Errata for DAM 1/e and 2/e

July 16, 2002

Notes:

1. This list is in three parts: Errors in the text itself, errors in the problem sets at the end of each section and errors in the Hints and Answers on pages A7 to A40.
2. entry1 → entry2 means replace entry1 by entry2.
3. L means Line and a − after L means to count from the bottom of the page. Displays are usually (but not always) counted as one line. In problems the counting is from the top or bottom of the problem or problem part.
4. [...] designates a problem number.
5. Page numbers in boldface refer to errors which have been corrected in the second edition; in the Hints and Answers boldface for problem numbers and elsewhere refers to errors which have been corrected in the second edition.
6. Lengthy corrections (really, rewritings for the next edition) are not included here.

Errors in Text (but Excluding Problem Sets and Hints and Answers)

Inside front cover, L−11: 193 → 192

v, L10: me → we
vi, L−4: to → do
xiv, L−8: Different → Difference
xvi, L7: Function → Functions
xix, L−4: 207 → 201

Chapter 0

9 L11: numbers → number
9 L14–15: nonnegative numbers → nonnegative numbers or natural numbers
9 L 22: the natural or counting numbers → alas, sometimes also called the natural numbers
25 L−3: positive → nonnegative
28 L17: nonzero → positive
51, Fig. 0.12, L−1: r = i → r = 1
53, L16: Delete ‘English’

Chapter 1

81 L10: Chapter 0 → the Prologue
90 L−2: after true, → true, and there is no else clause,
91 L5: delete this line with its else clause
91 L7: true, → true, or there is an else clause and B_n is false,
91, Fig. 1.6: else → else
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95 L-6: Delete “single”
96 L-18: $a_n \rightarrow a_N$
99, Alg. 1.7, L4: $s \rightarrow$ Money
105, Alg. 1.9, L-2: series $\rightarrow$ sequence
106, Fig. 1.10: Delete last “return”
114 L-7: because. For $\rightarrow$ because, for
114 L -1: Example 2 $\rightarrow$ Example 1
120, Alg. Max2, L-1: $Max \rightarrow$ Max
124 L-11: $< \rightarrow \leq$ (twice)
127, Alg. 1.12, L2: $w_1 \rightarrow w_i$
127 L-2: $w_1 = w \rightarrow w_1 \geq w$
127 L-1: $w_n \leq w \rightarrow w_{n-1} < w$

Chapter 2

139, L-17: all ready $\rightarrow$ already
149, Fig 2.7: Switch “(c)” and “(d)” labels
171 L-18: Example 5 $\rightarrow$ Example 4
184, (1): Lower limit of second summation should be: $k = 1$
186 L4: $> \rightarrow \geq$

Chapter 3

202 L-18: he $\rightarrow$ the
203, Fig 3.4, top graph. $v_5$ should be black
204, Fig. 3.6: In (b) of caption delete “with a loop”
208 L-4: maximally $\rightarrow$ maximal
216, L1: Delete ‘simple’
217 L11: Add end for under second for
223, matrix at bottom: Third row missing; should be: 0 1 0 0 0
229 L24: of (b) $\rightarrow$ or (b)
230 L-11: Delete parenthetical remark
232, Alg. 3.4, L6: $E \rightarrow E'$
233 L-5: The “two shades of color” aren’t there in the first edition and they are red and grey in the second edition.
234 L19: $G_2 \rightarrow G_1$
261, Alg 3.10, L7: $v \rightarrow u$
268, Alg 3.11, L-2: Insert “T” after “Output”
273: Figure 3.33 printed upside down

Chapter 4

292 L2: 5.8 $\rightarrow$ 5.9
311, Fig. 4.8: Colored arrows from 1 and 3 in L3 to 4 in L4 are missing
312, Thms. 1 and 2 Extended: Change to: Let $n$ and $k$ be integers. Then Eq. (1) is true whenever $n \geq 0$ and Eq. (2) is true whenever $n > 0$. 
Chapter 5

