**Branch :- Computer Sci. & Engg. Class :- III Year**

**Subject :- DBMS Sem :- V**

**Teacher Manual**

**PRACTICAL NO 7**

**AIM**: Write SQL commands to perform the modifications to the database.

**S/W REQUIRED: MYSQL 8.0 Command line client**

Sample Database Considered is:

1. classroom(building, room\_number, capacity)

2. department(dept\_name, building, budget)

3. course(course\_id, title, dept name, credits)

4. instructor(inst\_id, name, dept name, salary)

5. section(course\_id, sec id, semester, year, building, room number, time slot\_id)

6. teaches(inst\_id, course\_id, sec-id, semester, year)

7. student(stu\_id, name, dept\_name, tot\_cred)

8. takes(stu\_id, course\_id, sec-id, semester, year, grade)

9. advisor(s\_id, i\_id)

10. prereq(course\_id, prereq\_id)

1. Delete all tuples in the instructor relation pertaining to instructors in the Finance department.
2. Delete all instructors with a salary between $13,000 and $15,000.
3. Delete all tuples in the instructor relation for those instructors associated with a department located in the Watson building.
4. Delete the records of all instructors with salary below the average at the university.
5. Perform a simple insert that stores the fact that there is a course CS-437 in the Computer Science department with title “Database Systems”, and 4 credit hours in all possible ways.
6. Make each student in the Music department who has earned more than 144 credit hours, an instructor in the Music department, with a salary of $18,000.
7. Update salaries of all instructors by 5 percent.
8. Update salaries of instructors who have salary less than $70,000.
9. Give a 5 percent salary raise to instructors whose salary is less than average.

**Solution to Queries:**

**Deletion Queries:**

1. Delete all tuples in the instructor relation pertaining to instructors in the Finance department.

MariaDB [university]> delete from instructor where dept name= ’Finance’;

1. Delete all instructors with a salary between $13,000 and $15,000.

MariaDB [university]> delete from instructor where salary between 13000 and 15000;

1. Delete all tuples in the instructor relation for those instructors associated with a department located in the Watson building.

MariaDB [university]> delete from instructor where dept name in (select dept name from department

where building = ’Watson’);

1. Delete the records of all instructors with salary below the average at the university.

MariaDB [university]> delete from instructor where salary< (select avg (salary) from instructor);

**Insertion Queries:**

1. Perform a simple insert that stores the fact that there is a course CS-437 in the Computer Science department with title “Database Systems”, and 4 credit hours in all possible ways.

MariaDB [university]> insert into course values (’CS-437’, ’Database Systems’, ’Comp. Sci.’, 4);

**By Specifying Column List**

MariaDB [university]> insert into course (course id, title, dept name, credits) values (’CS-437’, ’Database Systems’, ’Comp. Sci.’, 4);

**By Specifying Column List (not in same order as in table)**

MariaDB [university]> insert into course (title, course id, credits, dept name) values (’Database Systems’, ’CS-437’, 4, ’Comp. Sci.’);

1. Make each student in the Music department who has earned more than 144 credit hours, an instructor in the Music department, with a salary of $18,000.

**Insert tuples on the basis of the result of a query**

MariaDB [university]> insert into instructor select ID, name, dept name, 18000 from student

where dept name = ’Music’ and tot cred > 144;

**Update Queries:**

1. Update salaries of all instructors by 5 percent.

MariaDB [university]> update instructor set salary= salary \* 1.05;

1. Update salaries of instructors who have salary less than $70,000.

MariaDB [university]> update instructor set salary = salary \* 1.05 where salary < 70000;

1. Give a 5 percent salary raise to instructors whose salary is less than average.

MariaDB [university]> update instructor set salary = salary \* 1.05 where salary < (select avg (salary)

from instructor);

**CONCLUSION:** SQL commands to perform the modifications to the database are sucessfilly executed.