DBMS Lab 9 & 10 - Triggers and Functions

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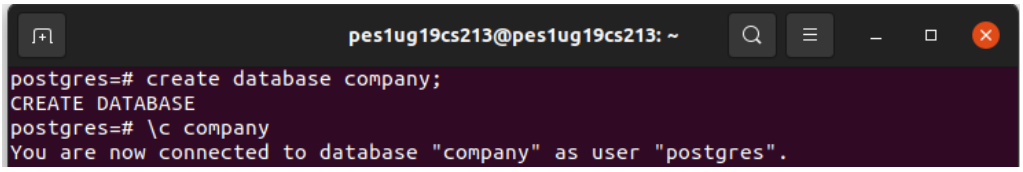
1. Triggers for employee and department tables

Creation of database



Creation of employee table

```
company=# create table employee (fname VARCHAR(15) NOT NULL, lname VARCHAR(15) N
OT NULL, essn CHAR(10) NOT NULL, dname VARCHAR(15), PRIMARY KEY (essn), FOREIGN
KEY (dname) REFERENCES department(dname));
CREATE TABLE
company=# \d employee
                    Table "public.employee"
 Column |         Type          | Collation | Nullable | Default
--------+-----------------------+-----------+----------+---------
 fname  | character varying(15) |           | not null |
 lname  | character varying(15) |           | not null |
 essn   | character(10)         |           | not null |
 dname  | character varying(15) |           |          |
Indexes:
    "employee_pkey" PRIMARY KEY, btree (essn)
Foreign-key constraints:
    "employee_dname_fkey" FOREIGN KEY (dname) REFERENCES department(dname)
```

Creation of department table

```
company=# create table department (dname VARCHAR(15), emp_count INT, PRIMARY KEY
 (dname));
CREATE TABLE
company=# \d department
                    Table "public.department"
  Column   |         Type          | Collation | Nullable | Default
-----------+-----------------------+-----------+----------+---------
 dname     | character varying(15) |           | not null |
 emp_count | integer               |           |          |
Indexes:
    "department_pkey" PRIMARY KEY, btree (dname)
```

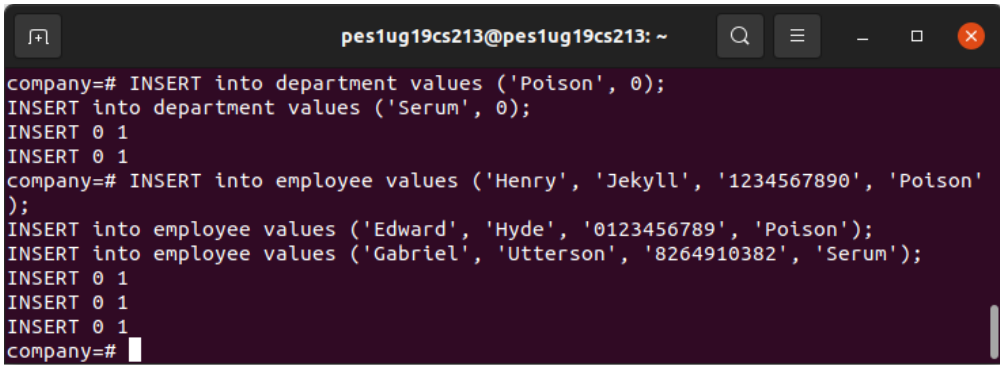
Creating increment function and trigger

```
pes1ug19cs213@pes1ug19cs213: ~
company=# create function inc_213() returns trigger as $$
begin
update department set emp_count = emp_count + 1
where department.dname = NEW.dname;
return NEW;
end;
$$ LANGUAGE plpgsql;
CREATE FUNCTION
company=# create trigger increment_213
after insert on employee
for each row
execute procedure inc_213();
CREATE TRIGGER
```

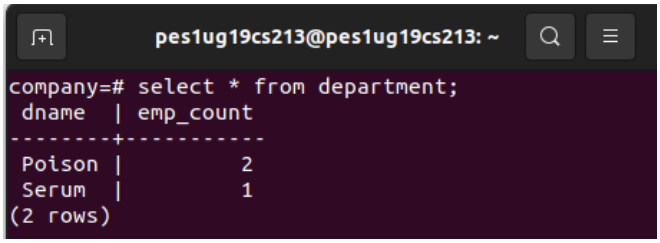
Creating decrement function and trigger

```
company=# create function dec_213() returns trigger as $$
begin
update department set emp_count = emp_count - 1
where department.dname = OLD.dname;
return OLD;
end;
$$ LANGUAGE plpgsql;
CREATE FUNCTION
company=# create trigger decrement_213
after delete on employee
for each row
execute procedure dec_213();
CREATE TRIGGER
```

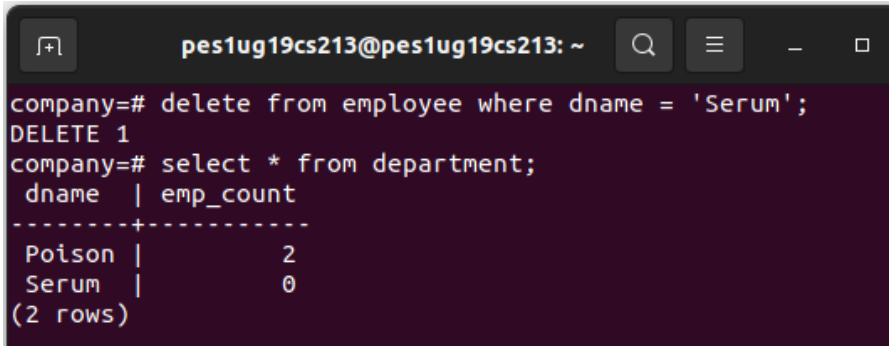
Inserting values into employee and department tables