373 L10: 8.8 → 8.9
389 L9: \( ar^{n-1} \) → \( ar^n \)
392 L9: \( d(Bb_{n-1}) \) → \( d(Bb_{n-2}) \)
394 L4: \( r_n \) → \( r^n \)
396, Eq. (12): \( r_2 \) → \( r_1 \) (twice)
403 L8: equations → equations in this section
404 L5: \( 5n \) → \( 2n \)
405 L7: a solution → a (nonzero) solution
409 L6: \( \frac{1}{2} \) → \(-\frac{1}{2} \)
L7: \( \frac{1}{2} \) → \(-\frac{1}{2} \)
L8: \( 1/2 \) → \(-1/2 \)
413 L12: 1 → \( n \)
L10: 1 → \( n \)
422, Alg. 5.2, L4: to 0 step −1 → down to 0
426, Eq. (4): \( n - 1 \) → \( n \) (twice)

Chapter 6

440 L25: Section → Sections
445 L9: \( \Pr(1) \) → \( \Pr(2) \)
\( \Pr(2) \) → \( \Pr(3) \)
467 L16: \( \frac{7}{\pi} \) → \( \frac{6}{\pi} \)
470 L10: answer → answers
500 L6: (7) → (8) and (8) → (9)

Chapter 7

528 L5: 0.7 → 0.5
548 L2: Insert ‘for’ after ‘Table’ and put parentheses around \( R \implies S \) and around the entire hypothesis (right parenthesis before last \( \implies \)). [See Eq. (14), p. 547.]
581 L6: \( *j \) → \( *3 \)
586 L11: from \( P(n - 1) \) → from \( P(n - 1) \)
587 L15: \( (q) \) → \( (9) \)
602 L1: 7.3 → 7.4
L6: \( F \) → \( F \)
L4: output → print
L3: output → print
Chapter 8

651 L−2: like the → like the second for-loop of the
701, Alg. 8.4, L3: to → to

Chapter 9

742 L6-7: first two parts → second part
749 L−10: Definition 1 → Definition 2
754 L−1: (9) → (10)
775 L5: $s_k \rightarrow s^k$
781 L−5: $a_{2km} \rightarrow a_{2mk}$
782 L5: $a_{332} \rightarrow a_{323}$
788 Fig 9.6. The curve should not change to concave up as shown. The correct inflection point is at $x = \pi$, at the end of what is drawn.
789 L22: Delete second instance of “of an approximation”
791 Alg. 9.3, L4: $+b_k \rightarrow -b_k$

Epilogue

805 L14: SPANTREE → SpanTree
810, Fig. E.4b: L1 → L
811 L8: filled trees → filled decision trees
812 L9: filled tree → filled decision tree
817 L−7: 820 → 818
821 L−5: Procedures → procedures

Appendices (except Hints and Answers)

A5, L2: 247 → 249

Index

I1, Col 1, L−12: back → front
   Col 3: Add: Front end recursion, 109[8]
I6, Col 1, L16-17: 693 [52] → 692 [44]
I9, Col2, L−14: 13 → 9
I10, Col 1: Add: Path, simple, 206
I11, Col 2: Under “Recursion” add: front end 109[8], tail end 109[8]
   Col 2, L−10: 2 → 3
I12, Col 2: Add: Simple path, 206
I13, Col 1, L24: monotone → monotonic
   L−13: 777 → 767
   L−5: 55 → 50
113, Col 2: Add: Tail-end recursion, 109[8]
Inside back cover, Section 5, L-2: Permutations → Permutations
Inside back cover, Section 8, L1: Add: Left null space \( \mathcal{N}_A \) 675 [20]

