RPI Computer Science (2) > Submitty > Database Systems (2) > Lecture 16 Exercise



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New submission for: Lecture 16 Exercise

Due: 10/30/2021 @ 04:00 PM EDT

Gradeable Time Remaining: 11mins 55 seconds

Database Setup. Suppose you have three unprivileged use database who all can connect to a database named testare

Assume the following commands all execute correctly:

```
$ psql -U postgres -- means login as user postgres

psql> create role dbs_grp1;
psql> grant dbs_grp1 to dbs1;
psql> grant dbs_grp1 to dbs2;
psql> create role dbs_grp2;
psql> grant dbs_grp2 to dbs3;
psql> \q

$ psql testarea -U dbs1 -- means login to database testa

psql> create table tmp1 (id1 int);
psql> create table tmp2 (id1 int);
psql> create table tmp3 (id1 int);

psql> grant select on tmp1 to dbs_grp1;
psql> grant select on tmp1 to dbs_grp2 with grant option
psql> grant select on tmp2 to dbs2 with grant option;
psql> grant select on tmp3 to dbs_grp2;
```

Question 1: Check all the commands below that will su testarea as shown below:

\$ psql testarea -U dbs2 -- means login to database testa

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```
You may select many:

✓ select * from tmp1;

✓ select * from tmp2;

select * from tmp3;

grant select on tmp1 to dbs3;

✓ grant select on tmp2 to dbs3;

grant select on tmp3 to dbs3;

None of these choices

Clear Use Most Recent Submission
```

Question 2: Assuming you start from the original set of p check all the commands below that will succeed (not raise ϵ below:

```
$ psql testarea -U dbs3 -- means login to database testa
```

You may select many:

- ✓ select * from tmp1;
 select * from tmp2;
- ✓ select * from tmp3;
- ✓ grant select on tmp1 to dbs2; grant select on tmp2 to dbs2; grant select on tmp3 to dbs2; None of these choices

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Trigger Setup. You are given the following two tables wit

```
CREATE TABLE a(id INT PRIMARY KEY, name VARCHAR(20));
CREATE TABLE b(id INT PRIMARY KEY, name VARCHAR(20));
CREATE FUNCTION a_trg1 () RETURNS trigger AS $$
   BEGIN
       IF NEW.id < 4 THEN
          NEW.name = upper(NEW.name);
          DELETE FROM b WHERE id = NEW.id ;
  END IF ;
       RETURN NEW;
   END;
$$ LANGUAGE plpgsql;
CREATE TRIGGER a_trg1 BEFORE INSERT ON a
   FOR EACH ROW EXECUTE FUNCTION a_trg1();
CREATE FUNCTION b_trg1 () RETURNS trigger AS $$
   BEGIN
       NEW.name = lower(NEW.name);
       INSERT INTO a VALUES(OLD.id, OLD.name);
      RETURN NEW;
   END;
$$ LANGUAGE plpgsql;
CREATE TRIGGER b_trg1 AFTER UPDATE ON b
   FOR EACH ROW EXECUTE FUNCTION b_trg1();
```

Check all tuples in the database after the following transact

```
BEGIN;
INSERT INTO a VALUES(1, 'red');
INSERT INTO b VALUES(2, 'GREEN');
INSERT INTO a VALUES(3, 'violet');
INSERT INTO b VALUES(4, 'blue');
UPDATE b SET name = 'teal' WHERE id = 4;
UPDATE a SET name = 'PURPLE' WHERE id = 1;
UPDATE b SET name = 'ORANGE' WHERE id = 2;
COMMIT;
```

```
You may select many:
    Table a (1,'red')
    Table a (1,'RED')
    Table a (1,'purple')

✓ Table a (1,'PURPLE')

    Table a (2, 'green')
✓ Table a (2,'GREEN')
    Table a (3,'violet')

✓ Table a (3,'VIOLET')

    Table a (3,'orange')
    Table a (3,'ORANGE')
✓ Table a (4,'blue')
    Table a (4, 'BLUE')
    Table a (4,'teal')
    Table a (4,'TEAL')
    Table b (1,'red')
    Table b (1,'RED')
    Table b (1,'purple')
    Table b (1, 'PURPLE')
    Table b (2, 'green')
    Table b (2, 'GREEN')
    Table b (3,'violet')
    Table b (3,'VIOLET')
    Table b (3,'orange')
    Table b (3,'ORANGE')
    Table b (4,'blue')
    Table b (4, 'BLUE')
✓ Table b (4,'teal')
    Table b (4,'TEAL')
 Clear
```

By clicking "Submit" you are confirming that you have read, understand, and agree to follow the Academic

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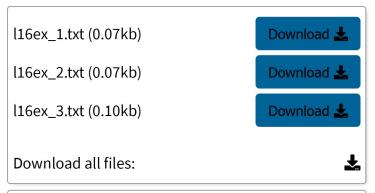


Version #4 GRADE THIS VERSION

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