

Errata for “Principles of Distributed Database System” 2nd edition

August 30, 2001

The following are the errors in the second edition of the book up to and including 2nd printing . Some of these are minor typos, others are a result of global replace that has gone bad for example relation names, others are more serious. All of these will be corrected in a future printing.

If you find any other errors that we might have missed, please let us know.

Please note that the following errors cover only Chapters 1 – 11.

Please check this place regularly. We will update this page as we check more chapters and as we discover new errors. The date of the document should indicate its currency.

1 Chapter 1

Page 4: The abbreviation “DDBS” in line 4 of Section 1.2 should be replaced by “distributed database”. At the end of this sentence, add the following : “Sometimes “distributed database system” (DDBS) is used to refer jointly to the distributed database and the distributed DBMS.”.

Page 8: The ASG relation definition on line 4 from bottom: attributes RESP and DUR should be transposed to read ASG(**ENO**, **PNO**, RESP, DUR).

2 Chapter 2

Page 26: Line 8 in Example 2.1: attribute name JNAME should be PNAME.

Page 27: The second to last sentence in Section 2.1 should end after word “unknown.” Thus, the sentence should read: “For example, value “0” for attribute DUR is *known information* (e.g., in the case of a newly hired employee), while value “null” for DUR means unknown.”

Page 30: In the definition of MVD (line 19), the sentence should be “If for each value of Z in R there is a set of values for ...”.

- Page 31:** In Figure 3.2, the value of PNO of the 4th tuple should be P2.
- Page 39:** In Figure 2.7, the third column (attribute) name should be EMP.TITLE rather than E.TITLE.
- Page 42:** The last sentence of the first paragraph of Example 2.13, there is the expression $(G' \div J')$. This should be $ASG' \div PROJ'$ so that the sentence reads: “The result of division $(ASG' \div PROJ')$ is shown in Figure 2.10c.”
- Page 45:** The citation in first sentence of section entitled “Domain relational calculus.” should be “. . . Lacroix and Pirotte [1977]”.
- Page 47:** Line 6 from the bottom: RES should be RESULT.
- Page 50:** In the first sentence of the last paragraph, insert “(*compilation*)” after “*query processing*”.

3 Chapter 3

- Page 53:** Delete the words “among them” from the end of the third complete sentence on this page (line 4 from the top).
The first two sentences of the last paragraph on this page should read: “If data are transmitted over analog transmission links, they need to be *modulated*. This means that the digital data are encoded onto an analog carrier signal by changing one or more of their basic characteristics (amplitude, frequency, and phase).”
- Page 54:** In the first sentence of the last paragraph on this page, replace the words “or to” by “in”.
- Page 55:** Replace “data is” by “data are” in line 3 on top of the page and in line 1 of the second paragraph on this page.
- Page 65:** Replace the first “the” by “a” in line 1 of the paragraph immediately following Figure 3.9. The sentence should read: “Achieving connectivity in a local area network . . .”.
- Page 66:** Delete one of the two “IEEE 802 Standard” on the first line after Figure 3.10.
- Page 69:** Replace “computers” by “computer” in the third line from the bottom of the page.

4 Chapter 4

- Page 79:** Replace E:NAME by ENAME on the fourth line from the bottom.
- Page 84:** Replace “Section 4.1” with “Section 4.3.1” on line 16.

Page 86: Second sentence of the footnote should read: “What this sacrifice means is not well understood, as we will discuss in Chapter 15.”

Page 91: Add the following sentence to the end of item 4: “These issues are topics of Chapters 10-12.”

5 Chapter 5

Page 113: In Figure 5.7 JNO should be PNO in the PROJ and ASG relations and JNAME should be PNAME in the PROJ relation. These errors are relics from the first edition where the relation and attribute names were different.

Page 119: In Example 5.9, the last line of the first paragraph should be “(BUDGET < 200000, BUDGET ≥ 200000) to Pr :”. Also, in the subsequent definition of Pr , “BUDGET ≤ 200000” should be “BUDGET < 200000”.

Page 123: The WHERE predicate in the example should be LOC=Value, not PNO=Value.

In the second to the last line, $Pr' = \{p_1, p_2, p_3, p_4\}$.

Page 128: In item 2 (line 2), add “responsibilities on the” in between “access the” and “projects”.

Page 129: In ASG₂ table, E3 should be E2, E4 should be E5, E6 should be E6, and E6 should be E8.

Page 130: The first sentence should read: “Let R be the member relation of a link whose owner is relation S , which are fragmented as $F_R = R_1, R_2, \dots, R_w$ and $F_S = S_1, S_2, \dots, S_w$, respectively.”

Third sentence should read: “Then for each tuple t of R_i , there should be a tuple t' of S_i such that”.

Page 134: Entry (q_1, A_4) in the Attribute Usage Matrix of Figure 5.15 should be 0 not 1.

In the equation for $aff(A_i, A_j)$, the second summation should be over $\forall S_l$ not over $\forall PAY_l$.

Page 138: In the equation for AM_{old} , the upper bound for the first summation should be i , not n .

Page 149: In the objective function, the inner two summations should be over j :

$$\min \left[\sum_{i=1}^m \left(\sum_j x_j u_j c'_{ij} + t_j \min_{j|S_j \in I} c_{ij} \right) + \sum_j x_j d_j \right]$$

Page 153: In the definition of TCR_i , replace u_{ij} with R_{ij} .

Page 159: In Exercise 5.5, predicate p_2 should be `SAL geq 30000`.

6 Chapter 6

Page 161: There should be a space in between words “these” and “functions” in line 4 of the chapter.

Page 164: The last line before Example 6.4 has “keyword” spelled as two separate words; it should be one word.

