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Lecture 16 Exercise



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New submission for: Lecture 16 Exercise

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

**Gradeable Time Remaining: 11
mins 55 seconds**

Database Setup. Suppose you have three unprivileged users in a database named `testarea` who all can connect to a database named `testarea`.

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 testarea
```

```
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 successfully connect to `testarea` as shown below:

```
$ psql testarea -U dbs2 -- means login to database testarea
```

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

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

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

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

Clear

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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

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