Errors in Problem Sets

Chapter 0

20, [12d]: you will get a → your graph will include a
36 [9j,k]: “n an integer” refers to these parts also.
36 [10] L3-4: equality → inequality
47 [2c] \( x^4 \rightarrow x^3 \)
47 [4b]: i|3 or i|5 → 3|i or 5|i
48 [6]: Schwartz → Schwarz
48 [18] L6,7: All unions except the first should be small symbol as on page 11;
48 [11b]: i \ast j just means ij.
48 [18] L6,7: All intersections except first should be small symbol as on page 12.
65 [11f]: it → its
65 [12] L-1: n → n.
66 [3] L2: smallest → smallest positive

Chapter 1

88 [5] L-1: 7 → 2
98 [16] L3: “X,” → “X”,
99 [29] L-3: Delete “see Section 1.5”
109 [3] L2: smallest → smallest nonnegative [slightly different changes made in DAM2]
3a] L1: \( mn \rightarrow mn \) if \( m, n > 0 \)
L3: \( 3 \rightarrow 4b \)
119 [10]: “prod” needs to be a parameter of procedure MR’ in order to be passed from the main algorithm down to subcalls.
120 [16] L1: the following attempt → MAX3, an attempt
121 [20]: Replace “else return” with “return” flush left with the line above it.
136 [8c] L4-5: get an upper bound on the worst → determine the average
L-1: 99 → N
10a] L2: \( w_i \rightarrow w_1 \)

Chapter 2

152 [3] L2: > → ≥
160 [2]: \( n > 1 \rightarrow n > 2 \)
At end of first sentence add: assuming the case \( n = 2 \)
In second sentence delete “initial”.
160 [12]: odd positive integer → odd integer ≥ 3
161 [20]: In recurrence, \( n > 0 \) → \( n ≥ 2 \)
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161 [23] L1-2: positive integer \( \leq n \) \( \rightarrow \) integer from 2 to \( n \)

177 [14] L-3: \( P \) \( \rightarrow \) \( N \)

177 [16]: Replace first part of third sentence by: If you want to attempt a proof of \( P(n) \) by induction, with inductive step \( P(n) \Rightarrow P(n+1) \), explain how to use ...

183 [4] L-2: Put parentheses around \( n+1 \)

190 [2]: Add after second sentence: Also color the platform under the largest ring differently from that ring, color the second platform differently from the first platform and the third platform the same as the first.

Chapter 3

201 [9a]: Then \( \rightarrow \) Than

212 [8]: Delete parentheses around first Hint sentence.

226 [15], L2: vertices \( \rightarrow \) distinct vertices

238 [5b]: Put parentheses around \( n+1 \)

239 [14a] L1: Given \( \rightarrow \) Give

239 [16] L4 digraph \( \rightarrow \) connected digraph

249 [17] L4: for-loop \( \rightarrow \) for-loop inside the repeat loop

255 [2] L3: \( u = v \) mod 3 or \( u = v \) mod 5 \( \rightarrow \) \( u \equiv v \) (mod 3) or \( u \equiv v \) (mod 5)

278 [6] L2: Delete “starting at node \( v_1 \)”

279 [17]: tree \( \rightarrow \) free tree

[17a]: four \( \rightarrow \) five

282 [6d] L-1: are not in any component \( \rightarrow \) may not be in any strongly connected component

283 [13] L8: Delete “nontrivial”

L9: are \( \rightarrow \) is

284 [21] L1: graph \( \rightarrow \) digraph

L2: cycle \( \rightarrow \) directed cycle

[23] Fig. (ii): Add weights 3 on both diagonal edges

L4 of Alg: \( v_0 \) \( \rightarrow \) \( \{v_0\} \)

285 [24]: Follow the first red square by ‘Step 1:’ and the second red square by ‘Step 2:’

and in Line 3 of (iii) replace ‘i)’ by ‘Step 1’.

