DBMS LAB Week 5

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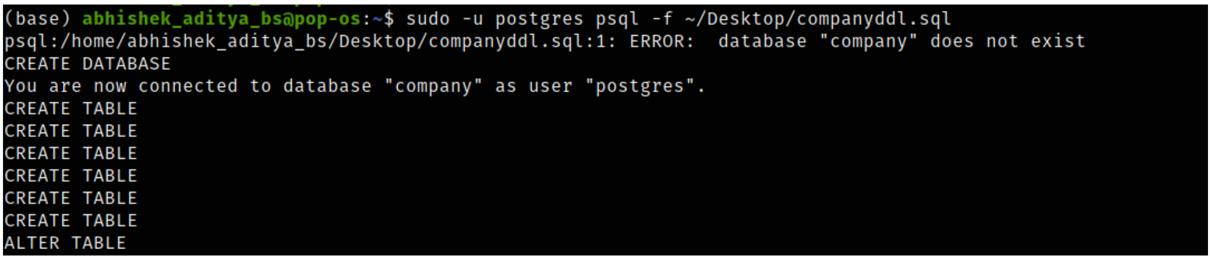
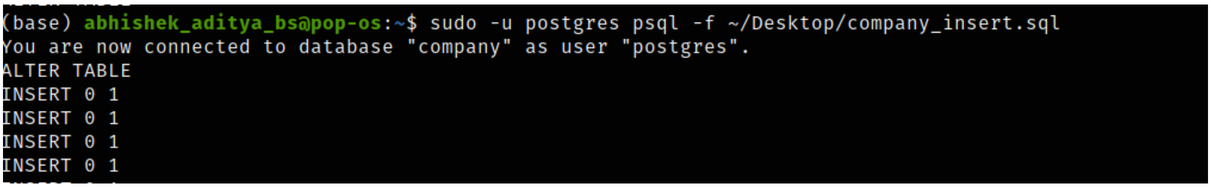
SRN : PES1UG19CS019
Section : A

Importing both the DDL and DML SQL files.



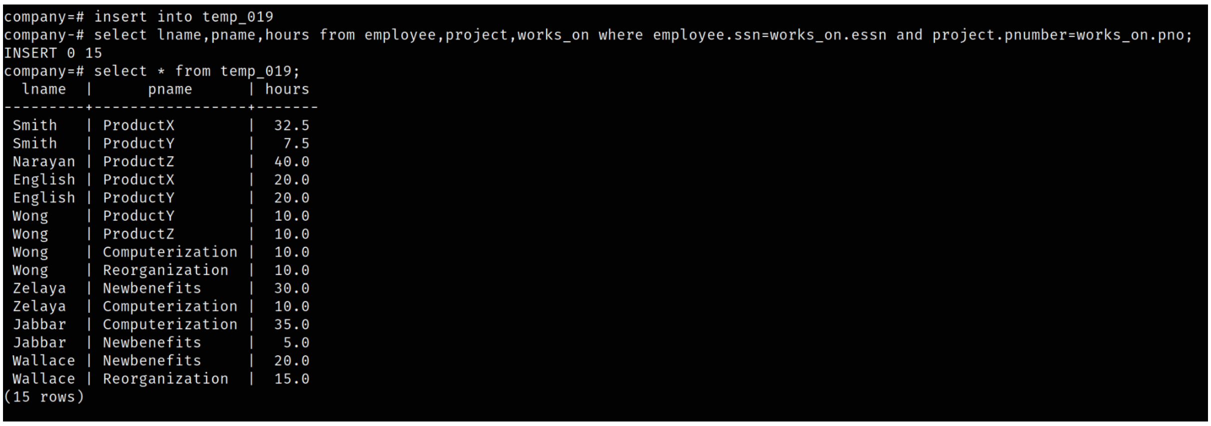
```
(base) abhishek_aditya_bs@pop-os:~$ sudo -u postgres psql -f ~/Desktop/companyddl.sql
psql:/home/abhishek_aditya_bs/Desktop/companyddl.sql:1: ERROR:  database "company" does not exist
CREATE DATABASE
You are now connected to database "company" as user "postgres".
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
ALTER TABLE
```



```
(base) abhishek_aditya_bs@pop-os:~$ sudo -u postgres psql -f ~/Desktop/company_insert.sql
You are now connected to database "company" as user "postgres".
ALTER TABLE
INSERT 0 1
INSERT 0 1
INSERT 0 1
INSERT 0 1
```