Lines 12 and 15 of Example 6.4 have a “PROJ. Doe”, which should be “J. Doe”.

7 Chapter 7

No errors found.

8 Chapter 8

Page 204: On line 1, close the parentheses after 7.3.

Page 206: In Example 8.3, delete the following part of the sentence from the query specification: “and their manager’s name”. The query doesn’t retrieve manager’s name.

Page 208: In Figure 8.2, there should be a loop from ASG to ASG labelled “ $DUR \geq 36$ ”. The label is there, but not the loop. There should also be a loop from EMP to EMP labelled “TITLE = “Programmer””. Again the label is there, but not the loop.

Page 214: In Figure 8.5, all of JNO’s should be PNO and the single JNAME should be PNAME. These are again left-overs from first edition.

Page 215 and later: On this page, line 5 of the second paragraph defines *generic query*. This term should be changed to *localized query*. This change should be propagated to the following places:

- **Page 216:** Line 7 of Example 8.9 and caption of Figure 8.6a.
- **Page 218:** Caption of Figure 8.7a and the first line after the SQL query following this figure.
- **Page 219:** Line 5 of Example 8.12 and caption of Figure 8.8a.
- **Page 221:** Line 8 of Example 8.14.
- **Page 222:** Caption of Figure 8.9a.

- **Page 223:** Line 7 of Example 8.16 and caption of Figure 8.10a.

Page 219: In Figure 8.8, E_1 and E_2 should be EMP_1 and EMP_2 , respectively.

Page 224: Third line in Section 8.4 has “citerh80”. This error is caused by forgetting the backslash before “cite”. It should be a reference to [Rosenkrantz and Hunt, 1980], which is already in the references.

Page 225: Exercise 8.2 should have one more predicate in the WHERE clause:
AND PROJ.PNO = ASG.PNO.

Page 226: Exercise 8.5 should have one more predicate in the where clause:
AND (DUR>24 OR PNAME=‘‘CAD/CAM’’).

Also, the last sentence of the question should be revised replacing the part “... a form that is optimal ...” with “three equivalent forms.” Thus the sentence should read: “Furthermore, compose and operator tree corresponding to the query and transform it, using relational algebra transformation rules, to three equivalent forms.”

9 Chapter 9

Page 240: In query q'' , the WHERE predicate should read $P_2(R_1.A_1, \dots, R_n.A_n)$.

Page 243: On line 16, replace V with R .

Page 248: In Example 9.6, the join order should be PROJ \bowtie_{PNO} ASG \bowtie_{ENO} EMP.

Page 268: In Figure 9.14, in the lower table, $R_3.B$ should be $R_2.B$ and $R_4.B$ should be $R_3.B$.

In the second iteration, SJ_2 should have cost 80, not 200 (this is on line 6 from the bottom).

10 Chapter 10

Page 275: On line 5, delete “replicated database” (this is repeated twice).

11 Chapter 11

Page 301: Delete the last sentence that starts with “Also note that ...” in the paragraph immediately preceding Figure 11.1.

Page 306: On lines 9 and 10 in the last paragraph before Section 11.2, put the citations within parentheses.

Page 308: On line 26, replace “interconsistency” with “transaction consistency”.

Page 310: On lines 19 and 22, replace “←” with “:”.

Page 315: On line 13, replace “*pm.result*” with “*pm.res*”.

Page 316: On line 22, replace “*sm.result*” with “*sm.res*”.

Page 327: On line 22, replace “*rts(x)*” with “*wts(x)*”.

Page 344: On line 6, replace “ancestor’s” with “ancestors”.

Page 346: On line 27, there should be a space between “The” and “main”.

Page 350: On line 2 in Exercise 11.4, delete “:” before “in”.

Point 2 in Exercise 11.4 – there should be a space after A_j .

12 Chapter 12

Not yet checked.

13 Chapter 13

Not yet checked.

14 Chapter 14

Not yet checked.

15 Chapter 15

Not yet checked.

16 Chapter 16

Not yet (completely) checked but the following is noted:

Page 586: Figure 16.10, by mistake, is identical to Figure 16.9. The correct figure is given here as Figure 1.

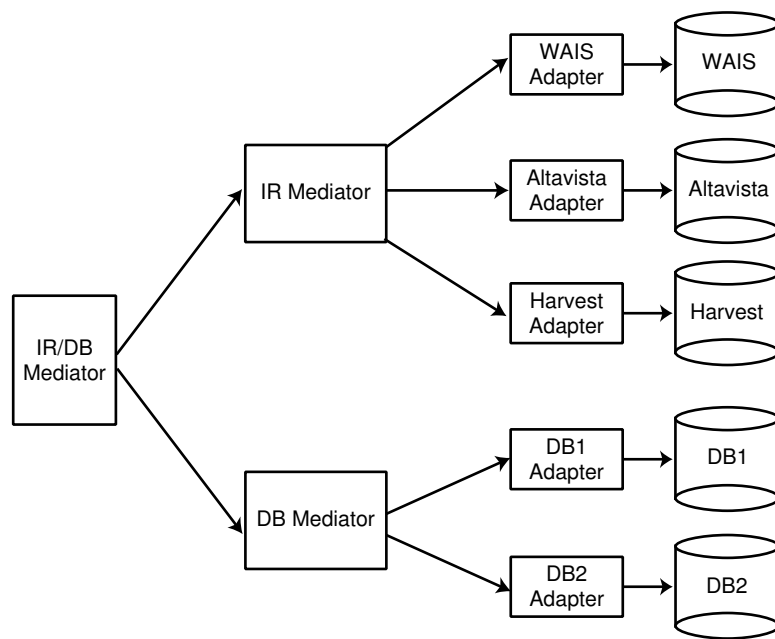


Figure 1: Hierarchy of Mediators