287 [40] L5: calculation \( \rightarrow \) usual linear representation

L6: amounts \( \rightarrow \) (without parentheses) amounts

[42]: [31, Section 3.8] \( \rightarrow \) [31, Section 3.8]

Chapter 4

294 [11]: “11” should be in color

315 [13] L2: are \( \rightarrow \) is

324 [24] L3: \( x/y \) \( \rightarrow \) \( y/x \)

332 [6] L3-5: You can ... Do \( \rightarrow \) So analyze

333 [17]: [5] \( \rightarrow \) [16]

342 [22] L-4: \( \in \) \( \rightarrow \) \( \subset \)

344 end of first paragraph. Actually, its \( 1/(n+1) \) of the way between 1 (best) and \( N-n+1 \) (worst). But best to state it more simply as \( N+1/\text{overn}+1 \). The 1/100 in the next line becomes approximate.

Easiest proof, which can perhaps be added to the problems:
\[
\text{Av rank} = \frac{1}{\text{Ch}Nn} \sum_{r=1}^{n-1} r \binom{N-r}{n-1} \\
= \frac{1}{\text{Ch}Nn} \sum_{r=1}^{N-n+1} \text{Chr} \binom{N-r}{n-1} \\
= \frac{1}{\text{Ch}Nn} \binom{N+1}{n+1}
\]

by a VanderMonde type convolution, but instead of changing how many items are picked from the first \( k \), pick where the \( k \)th element appears.

363 [18] L1: Generalized \rightarrow Extended
L2: Delete "using the Product Rule"

Chapter 5

377 [6c]: (6) \rightarrow (7)
379 [28] L2: \in \rightarrow \subset
[30b] L3: (7) \rightarrow (5)
385 [8b]: .1 \rightarrow .11
386 [20a] L-1: \( r_1 \rightarrow r_0 \)
[22] L1: \( F_n \rightarrow F_i \) (twice)
\( \text{nth} \rightarrow \text{i} \)
[23] L6: \( P_0 \rightarrow P = P_0 \)
390 [17] L2: 1 \rightarrow 2
402 [15] L2: \( v_1 \rightarrow v_0 \)
[20] L2: (10) and (11) \rightarrow (11) and (12)
402 [17] L-1: in front \rightarrow to the left
402 [19] L2 should be Example 8
403 [27b] L2: \( |b| < |a| + |c| \rightarrow |b/a| < 1 + (c/a) \) and \( |b/a| < 2 \)
403 [29] L-3: to \rightarrow to
407 [11] L1: polynomial \rightarrow monic polynomial (leading coefficient 1)
407 [22]: roots \rightarrow zeros
414 [12] L1: [18] \rightarrow [23]
[14] L2: \( f(x) \rightarrow f(k) \)
420 [22]: "22" should be red; "a)" should be black.
432 [32] L1: \( n \geq 0 \rightarrow n \geq 1 \)
434 [6a] L-2: of \rightarrow or
435 [9] L1: constants \rightarrow integers
436 [20]: \( k \rightarrow c \) throughout problem except where it is the upper limit of a summation.
437 [24]: for any node with two children \rightarrow at each internal (non-leaf) node
[24] L2-5: down ... child. \rightarrow left from that node is one edge longer than the longest path going right. For instance, if a node has one child, it must be a left child and a leaf.
[26] L3: 1 \rightarrow p^n
L4: 0 for \( n > 0 \) \rightarrow q^n for \( n \geq 0 \)
[28] L2: 1 \rightarrow -1 (twice)

Chapter 6
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477 [13d], L2: 10\% \rightarrow .1n
L4: 10 \pm 1 \rightarrow 10 \pm .1n
477 [14]: Change all occurrences of $l$ to $\lambda$
478 [29] L3: 6 \rightarrow 7
492 [25] L1: Section \rightarrow Sections
493 [48] L2: $c\sigma_X \rightarrow |c|\sigma_X$
503 There is no equation (8) in this section, so equation (9) on this page and (10), (11) are numbered one higher than they should be.
504 [2a] L3: Should read: $\Pr(X_i=a, X_j=b) = \Pr(X_i=a)\Pr(X_j=b)$ for $a = 0, 1, \ b = 0, 1.$
505 [5] L4: exit \rightarrow do nothing
L4,5: $< \rightarrow \leq$ (on each line)
problem number is missing from [11]
519 [6] L2: symmetric \rightarrow symmetric around 0