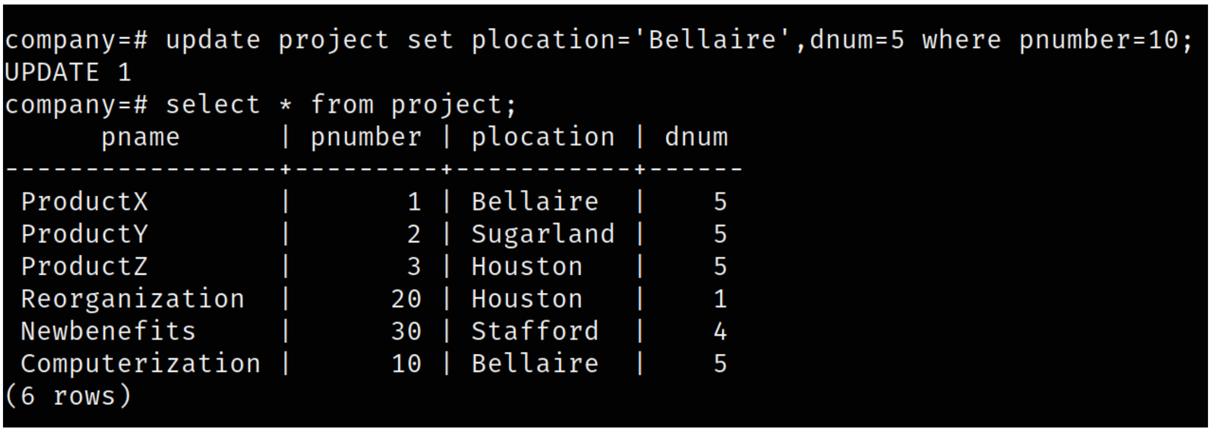
1 . SQL DML

<1.1> Create a temporary table that has the employee last name, project name, and hours per week for each employee working on a project. Insert the values into the table using insert into with select command.



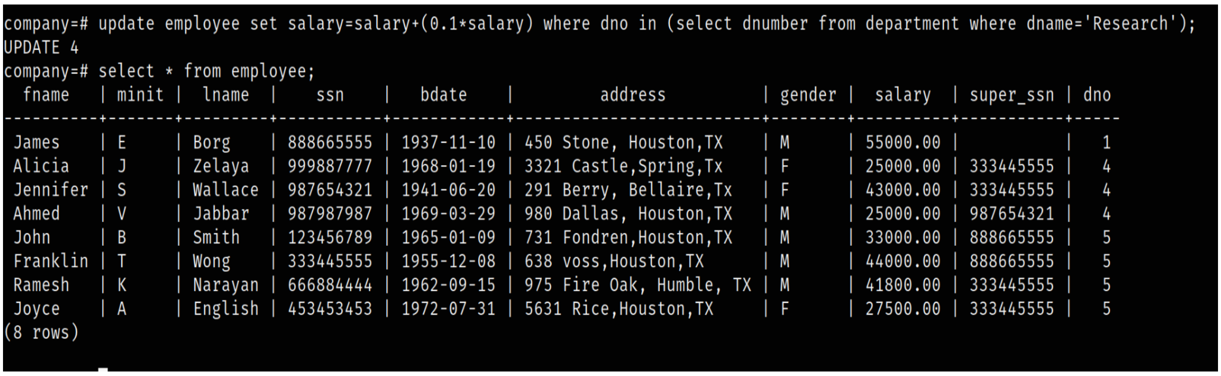
```
company=# insert into temp_019
company-# select lname,pname,hours from employee,project,works_on where employee.ssn=works_on.essn and project.pnumber=works_on.pno;
INSERT 0 15
company=# select * from temp_019;
  lname  |      pname       | hours
---------+-----------------+-------
 Smith   | ProductX        |  32.5
 Smith   | ProductY        |   7.5
 Narayan | ProductZ        |  40.0
 English | ProductX        |  20.0
 English | ProductY        |  20.0
 Wong    | ProductY        |  10.0
 Wong    | ProductZ        |  10.0
 Wong    | Computerization |  10.0
 Wong    | Reorganization  |  10.0
 Zelaya  | Newbenefits     |  30.0
 Zelaya  | Computerization |  10.0
 Jabbar  | Computerization |  35.0
 Jabbar  | Newbenefits     |   5.0
 Wallace | Newbenefits     |  20.0
 Wallace | Reorganization  |  15.0
(15 rows)
```

