_i = 1) = p_i$ ”, and add the condition: “ $|a_i| \leq 1$ for $1 \leq i \leq n$ ”.
- Page 95, line 2-3: change “ X_j ” to “ X_i ”, “ j th bin” to “ i th bin” and “ $E[X_j]$ ” to “ $E[X_i]$ ”.
- Page 108, line -9: the phrase “if we use b bits for the fingerprint” should appear at the end of the prior sentence.
- Page 109, Figure. To match the text, in the figure replace x_1 and x_2 by s_1 and s_2 , and replace y by x .
- Page 129, line 1: change “at least \$3” to “\$3”.
- Page 133, Theorem 6.5: Change “be a graph” to “be a connected graph”.
- Page 184, Exercise 7.19: change “until they” to “until she”.
- Page 190, line 4: change “ $[x, x + dx]$ ” to “ $(x, x + dx]$ ”.
- Page 190, line 9: change “ $\Pr(a \leq x < b)$ ” to “ $\Pr(a < x \leq b)$ ”.
- Page 197, Figure 8.4 (a) and (b): change the indeterminate term in the density function and the distribution function from “ t ” to “ x ”.
- Page 232, line 16: change “most likely be” to “most likely to be”.
- Page 274: Definition 11.2: change “of a Markov chain” to “of an ergodic Markov chain”.
- Page 278, line -13: In the equation, replace “ $\ln(k/\epsilon^{-1})$ ” should be “ $\ln(k\epsilon^{-1})$ ”.

- Page 284, line -2: change “ $A(t)$ ” to “ A_t ”.
- Page 290 , Exercise 11.3: change “for shuffling cards” to “for shuffling n cards”.
- Page 299, line 12: change “ $X_0, X_2,$ ” to “ $X_0, X_1,$ ”.
- Page 315, line 7, change

$$\Pr \left(\bigcap_{i \in I} X_i = x_i \right).$$

to

$$\Pr \left(\bigcap_{i \in I} (X_i = x_i) \right).$$

- Page 321: caption of section 13.3: change to “Universal Families of Hash Functions”.
- Page 323, line 14: change “ $0 \leq b \leq p$ ” to “ $0 \leq b \leq p - 1$ ”.
- Page 326, line -9 and line -3: change “=” to “ \leq ”.
- Page 335, Exercise 13.12: change “ $0 \leq b \leq p$ ” to “ $0 \leq b \leq p - 1$ ”.
- Page 336, line -8: change “the reduction” to “for any constant d the reduction”.
- Page 342: line - 15: change “ $R = (n$ ” to “ $R = [(n$ ”.