Chapter 7

558 [5e]: Solution needs proof by contradiction so [5e] should appear after [6].
579 [7c]: Delete hint
[8]: Add at end: and fact that if $a + b = 1$ and $ab = 0$, $a$ and $b$ are complements of each other.
[10]: Karnaugh maps \rightarrow DNF
579 [8] L3: (viii) \rightarrow (vii) and (viii)
606 [1d] L2-5: Replace with: Hint: Use fact that truth table for expression with $P$, $Q$ and $\iff$
must have 0, 2 or 4 T values.
[9] L1: [13], Section 7.6 \rightarrow [13, Section 7.6]
[9]: Subscripts on quantifiers in diagram should be full size letters.

Chapter 8

622 [8]: Both matrix brackets should be extended.
639 [22] L1: 8.2 \rightarrow 8.1
665 [23] L1: be \rightarrow be invertible and
675 [22] L1: $\{v_1 \rightarrow S = \{v_1$
691 [24] L3: 8 \rightarrow 9
[30] L6: $v \rightarrow v$
705 [14] L2: 12 \rightarrow 13
716 [2]: round \rightarrow toss
[4] L-4, -3: Show ... probability \rightarrow Show that the long-range probabilities asserted there
L-2: is \rightarrow are
717 [13c]: Add down arrows on two vertical edges
719 [2] L4: form \rightarrow form (except perhaps for different numbers of zero rows)
720 [25] L4: $\{v\} \rightarrow \{v\}$

Chapter 9

735 [2d,e]: $i \rightarrow n$ (once in each part)
735 [3] L2: $][ \rightarrow ]/[\]
744 [1a]: $6^3 \rightarrow 6n^3$
\[ a_n \rightarrow a_{n+k} \]
\[ a_{n-1} \rightarrow a_{n+k-1} \]

756 [6] L-2: \[ a_{n-k} \rightarrow a_{n+k} \]

770 [7] L3: item \rightarrow term

771 [14c] L1: \[ n \text{ from } 0 \text{ to } N \rightarrow a \text{ from } n + 1 \text{ to } N \]

772 [26]: \[ i = 1 \rightarrow k = 1 \]

772 [25d]: Change limits to: \[ n = k \text{ to } N \]

794 [9]: \[ j \neq k \text{ missing under } \sum \]

12a: Add: Start with \[ x_1 = x_2 = 0. \]

13 L6: \[ (i) \rightarrow (a) \]

Epilogue

812 [1–2]: The solutions in the manual are for a more subtle radix sort that starts with the least significant digit (and saves a lot of storage). [no change in DAM2]

5 L1: [23], Section 3.7 \rightarrow [23, Section 3.7]

7: SPANTREE \rightarrow SPANTREE

814 [16]: Delete “Eq.” twice

21 L2: binary \rightarrow decision

25 L2: binary \rightarrow decision

26 L2: best \rightarrow worst

829 [1b] L1: from \rightarrow for

2 L3: SSTOH \rightarrow STOH

830 [3] L4: pole \rightarrow pole (others can move either way)

L7: set \rightarrow minimum set

L8: number \rightarrow minimum number

832 [9] L1: [7] of Section 1.6 \rightarrow [7, Section 1.6]

10 L3: \[ O(f) \rightarrow O(f_n) \]

10 L2: \[ g_n \rightarrow 0 < g_n \]

832 [11] L5: set \rightarrow set

833 [11d] L1: b) \rightarrow a)

834 [15d] L2: consecutive \rightarrow constructive

Errors in Hints and Answers (References are by page number and section number)

A7

0.1 [3c]: integers \rightarrow \text{integers } > 2

10a: Delete \( \bar{r} \) and put bar over \( R \) which follows it.