<1.2> Update the location and controlling department number of project number 10 to 'Bellaire' and 5, respectively.



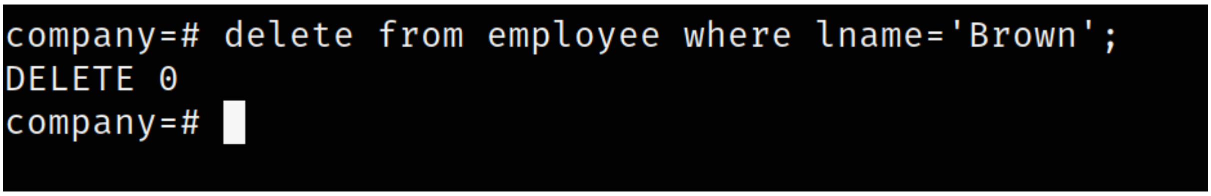
```
company=# update project set plocation='Bellaire',dnum=5 where pnumber=10;
UPDATE 1
company=# select * from project;
      pname      | pnumber | plocation | dnum
-----------------+---------+-----------+------
 ProductX        |       1 | Bellaire  |    5
 ProductY        |       2 | Sugarland |    5
 ProductZ        |       3 | Houston   |    5
 Reorganization  |      20 | Houston   |    1
 Newbenefits     |      30 | Stafford  |    4
 Computerization |      10 | Bellaire  |    5
(6 rows)
```

<1.3> Give all employees in the 'Research' department a 10% raise in salary.



