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- Home Page

- Assignments Due

- Progress Report

- Handouts

- Tutorials

- Homeworks

- Lab Projects

- Log Out

Help

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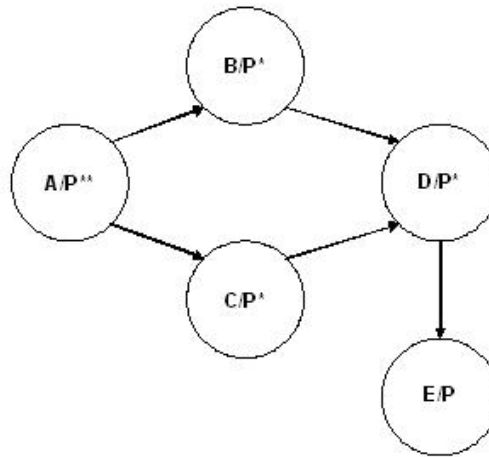## Homework Assignment Submitted Successfully.

You obtained a score of 100.0 points, out of a possible 100.0 points. You have answered all the questions correctly.

Congratulations, you have achieved the maximum possible score.

Submission number:	520293
Submission certificate:	JJ557614
Submission time:	2020-04-02 15:47:36 PST (GMT - 8:00)

Number of questions:	4
Positive points per question:	25.0
Negative points per question:	0.0
Your score:	100

1.

Above is a grant diagram involving users A through D and a single privilege P. Suppose A executes

REVOKE P FROM C CASCADE

Compute the resulting grant diagram. Then, tell which of the following is a consequence of the revocation?

   a)   A no longer has privilege P

   b)   E has privilege P

   c)   E no longer has privilege P

   d)   C and E do not have privilege P, but B and D do

Answer submitted: b)

You have answered the question correctly.

2. The relation R(x) consists of a set of integers --- that is, one-component tuples
   with an integer component.
   Alice's transaction is a query:
   SELECT SUM(x)
   FROM R;
   COMMIT;

   Betty's transaction is a sequence of inserts:
   INSERT INTO R VALUES(10);
   INSERT INTO R VALUES(50);
   INSERT INTO R VALUES(70);
   COMMIT;

   Carol's transaction is a sequence of deletes:
   DELETE FROM R WHERE x=70;
   DELETE FROM R WHERE x=50;
   COMMIT;

   Before any of these transactions execute, the sum of the integers in R is 5000,
   and none of these integers are 10, 50, or 70. If Alice's, Betty's, and Carol's
   transactions run at about the same time, and each runs under isolation level
   READ COMMITTED, which of these sums could be produced by Alice's
   transaction?

   a) 5060

   b) 5000

   c) 5070

   d) 4940

   Answer submitted: **b)**

   You have answered the question correctly.

3. In order to execute the following SQL statement:

   UPDATE S
   SET c = 'New York'
   WHERE a IN (SELECT a FROM R) AND
   EXISTS (SELECT b FROM T WHERE T.a > S.a);

   Which of the following privileges is not useful in allowing the above
   statement to be executed?

   To be precise, say a privilege P is useful if there is some set of other
   privileges such that the statement cannot be executed with just those
   privileges, but if we add privilege P, then the statement can be executed.

   a) UPDATE on S(c)

   b) INSERT on S(a)

   c) SELECT on T(b)

   d) SELECT on R(a)

   Answer submitted: **b)**

   You have answered the question correctly.

4. Consider the following transactions:
R: [X := X + 15; Y := Y - 10]
S: [X := X - 5; Y := X + 5]
T: [X := X * 2; Y := Y * 3]
Assuming initial values of X = 10 and Y = 20, which of the following is a possible state of the database resulting from a serializable execution of R, S and T?

  a) X = 30; Y = 50

  b) X = 40; Y = 20

  c) X = 30; Y = 20

  d) X = 30; Y = 10

Answer submitted: **d)**

You have answered the question correctly.