16: \( m - n \rightarrow m + n \)

A8

0.4 [10e]: \( = \rightarrow + \)

40: limit is \( -\infty \rightarrow \lim_{x \to -\infty} \log_b x = -\infty \)

0.5 [5e]: \( -11 \rightarrow -8 \)

19: \( \cap \rightarrow \land \) (twice)
0. Supp [10]: Replace by: \( n2^{n-1}; \) correct but less helpful: \( \sum_{k=1}^{n} \frac{k!}{(n-k)!k!} \)

1.3 [27]: \( Sm \to Sm \)

[28d]: 2 in \( m \) → 2 equal to or less than \( m \)
\( i \to k = 2^i \)
\( x^{m-2} \to x^{m-k} \)
less than \( m - 2^i \) → in \( m - k \)

1.5 [3]: \( INT \to INT \)

[7]: \( \text{return} \to \text{return} x, y \)

[8]: After 8. add a)

[8] L2: \( t(j) \to T(j) \)

[8] L2: Under “max” add: \( i \to j \)

1.5 [17b] L2.3: \( \text{dim} \to d|m \) (once on each line)

1.6 [16]: 2) → 2).

1. Supp [3b]: \( \text{return} \to \text{return} a_i, a_{i-1}, \ldots, a_0 \)

2.3 [3]: \( a_i \to s_i; a_j \to s_j \)

[21]: \( 2(n-2) \to 2^{n-2} \)

2. Supp [11a]: Delete “\( \sim \)” in summation index

[11c]: \( 2^{n+1} \) terms → \( 2^m \) terms

3.1 [3]: 10 → 12

3.2 [1b]: First \( \{v, y\} \) should be \( \{u, y\} \)

[3b]: Count should be 4 for 2 edges; 10 for 3 edges.

[24]: Delete “\( \geq \)”

3.3 [18] garbled last sentence should say differs only if some vertex has no nonnull path returning to it.

3.3 [21]: except for zeros on the diagonal → (even on the diagonal)

[23]: exit implies leaving the loop, which is wrong. Replace answer by:

After “for \( i = 1 \) to \( n \)”, skip inner loop if row \( i \) is all zeros; after “for \( j = 1 \) to \( n \)”, if column \( j \) is all zeros, skip body of inner loop.
3.4 [2a]: \(125638762341 \rightarrow 125623678341\)
3.5 [17]: digraph \(\rightarrow\) graph
3.7 [6]: Bipartite \(\rightarrow\) BIPARTITE
[7]: Bipartite \(\rightarrow\) BIPARTITE

A17

3.8 [18]: Delete “\(N_nH_n\) or”
[30]: 13 \(\rightarrow\) 16

A18

3.Supp [21a]: No, \(\rightarrow\) No
[37]: of degree \(\rightarrow\) of degree 1 as degree
4.2 [3]: 400 \(\rightarrow\) 23
4.4 [9]: \(P(8, 5) \rightarrow C(8, 5)P(8, 5)\)

A19

4.4: Answer to 15 is really answer to 17; answer to 16 is really answer to 18; answer to 20 is really answer to 15.
Insert answer to 21: \(2^{\binom{2}{2}}, 3^{\binom{2}{2}}\)
4.6 [3]: \((1 + 2)^3 \rightarrow (1 + 2)^N\)

A20

4.8 [20]: \((9 - k)^m \rightarrow (10 - k)^{m-1}\)
[25]: 57 \(\rightarrow\) 51
4.9 [5]: go before \(\rightarrow\) be for
down to \(\rightarrow\) down to \(\text{downto}\)
[36c]: \((n - k)! \rightarrow k!\)

A21

5.3 [8]: 1.52 \(\rightarrow\) 1.62
[9]: \(P_n \rightarrow P_N\)
[11]: Exponent \(n\) should be \(N\)
[16]: Exponent \(m\) should be \(n\)

A22

5.4 [13]: \(a_n^2 \rightarrow a_n^2\)
5.5 [8, 24]: Delete \(\bar{r}\) wherever it appears and put a bar over the character after it.
[24]: [9] \(\rightarrow\) [8]
5.6 [9b]: \(n \rightarrow n + 1\)
5.7 [2c]: \(9/2 \rightarrow 2 \cdot 3^n\)
A24

6.3 [21]: Put second answer (2/3) at beginning.