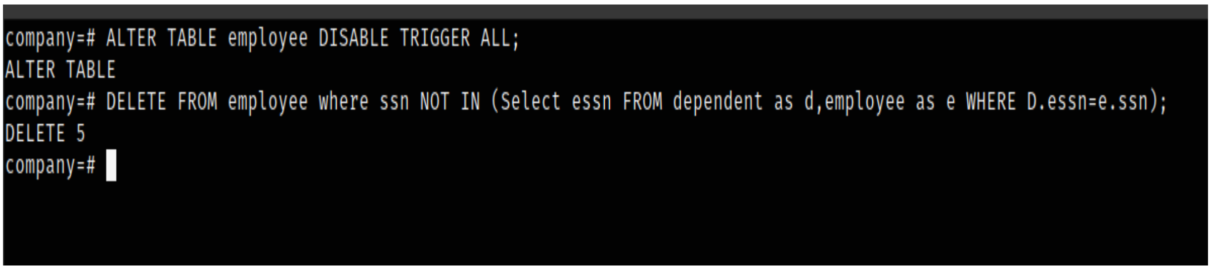
```
company=# update employee set salary=salary+(0.1*salary) where dno in (select dnumber from department where dname='Research');
UPDATE 4
company=# select * from employee;
  fname   | minit |  lname  |    ssn    |   bdate    |         address          | gender |  salary  | super_ssn | dno
----------+-------+---------+-----------+------------+--------------------------+--------+----------+-----------+-----
 James    | E     | Borg    | 888665555 | 1937-11-10 | 450 Stone, Houston,TX    | M      | 55000.00 |           |   1
 Alicia   | J     | Zelaya  | 999887777 | 1968-01-19 | 3321 Castle,Spring,Tx    | F      | 25000.00 | 333445555 |   4
 Jennifer | S     | Wallace | 987654321 | 1941-06-20 | 291 Berry, Bellaire,Tx   | F      | 43000.00 | 333445555 |   4
 Ahmed    | V     | Jabbar  | 987987987 | 1969-03-29 | 980 Dallas, Houston,TX   | M      | 25000.00 | 987654321 |   4
