

SQL DML- Insert (using select) Update and delete, Transactions commit rollback and save point.

Problem Statement:

1. SQL DML

- 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=# CREATE TABLE Temp(
company(# lname varchar(255),
company(# pname varchar(255),
company(# hours_per_week int);
CREATE TABLE
```

```
company=# insert into temp
company-# SELECT Employee.Lname,Project.Pname,WORKS_ON.Hours from WORKS_On
company-# join Project ON WORKS_ON.Pno = Project.Pnumber
company-# join Employee on Employee.Ssn = WORKS_ON.Essn;
INSERT 0 15
company=# select * from temp;
```

lname	pname	hours_per_week
Smith	ProductX	33
Smith	ProductY	8
Narayan	ProductZ	40
English	ProductX	20
English	ProductY	20
Wong	ProductY	10
Wong	ProductZ	10
Wong	Computerization	10
Wong	Reorganization	10
Zelaya	Newbenefits	30
Zelaya	Computerization	10
Jabbar	Computerization	35
Jabbar	Newbenefits	5
Wallace	Newbenefits	20
Wallace	Reorganization	15

(15 rows)

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

```
company=# UPDATE project set Plocation='Bellaire',Pnumber=5 where Pnumber=10;
```

```
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)
```

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

```
company=# UPDATE employee SET salary=salary+(salary*10/100) where dno=5;
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 | 333445555 | 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-- More
(8 rows)
```

- Delete employee record whose lname ='Brown'

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

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

```
company=# delete from employee where ssn not in (select Essn from Dependent);
DELETE 5
company=# select * from employee;
      fname | minit | 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 | 333445555 | 5
Franklin   | T      | Wong   | 333445555 | 1955-12-08 | 638 voss, Houston, TX | M      | 44000.00 | 333445555 | 5
(3 rows)
```

2. Transactions

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

- 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.

```

company=# BEGIN;
BEGIN
company=*# CREATE TABLE PERSON(
company=*# Pid int PRIMARY KEY,
company=*# LName varchar(255),
company=*# FName varchar(255),
company=*# Address Varchar(255))
company-*# ;
CREATE TABLE
company=*# Insert into PERSON VALUES(1,'Vuppala','Arjun','Bengaluru');
INSERT 0 1
company=*# Insert into PERSON VALUES(2,'Bajpai','ram','Bengaluru');
INSERT 0 1
company=*# Insert into PERSON VALUES(3,'Batra','shyam','Bengaluru');
INSERT 0 1
company=*# end;
COMMIT
company=# select * from PERSON;
 pid | lname | fname | address
-----+-----+-----+-----
   1 | Vuppala | Arjun | Bengaluru
   2 | Bajpai | ram   | Bengaluru
   3 | Batra  | shyam | Bengaluru
(3 rows)

```

- 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 PERSON(
company=*# Pid int PRIMARY KEY,
company=*# LName varchar(255),
company=*# FName varchar(255),
company=*# Address Varchar(255));
CREATE TABLE
company=*# Insert into PERSON VALUES(1,'Vuppala','Arjun','Bengaluru');
INSERT 0 1
company=*# Insert into PERSON VALUES(2,'Bajpai','ram','Bengaluru');
INSERT 0 1
company=*# rollback;
ROLLBACK
company=# endl
company-*# end;
ERROR:  syntax error at or near "endl"
LINE 1: endl
        ^
company=# end;
WARNING:  there is no transaction in progress
COMMIT
company=# select * from PERSON
company-*# ;
ERROR:  relation "person" does not exist
LINE 1: select * from PERSON
                   ^
company=# _

```

- 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=# Insert into PERSON VALUES(3,'Batra','shyam','Bengaluru');
INSERT 0 1
company=# Insert into PERSON VALUES(4,'Batra','tom','Bengaluru');
INSERT 0 1
company=# savepoint point1;
SAVEPOINT
company=# Insert into PERSON VALUES(5,'Batra','tom','Bengaluru');
INSERT 0 1
company=# Insert into PERSON VALUES(6,'john','dexter','Bengaluru');
INSERT 0 1
company=# ROLLBACK TO SAVEPOINT point1;
ROLLBACK
company=# end;
COMMIT
company=# select * from person;
 pid | lname | fname | address
-----+-----+-----+-----
   1 | Vuppala | Arjun | Bengaluru
   2 | Bajpai | ram | Bengaluru
   3 | Batra | shyam | Bengaluru
   4 | Batra | tom | Bengaluru
(4 rows)

company=#

```