A25

6.3 [29c]: 
- $l_{64} \rightarrow l_{65}$
- $l_{65} \rightarrow l_{66}$

[44b,c]: Answer to b) should be answer to c) and vice versa.

6.4 [11]: $.090 \rightarrow .091$

[13c]: $.382 \rightarrow .383$

[34] L3: 
- $k/36 \rightarrow n/36$

A26

6.5 [9c] L3: 
- $(222,148,111,48)/529 \rightarrow (114,76,57,24)/271$
- $-85/529 \rightarrow -43/271$

[35]: Insert “=1” after each $X_i$ and $X_j$.

[41]: $X(e) = x \rightarrow X = x$

[49]: Delete $\overline{r}$ wherever it appears and put a bar over the character after it.

[49]: Last $-$ should be $+.$

[51]: Delete material up to the semicolon; on L2: $X_1 \rightarrow X_i$

6.6 [4a]: Add at beginning: best 2, worst 2$n - 2$, average

[4b]: Add at beginning: best $n - 1$, worst $2n - 3$, average

[19]: $R = 3 \cap Y = 1 \rightarrow R = 3 \cap Y = 0$

[21b]: Should be: $E(R) = (n - k + 1)/2$ so $E(J) = E(R) + E(Y) - (n + 1)/2$

[25] L3: 
- iterations $\rightarrow$ tests

A27

6.7 [5]: Subscripts should be 1, 2, 3.

[19a,b]: 
- $q'p \rightarrow qp'$ (three times)

[24]: Delete $\overline{r}$ wherever it appears and put a bar over the character after it.

[29a]: by $q^{2n} \rightarrow by p^{2n}$

[34a]: exchange $G$ and $G'$ throughout

[37a]: $P - a \rightarrow p_a$

[37c]: $p_{0,m,n} \rightarrow p_{0,m,n}$

A28,

6.supp [1a] L3: 
- the $\rightarrow$ then

[3]: Replace the second sentence by: The most direct (but not very efficient) translation of this formula into an algorithm is a double loop with $P \leftarrow P^* < p_n$ inside the inner loop and then $S \leftarrow S + 5000 \ast P$ in the outer loop.

[5] L3: $x \rightarrow c$ [No, correct as is]

[9] L1: $= p^2 \rightarrow = p$

7.2 [9f]: $\iff \rightarrow \implies$
\[ \text{[11]: } P \lor \neg P \implies P \quad \lor \quad P \land \neg P \land P \]

\[ \text{[17b]: } \implies (\implies \implies ( \implies \implies )) \]

\[ \text{[21]: } \implies \quad \implies \quad \text{to} \quad \text{(three places)} \]

\[ \text{[23]: } \quad \text{tautology} \quad \text{tautology}; \]

A29

\[ \text{[7]: } n \geq 0 \implies \{n \geq 0\} \]

\[ \text{[7]: } i \leftarrow -2 \quad \implies \quad i \leftarrow i - 2 \]

\[ \text{OS: } 2 \mid n \implies \text{OS: } \{2 \mid n\} \]

\[ \text{[7]: } = \quad \text{and} \quad \cdot \quad \implies \quad + \quad \text{and} \quad \cdot \]

\[ \text{[5]: } \quad \text{Delete “eight”} \]

\[ \text{[11b]: } \quad \quad \text{so} \quad \implies \quad \text{and last two terms give } 2 \times 1 \quad \text{region which simplifies to } p \bar{r}, \quad \text{so} \]

