ERRATA for Third Edition Discrete Structures, Logic, and Computability

(1/12/2011) Page 268 line 2: Change "...which means that x and y are products of primes." to "...which means that each of x and y is either a prime or a product of primes."

(7/21/2009) Page 296 line 8 (second line in the box): Insert a space so that "where A_k "." becomes "where A_k ".

(3/29/2011) Page 339 lines 5 to 7: Change the four decimal numbers 0.6, 0.4, 0.3, 0.7 to 0.9, 0.1, 0.4, 0.6, respectively. In other words, change

"0 to 1 is 0.6, so the probability of moving from 0 to 0 is 0.4. We'll assume that the probability of moving from 1 to 1 is 0.3, so the probability of moving from 1 to 0 is 0.7."

to

"0 to 1 is 0.9, so the probability of moving from 0 to 0 is 0.1. We'll assume that the probability of moving from 1 to 1 is 0.4, so the probability of moving from 1 to 0 is 0.6."

(7/22/2009) Page 349 Exercise 13b: Insert space so that "that P^{2} " becomes "that P^{2} ".

(7/25/2009) Page 373 in Box (5.50): In Part (a) close up the space so that " $\Theta(f(n))$ " becomes " $\Theta(f(n))$ ".

(7/25/2009) Page 373 in Box (5.50): In Part (c) insert a space so that "= $\Theta(g(n))$ " becomes

"= $\Theta(g(n))$ ".

(7/21/2009) Page 377 in Box: Change "... f is little oh of g." to "... f(n) is little oh of g(n)."

(11/3/2009) Page 389 line 1: Change " $\alpha = \log_b^a$ " to " $\alpha = \log_b a$ ".

(7/20/2009) Page 390 Exercise 12: Change "(5.65)" to "(5.66)".

(7/21/2009) Page 390 Exercise 13: Change "(5.65)" to "(5.66)".

(7/28/2009) Page 422 in Box (6.7): Change "Conjuction" to "Conjunction".

(6/12/2011) Page 422 lines -6 to -7: Replace

"(i.e., DN and the extra rules in DS and Add)"

with

"(i.e., both DN rules and either one of the DS rules)"

(3/29/2011) Page 425 lines -1 to -4: Change the following four lines

4.	В	2, 3, DS
5.	С	4, 5, MP
6.	$B \wedge C$	5, 6, Conj
	QED	1–7, CP.
4.	В	1, 2, DS
4. 5.	B C	1, 2, DS 3, 4, MP
4. 5. 6.	$B \\ C \\ B \land C$	1, 2, DS 3, 4, MP 4, 5, Conj

(3/29/2011) Page 426 in Example 6.11: Change

	4.	Α	2, Simp
to			
	4.	Α	3, Simp

(7/22/2009) Page 427 line -19: Insert a space so that "Cthat" becomes "C that".

(6/12/2011) Page 432 lines 3 to 4: Replace

"(i.e., DN and the additional rules in DS and Add)"

with

to

"(i.e., both DN rules and either one of the DS rules)"

(6/12/2011) Page 432 lines 5 to 6: Delete the two occurrences of "three" so that the sentence becomes,

"The next examples show how to derive these rules."

(6/12/2011) Page 433 Example 6.21: Delete the entire example. In other words, delete all the lines of this example.

(8/10/2009) Page 440 Example 6.30: Change the first proof that starts on the third line of the page. The original text is the following:

1.	$\neg (A \lor B)$	Р
2.	A	P [for $\neg A$]
3.	$A \lor B$	2, Add
4.	False	1, 3, Contr
5.	$\neg A$	2–4, IP
6.	В	P [for $\neg B$]
7.	$A \lor B$	6, Add
8.	False	1, 7, Contr
9.	$\neg B$	6–8, IP
10.	$\neg A \land \neg B$	5, 9, Conj
	QED	1, 5, 9, 10, CP

Change the preceding original text to the following:

1.	$\neg (A \lor B)$	Р
2.	$\neg \neg A$	P [for $\neg A$]
3.	Α	2, DN
4.	$A \lor B$	3, Add
5.	False	1, 4, Contr
6.	$\neg A$	2–5, IP
7.	$\neg \neg B$	P [for $\neg B$]
8.	В	7, DN
9.	$A \lor B$	8, Add
10.	False	1, 9, Contr
11.	$\neg B$	7–10, IP
12.	$\neg A \land \neg B$	6, 11, Conj
	QED	1, 6, 11, 12, CP

(7/22/2009) Page 452 Exercise 4: Change "prove subsequent" to "prove a subsequent".

(3/29/2011) Page 467 in the box labeled "Truth Value of a Wff":

Replace the line numbered 1 with two new lines numbered 1 and 2 as shown below. Then replace the old line numbers 2 and 3 with the numbers 3 and 4, respectively. The result should be the following four lines:

- 1. An atom has the truth value of the proposition obtained from its interpretation.
- **2.** Truth values for $\neg U$, $U \land V$, $U \lor V$, $U \rightarrow V$ are obtained by applying truth tables for \neg , \land , \lor , \rightarrow to the truth values for U and V.
- **3.** $\forall x W$ is true if and only if W(x/d) is true for every $d \in D$.
- **4.** $\exists x W$ is true for if and only if W(x/d) is true for some $d \in D$.

(7/25/2009) Page 792 Line 5 (the subheading): Change "LR(*k*) *Grammars*" to "LR(*k*) Grammars".

(7/23/2009) Page 858 line 8 (the subheading): Change "Decidability" to "Deterministic Context-Free Languages".

(9/5/2010) Page 889 line 2 of answer to Exercise 14b (the rightmost of the two graphs on that line): Replace the rightmost graph (which is identical to the leftmost graph) with the following different graph:



(9/5/2010) Page 919 line –10 (in the third line of answer to Exercise10c): Replace the first expression "(True $\lor \neg B$)" with "(True $\lor B$)".

(7/23/2009) Page 939 line 3 (also the line numbered with 3 in the answer to Exercise 10): There is a missing "y" after the second occurrence of " \forall ". In other words, the expression should look like,

$$\neg \forall x \forall y (q(x, y) \rightarrow \neg s(y))$$

(8/12/2009) Page 998 Index (column 2): Insert the new index entry "Discharged premise, 424" as a new second line of the column. If this causes paging reflow to occur, you can delete the entry "divisible, 6" in the same column.

(6/12/2011) Page 1007 Index (column 1): Change "Resolvant" to "Resolvent". Also make the changes for the occurrences that appear in Chapter 9 and Section 14.3.

(7/23/2009) Page 1008 Index (column 1): Change the page number for the "Structural induction" entry from 286 to 268.