**INSERT, DELETE, and UPDATE Statements in SQL**

**The INSERT Command**In its simplest form, INSERT is used to add a single tuple (row) to a relation (table). We must specify the relation name and a list of values for the tuple. The values should be listed in the same order in which the corresponding attributes were specified in the CREATE TABLE command.

For example, to add a new tuple to the EMPLOYEE relation

INSERT INTO EMPLOYEE VALUES (‘Richard’, ‘K’, ‘Marini’, ‘653298653’, ‘1962-12-30’, ’98 Oak Forest, Katy, TX’, ‘M’, 37000, ‘653298653’, 4);A second form of the INSERT statement allows the user to specify explicit attribute names that correspond to the values provided in the INSERT command.

Attributes with NULL allowed or DEFAULT values are the ones that can be left out.

For example, to enter a tuple for a new EMPLOYEE for whom we know only the Fname, Lname, Dno, and Ssn attributes.

INSERT INTO EMPLOYEE (Fname, Lname, Dno, Ssn) VALUES (‘Richard’, ‘Marini’, 4, ‘653298653’);

Attributes not specified in the above statement are set to their DEFAULT or to NULL, and the values

are listed in the same order as the attributes are listed in the INSERT command itself.

**The DELETE Command**

The DELETE command removes tuples from a relation. It includes a WHERE clause, similar to that used in an SQL query, to select the tuples to be deleted.

DELETE FROM EMPLOYEE WHERE Lname = ‘Brown’;

DELETE FROM EMPLOYEE WHERE Ssn = ‘123456789’;

DELETE FROM EMPLOYEE WHERE Dno = 5;

DELETE FROM EMPLOYEE;

We must use the DROP TABLE command to remove the table definition.

**The UPDATE Command**

The UPDATE command is used to modify attribute values of one or more selected tuples. As in the DELETE command, a WHERE clause in the UPDATE command selects the tuples to be modified from a single relation.

An additional SET clause in the UPDATE command specifies the attributes to be modified and their new values.

For example, to change the location and controlling department number of project number 10 to ‘Bellaire’ and 5, respectively, we use U5:

UPDATE PROJECT SET Plocation = ‘Bellaire’, Dnum = 5 WHERE Pnumber = 10;Several tuples can be modified with a single UPDATE command. An example is to give all employees in the ‘Research’ department a 10% raise in salary.

UPDATE EMPLOYEE SET Salary = Salary \* 1.1 WHERE Dno = 5;