 John     | B     | Smith   | 123456789 | 1965-01-09 | 731 Fondren,Houston,TX   | M      | 33000.00 | 888665555 |   5
 Franklin | T     | Wong    | 333445555 | 1955-12-08 | 638 voss,Houston,TX      | M      | 44000.00 | 888665555 |   5
 Ramesh   | K     | Narayan | 666884444 | 1962-09-15 | 975 Fire Oak, Humble, TX | M      | 41800.00 | 333445555 |   5
 Joyce    | A     | English | 453453453 | 1972-07-31 | 5631 Rice,Houston,TX     | F      | 27500.00 | 333445555 |   5
(8 rows)
```

<1.4> Delete employee record whose lname ='Brown'



```
company=# delete from employee where lname='Brown';
DELETE 0
company=#
```

<1.5> Delete all the records of the employee who doesn't have dependent. (use sub query).

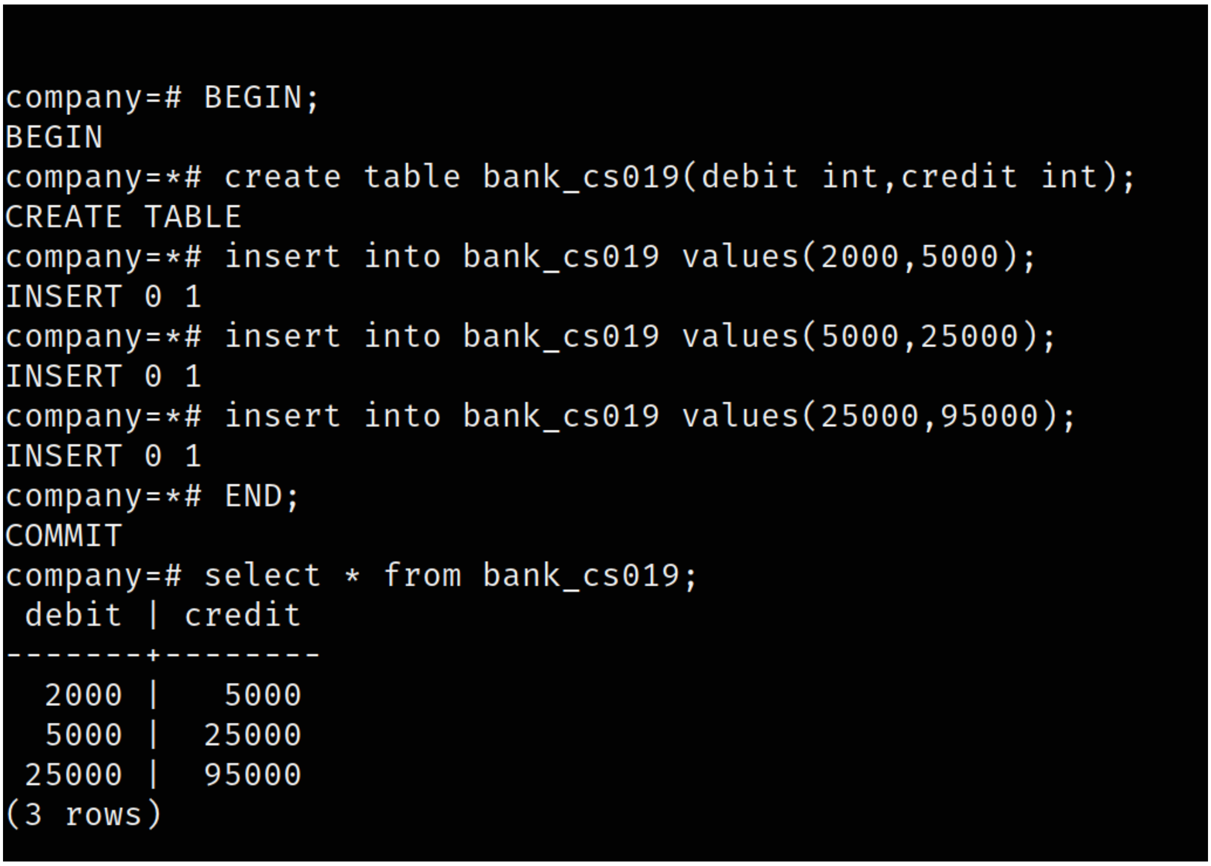


```
company=# ALTER TABLE employee DISABLE TRIGGER ALL;
ALTER TABLE
company=# DELETE FROM employee where ssn NOT IN (Select essn FROM dependent as d,employee as e WHERE D.essn=e.ssn);
DELETE 5
company=#
```

