



## PES UNIVERSITY EC CAMPUS DBMS LAB WEEK 5

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SECTION: E

### TASK 1

**PROBLEM STATEMENT :** SQL DML- Insert (using select) Update and delete, Transactions commit rollback and savepoint.

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.

```
companydb=# CREATE TEMP TABLE TEMP_301(LNAME VARCHAR(15),PNAME VARCHAR(15),HOURS DECIMAL(3,1));
CREATE TABLE
companydb=# \d temp_301
```

```
Table "pg_temp_4.temp_301"
Column |          Type          | Collation | Nullable | Default
-----+-----+-----+-----+-----
lname  | character varying(15) |           |          |
pname  | character varying(15) |           |          |
hours  | numeric(3,1)          |           |          |
```

```
companydb=#
```

```
companydb=# INSERT INTO TEMP_301 SELECT LNAME,PNAME,HOURS FROM EMPLOYEE INNER JOIN (WORKS_ON INNER JOIN PROJECT ON PNO=PNUMBER) ON SSN=ESSN;
INSERT 0 16
```

```
companydb=# SELECT * FROM TEMP_301;
```

```
lname | pname | hours
-----+-----+-----
SMITH | PRODUCTX | 33.0
SMITH | PRODUCTY | 8.0
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
```

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

```
companydb=# UPDATE PROJECT SET PLOCATION='BELLAIRE',DNUM=5 WHERE PNUMBER=10;
UPDATE 1
companydb=# 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)
```

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

```
companydb=# INSERT INTO DEPTNUM SELECT DNUMBER FROM DEPARTMENT WHERE DNAME='RESEARCH';
INSERT 0 1
companydb=# SELECT * FROM DEPTNUM;
 dno
-----
    5
(1 row)

companydb=#
```

```
companydb=# UPDATE EMPLOYEE E SET SALARY=SALARY*1.1 FROM DEPTNUM WHERE E.DNO=DEPTNUM.DNO;
UPDATE 4
companydb=# SELECT * FROM EMPLOYEE;
  fname | minit | lname | ssn | bdate | address | sex | salary | dno | super_ssn
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
JAMES  | E     | BORG  | 888665555 | 1937-11-10 | 405 STONE,HOUSTON,TX | M | 55000 | 1 | 
JENNIFER | S     | WALLACE | 987654321 | 1941-06-20 | 291 BERRY,BELLAIRE,TX | F | 43000 | 4 | 888665555
ALICIA  | J     | ZELAYA | 999887777 | 1968-01-19 | 3321 CASTLE,SPRING,TX | F | 25000 | 4 | 987654321
AHMAD   | V     | JABBAR | 987987987 | 1969-03-29 | 975 FIRE OAK,HOUSTON,TX | M | 25000 | 4 | 987654321
JOYCE   | A     | ENGLISH | 453453453 | 1972-07-31 | 5631 RICE,HOUSTON,TX | F | 27500 | 5 | 333445555
RAMESH  | K     | NARAYAN | 666884444 | 1962-09-15 | 975 FIRE OAK,HOUSTON,TX | M | 41800 | 5 | 333445555
JOHN    | B     | SMITH  | 123456789 | 1965-01-09 | 731 FONDREN,HOUSTON,TX | M | 33000 | 5 | 333445555
FRANKLIN | T     | WONG   | 333445555 | 1955-12-08 | 638 VOSS,HOUSTON,TX | M | 44000 | 5 | 888665555
(8 rows)

companydb=#
```

4. Delete employee record whose lname ='Brown'

```
companydb=# DELETE FROM EMPLOYEE WHERE LNAME='BROWN';
DELETE 0
```

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

```
companydb=# ALTER TABLE EMPLOYEE DISABLE TRIGGER ALL;
ALTER TABLE
companydb=# DELETE FROM EMPLOYEE E WHERE E.SSN NOT IN (SELECT ESSN FROM DEPENDENT);
DELETE 5
companydb=# SELECT * FROM EMPLOYEE;
  fname |  init |  lname |   ssn |   bdate |      address      | sex | salary | dno | super_ssn
-----+-----+-----+-----+-----+-----+----+-----+----+-----
 JENNIFER | S    | WALLACE | 987654321 | 1941-06-20 | 291 BERRY,BELLAIRE,TX | F   | 43000 | 4   | 888665555
  JOHN   | B    | SMITH  | 123456789 | 1965-01-09 | 731 FONDREN,HOUSTON,TX | M   | 33000 | 5   | 333445555
 FRANKLIN | T    | WONG   | 333445555 | 1955-12-08 | 638 VOSS,HOUSTON,TX   | M   | 44000 | 5   | 888665555
(3 rows)

(END)
```

## TASK 2:

**PROBLEM STATEMENT :** Create a transaction using begin and end commands consisting of the following sql statements.

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.

```
companydb=# BEGIN;
BEGIN
companydb=# CREATE TABLE PRODUCT (PNAME VARCHAR(15),PID INT);
CREATE TABLE
companydb=# INSERT INTO PRODUCT VALUES('JACKET',123),('SOAP',456);
INSERT 0 2
companydb=# COMMIT;
COMMIT
companydb=# SELECT * FROM PRODUCT;
  pname | pid
-----+----
 JACKET | 123
  SOAP  | 456
(2 rows)

companydb=#
```

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

```
companydb=# BEGIN;
BEGIN
[companydb=*# INSERT INTO PRODUCT VALUES('SHIRT',897),('CARDIGAN',689);
INSERT 0 2
companydb=*# SELECT * FROM PRODUCT;
  pname  | pid
-----+-----
 JACKET  | 123
  SOAP   | 456
  SHIRT   | 897
CARDIGAN | 689
(4 rows)

[companydb=*# ROLLBACK;
ROLLBACK
[companydb=# SELECT * FROM PRODUCT;
  pname  | pid
-----+-----
 JACKET  | 123
  SOAP   | 456
(2 rows)

companydb=#
```

- 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.

```
companydb=# BEGIN;
BEGIN
[companydb=*# INSERT INTO PRODUCT VALUES('TOP',789),('VANS',778);
INSERT 0 2
companydb=*# SAVEPOINT S;
SAVEPOINT
companydb=*# INSERT INTO PRODUCT VALUES('SWEATSHIRT',709),('CONVERSE',112);
INSERT 0 2
companydb=*# SELECT * FROM PRODUCT;
  pname  | pid
-----+-----
 JACKET  | 123
  SOAP   | 456
  TOP     | 789
  VANS    | 778
SWEATSHIRT | 709
CONVERSE | 112
(6 rows)

companydb=*#
```

----- THANK YOU -----