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- Home Page
- Assignments Due
- Progress Report
- Handouts
- Tutorials
- Homeworks
- Lab Projects
- Log Out

Help

Gradiance Online Accelerated Learning

Homework Assignment Submitted Successfully.

You obtained a score of 102.0 points, out of a possible 102.0 points.
You have answered all the questions correctly.

Congratulations, you have achieved the maximum possible score.

Submission number:	523551
Submission certificate:	BI570516
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Number of questions:	6
Positive points per question:	17.0
Negative points per question:	0.0
Your score:	102

1. Consider the following sequence of records present in an undo/redo log:

(START, S); (S, A, 10, 20); (START T); (COMMIT S); (T, B, 5,15); (START U); (T, A, 20, 30); (COMMIT T); (U, B, 15, 25); (U, A, 30, 40).

Let both A and B fit in the same database block (i.e., both are INPUT from disk to memory together and both are OUTPUT from memory to disk together). Assuming that a quiescent checkpoint occured just before S started, determine what are the possible values of A and B on disk. Identify one such possibility from the list below.

a) A = 20; B = 5
b) A = 10; B = 15
c) A = 30; B = 5
d) A = 40; B = 15

Answer submitted: **a)**

You have answered the question correctly.

2. At the time of a system crash, let the log segment (in the undo/redo logging scheme) be as follows:

(START R);
(R, B, 1, 20);
(R, A, 13, 15);
(COMMIT R);
(START T);
(T, A, 15, 16);
(START CKPT(T));

(T, B, 20, 10);
(START S);
(COMMIT T);
(S, A, 16, 10);
(END CKPT);
(S, B, 10, 50);
(COMMIT S).

What are the possible values of A and B on disk when the crash occurred (i.e. before recovery from the crash)?

a) A= 15; B = 1;
b) A= 15; B = 20;
c) A= 16; B = 1;
d) A= 10; B = 50;

Answer submitted: **d)**

You have answered the question correctly.

3. Let a database has the constraint "X > Y > 0". Which of the following transactions does NOT preserve the consistency of the database? (Assume X and Y are real numbers - not necessarily integers).

a) X := X + 4; Y := X - 4
b) X := Y + 1; Y := X - Y
c) X := X + 2; Y := Y + 2
d) X := X + 3; Y := X - 4

Answer submitted: **d)**

You have answered the question correctly.

4. Let a database contain initial values of X = 5, Y = 13 and Z = 6. In the redo logging scheme, let the redo log contain the sequence of records:

(START, R);
(R, Y, 15);
(R, X, 15);
(COMMIT R);
(START S);
(S, X, 10);
(START T);
(S, Z, 16);
(T, Y, 20);
(COMMIT T).

Which of the following could be the state of the database on disk?

a) X = 10; Y = 13; Z = 16;
b) X = 5; Y = 20; Z = 6;
c) X = 5; Y = 13; Z = 16;
d) X = 10; Y = 13; Z = 6;

Answer submitted: **b)**

You have answered the question correctly.

5. Which of the following transactions does NOT preserve the consistency of the database that has the constraint "A must be less than B"? (Assume A and B are integers { not necessarily positive.)

a) A := B - 2 * A; B := A + 7

b) A := A + 5; B := B + 7

c) A := A - 5; B := B - 2

d) A := B - A; B := B + A + 20

Answer submitted: **d)**

You have answered the question correctly.

6. Let R be the transaction [X := X + 10; Z := Z - 1], S be the transaction [X := X + 15; Y := Y * 2] and T be the transaction [Y := Y + 10; Z := Z - 5]. What values of X, Y and Z could appear on disk when the undo log has the sequence of records:

(START R);
(START S);
(R, X, 5);
(R, Z, 10);
(COMMIT R);
(S, X, 15);
(S, Y, 20);
(START T);
(COMMIT S);
(T, Y, 40);
(T, Z, 9);

a) X = 30; Y = 10; Z = 9;

b) X = 5; Y = 40; Z = 9;

c) X = 15; Y = 50; Z = 4;

d) X = 30; Y = 40; Z = 4;

Answer submitted: **d)**

You have answered the question correctly.