Incremented values displayed in department table

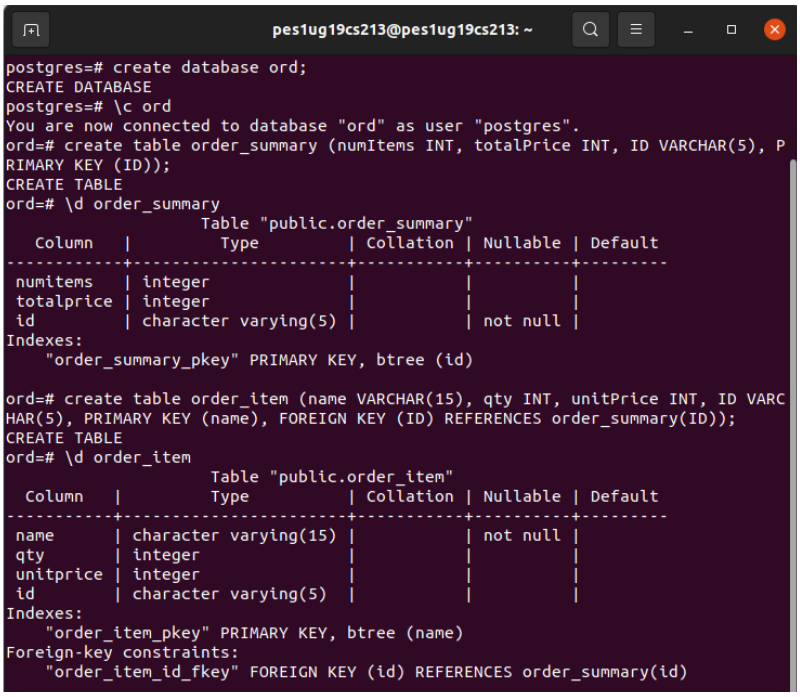


Decremented values displayed in department table

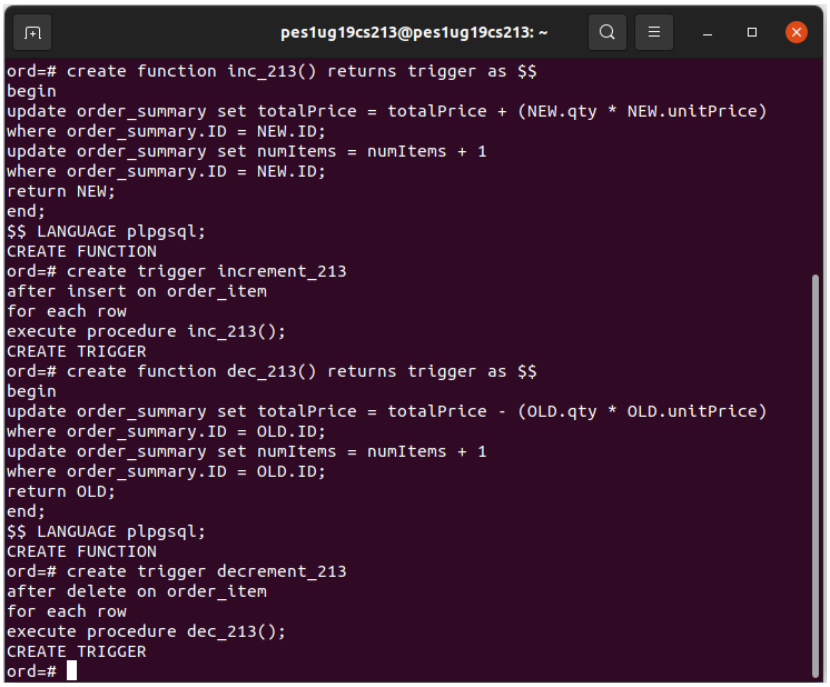


2. Triggers for order item and order summary tables

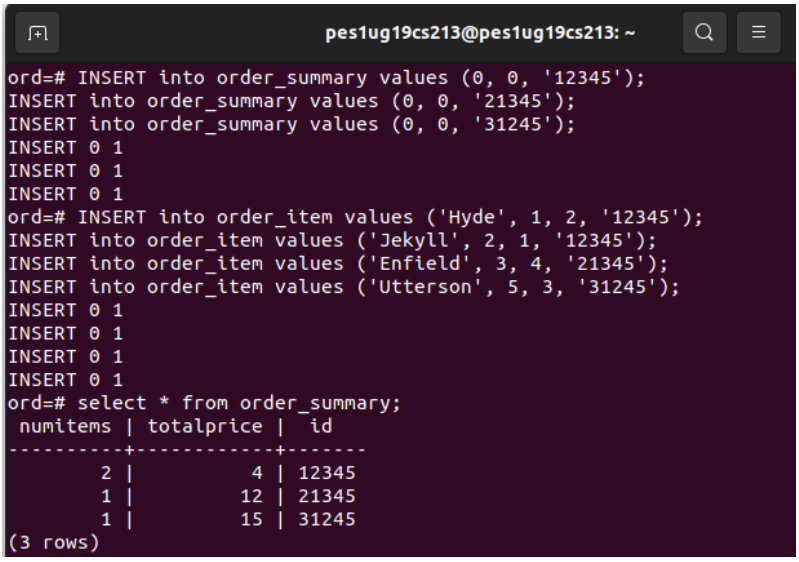
Creation of database, order_summary table, and order_item table



Creation of increment and decrement functions and triggers



Insertion of values into tables, displaying incremented values



Displaying decremented values