\[ \text{[17a]: } \quad \text{Replace by: } \quad \text{Expression already in DNF} \]

\[ \text{[17c]: } \quad \text{Fourth term: } \quad pqr \quad \implies \quad \bar{p}qr \]

\[ \text{[23]: } \quad (xii) \quad \implies \quad (xii) \]

\[ \text{[7]: } y^2 = x \quad \implies \quad y > 0 \land y^2 = x \]

\[ \text{[7a]: } \quad \text{Change to: } (\exists m : m \geq 0)(\forall n : n \geq 0)[n \geq m]\]

A30

\[ \text{[7]: } \quad \quad \text{Replace with:} \]

\[ \text{Since } \iff \text{ is associative, ignore parentheses; since } \neg P \text{ is false when } P \text{ is true} \]

\[ \quad \text{and any expression with just } T \text{'s and } \iff \text{'s is true, can’t explain } \neg; \text{ for } \lor, \land, \implies \]

\[ \quad \text{show by induction that an expression with } P, Q \text{ and } \iff \text{ has 0, 2 or 4 } T \text{'s in truth} \]

\[ \quad \text{table; but truth tables for } \lor, \land, \implies \quad \text{each have an odd number of } T \text{'s.} \]

\[ \text{[9]: } \quad \text{Replace } (\neg B \implies \neg A) \text{ with } A \land \neg B; \text{ replace result with} \]

\[ (\exists i)[(\exists j) P_j \land (\forall k) Q_{ik} \land (R_k \land \neg S)] \]

**Chapter 8:** Delete all boldface d’s and make the letter after d boldface.

A31

\[ \text{[8.2 27a]: } 2n \quad \implies \quad \neg 2n \]

A32

\[ \text{[8.6 1]: } \quad \text{in a pivot position} \quad \implies \quad \text{on the main diagonal in the final matrix} \]

\[ \text{[9a]: } \quad \text{Third row should be: } -2 \quad 0 \quad 2 \]

A34

\[ \text{[8.8 39]: } \quad \text{is row-switched to receive} \quad \implies \quad \text{receives} \]

A35

\[ \text{[8.10 2]: } \quad \text{is} \quad 305 \quad \implies \quad \text{is} \quad 305 \]
A36

8. Supp [13b] \[ +a \rightarrow -A \]
   [35]: Replace by: Let \( c \) be the entry in \( A \) with the largest absolute value. If \( A \) is \( n \times n \), apply \( \text{Max-Eigen} \) to \( A + n|c|I \).

A37

9.2 [29b]: Subscript \( n^2 \) should be \( n \); exponent \( n \) should be \( n^2 \)
9.3 [15a,b] L2: \( \text{Ord}(\log_2 n)^{\log_2 n} \) → \( \text{Ord}[(\log_2 n)^{\log_2 n}] \)
9.4 [15]: a) → b)
9.5 [2b]: Add at end: “to 1”

A38

9.6 [10a,c]: \( c_o \rightarrow c_0 \) (once in each part)
9.7 [7b]: Four → Three
   \hspace{1em} k > 2 → k > 1

A39

9. Supp [5]: Theorem 3 → Theorem 4
   [6b]: \( 1 \leq k < n \) → \( 1 \leq k \leq n \)
   [7c]: c) → c) (i)
E.1 [1]: than 12 → than 15
   [11a]: Replace with:
   Minimum number of comparisons for list and its reversal occurs when one
   requires \( m - 2 \) passes and the other 1 pass; total comparisons for two lists is
   \( m(m + 1)/2 - 2 \); average is \( m(m + 1)/4 - 1 = O(m^2) \).
E.2 [5]: lead → leaf
   [7]: [23] of Section 3.7 → [23, Section 3.7]

A40

E.3 [3]: \( p + 1 \) → \( j + 1 \)

— end —