

T. LOHITH SRINIVAS D Section PES2UG19CS203

Creating company database and inserting values

[illegible]

```
postgres=# \c company
You are now connected to database "company" as user "postgres".
postgres=# \d
               List of relations
Schema |      Name      | Type  | Owner
-----+-----+-----+-----
public | department     | table | postgres
public | dependent       | table | postgres
public | dept_locations | table | postgres
public | employee       | table | postgres
public | project        | table | postgres
public | works_on       | table | postgres
(6 rows)
```

SQL DML

1. Create a temporary table that has the employee's 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=# create table project_info(lname varchar(15) not null, pname varchar(15) not null, hours decimal(3,1) not null);
CREATE TABLE
company=# insert into project_info select lname,pname,hours from employee as e, project as p, works_on as w where e.ssn=w.essn and p.pnumber=w.pno;
INSERT 0 15
company=# select * from project_info;
```

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)

```
company=# select * from project;
```

pname	pnumber	plocation	dnum
ProductX	1	Bellaire	5
ProductY	2	Sugarland	5
ProductZ	3	Houston	5
Computerization	10	Stafford	4
Reorganization	20	Houston	1
Newbenefits	30	Stafford	4

(6 rows)

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

3. Give all employees in the 'Research' department a 10% raise in salary

```
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)

```
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
John	B	Smith	123456789	1965-01-09	731 Fondren,Houston,TX	M	30000.00	888665555	5
Franklin	T	Wong	333445555	1955-12-08	638 voss,Houston,TX	M	40000.00	888665555	5
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
Ramesh	K	Narayan	666884444	1962-09-15	975 Fire Oak, Humble, TX	M	38000.00	333445555	5
Joyce	A	English	453453453	1972-07-31	5631 Rice,Houston,TX	F	25000.00	333445555	5
Ahmed	V	Jabbar	987987987	1969-03-29	980 Dallas, Houston,TX	M	25000.00	987654321	4

(8 rows)

```
company=# update employee set salary=1.1*salary where dno=(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)

4. Delete employee record whose lname = 'Brown'

```
company=# delete from employee where lname = 'Brown';
DELETE 0
company=# select * from employee;
  fname |  init |  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)
```

```
company=# select * from employee;
  fname |  init |  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)
```

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

```
company=# alter table department drop constraint department_mgr_ssn_fkey;
ALTER TABLE
company=# alter table employee drop constraint employee_super_ssn_fkey;
ALTER TABLE
company=# alter table works_on drop constraint works_on_essn_fkey;
ALTER TABLE
company=# delete from employee where ssn not in (select distinct essn from dependent);
DELETE 5
company=# select * from employee;
  fname |  init |  lname |   ssn |   bdate |   address | gender | salary | super_ssn | dno
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
Jennifer| S      | Wallace| 987654321 | 1941-06-20 | 291 Berry, Bellaire, Tx | F      | 43000.00 | 333445555 | 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
(3 rows)
```

Transactions

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 select statement.
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=# create table student(id int,name varchar);
CREATE TABLE
company=# insert into student values(1,'Lohith'),(2,'Kohli');
INSERT 0 2
company=# select * from student;
 id | name
-----+-----
  1 | Lohith
  2 | Kohli
(2 rows)

company=# commit;
COMMIT
company=# update student set id=26;
UPDATE 2
company=# select * from student;
 id | name
-----+-----
 26 | Lohith
 26 | Kohli
(2 rows)

company=# begin;
BEGIN
company=# create table teacher(id int,name varchar);
CREATE TABLE
company=# insert into teacher values(1,'Dhoni'),(2,'Kumble');
INSERT 0 2
company=# select * from teacher;
 id | name
-----+-----
  1 | Dhoni
  2 | Kumble
(2 rows)

company=# rollback;
ROLLBACK
company=# update teacher set id=99;
ERROR:  relation "teacher" does not exist
LINE 1: update teacher set id=99;
          ^
```

3. For the first transaction introduce a save point after inserting 2 records and insert 2 more records and rollback to savepoint . They database should reflect only first 2 insert.

```
company=# begin;
BEGIN
company=# create table teacher(id int,name varchar);
CREATE TABLE
company=# insert into teacher values(1,'Dhoni'),(2,'Kumble');
INSERT 0 2
company=# savepoint saves;
SAVEPOINT
company=# insert into teacher values(3,'Ponting');
INSERT 0 1
company=# select * from teacher;
 id | name
-----+-----
  1 | Dhoni
  2 | Kumble
  3 | Ponting
(3 rows)

company=# rollback to savepoint saves;
ROLLBACK
company=# select * from teacher;
 id | name
-----+-----
  1 | Dhoni
  2 | Kumble
(2 rows)
```