2 . Transactions

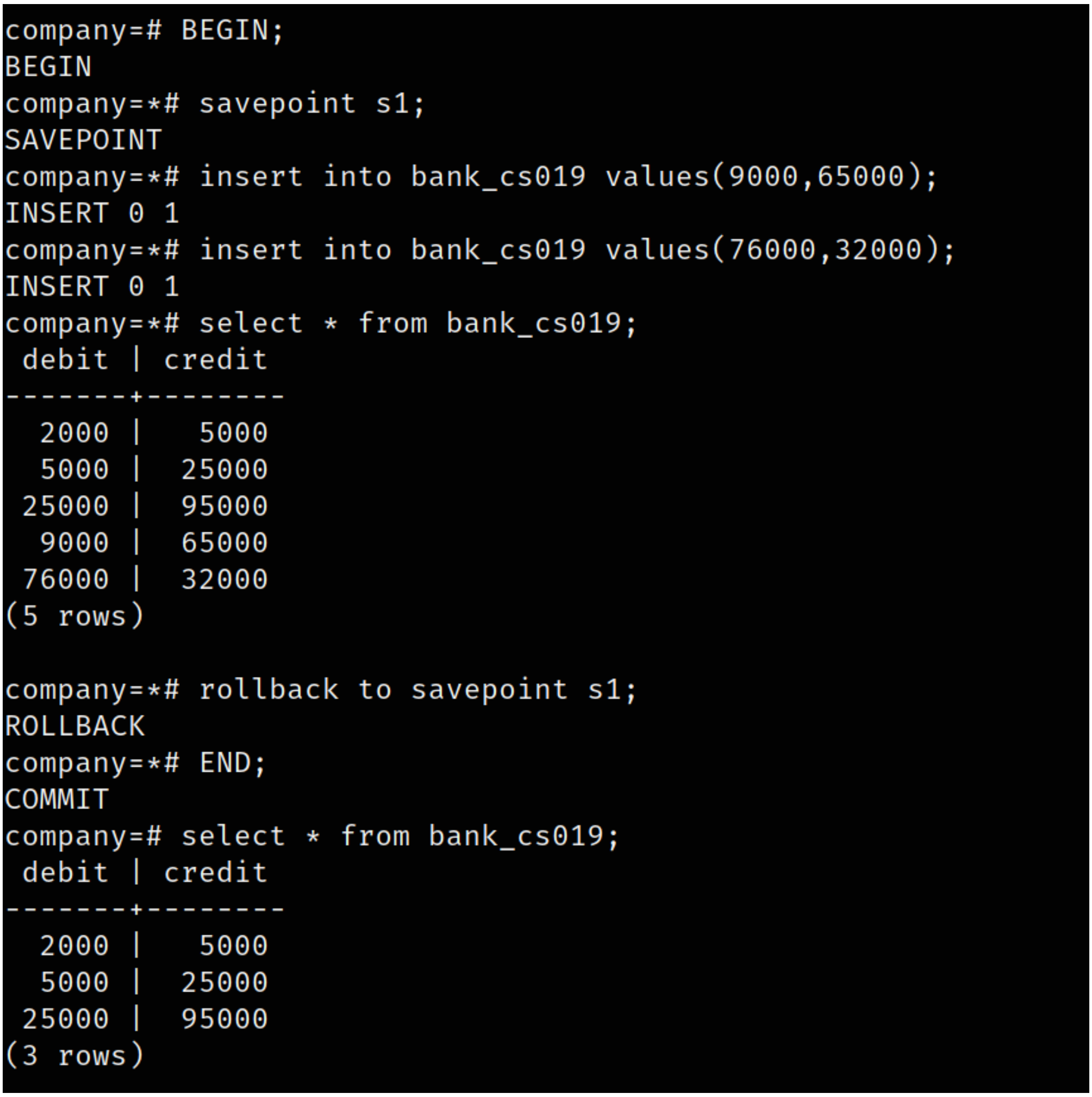
Create a transaction using begin and end commands consisting of the following sql statements.

<2.1> Create a transaction consisting of a create table and multiple insert statements. After End transaction the changes should be committed and can be checked using the select statement.



```
company=# BEGIN;
BEGIN
company=*# create table bank_cs019(debit int,credit int);
CREATE TABLE
company=*# insert into bank_cs019 values(2000,5000);
INSERT 0 1
company=*# insert into bank_cs019 values(5000,25000);
INSERT 0 1
company=*# insert into bank_cs019 values(25000,95000);
INSERT 0 1
company=*# END;
COMMIT
company=# select * from bank_cs019;
 debit | credit
-------+--------
  2000 |   5000
  5000 |  25000
 25000 |  95000
(3 rows)
```

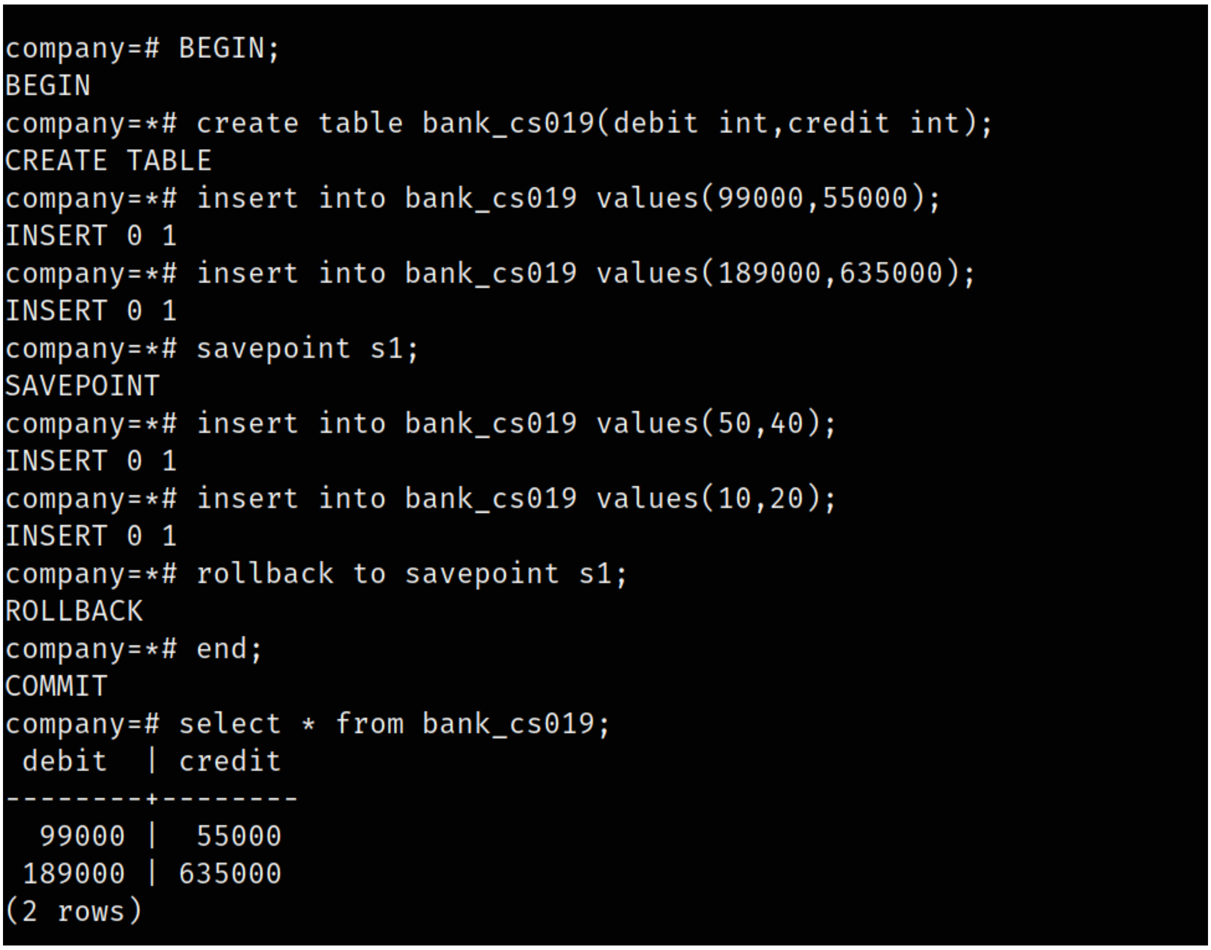
<2.2> For the above transaction, introduce a roll back after inserting 2 records. The create and insert should not be reflected in the database.



```
company=# BEGIN;
BEGIN
company=*# savepoint s1;
SAVEPOINT
company=*# insert into bank_cs019 values(9000,65000);
INSERT 0 1
company=*# insert into bank_cs019 values(76000,32000);
INSERT 0 1
company=*# select * from bank_cs019;
 debit | credit
-------+--------
  2000 |   5000
  5000 |  25000
 25000 |  95000
  9000 |  65000
 76000 |  32000
(5 rows)

company=*# rollback to savepoint s1;
ROLLBACK
company=*# END;
COMMIT
company=# select * from bank_cs019;
 debit | credit
-------+--------
  2000 |   5000
  5000 |  25000
 25000 |  95000
(3 rows)
```

<2.3> For the first transaction, introduce a save point after inserting 2 records and insert 2 more records and rollback to savepoint . The database should reflect only the first 2 insertions.



```
company=# BEGIN;
BEGIN
company=*# create table bank_cs019(debit int,credit int);
CREATE TABLE
company=*# insert into bank_cs019 values(99000,55000);
INSERT 0 1
company=*# insert into bank_cs019 values(189000,635000);
INSERT 0 1
company=*# savepoint s1;
SAVEPOINT
company=*# insert into bank_cs019 values(50,40);
INSERT 0 1
company=*# insert into bank_cs019 values(10,20);
INSERT 0 1
company=*# rollback to savepoint s1;
ROLLBACK
company=*# end;
COMMIT
company=# select * from bank_cs019;
 debit  | credit
--------+--------
  99000 |  55000
 189000 | 635000
(2 rows)
```