

### **Handout 3 for 12/03/2018**

1. Consider the following tables.

LIVES(Pname, Street, City)

LOCATED\_IN(Cname, City)

WORKS (Pname, Cname, Salary)

Where Pname = Person name, Cname=Company name

**Execute the SQL queries for the following:**

- Create the tables and assign the appropriate primary key and foreign key constraints.
- Insert at least 5 tuples for each table.
- List the names of the people who work for the company Wipro along with the cities they live in.
- Find the names of the persons who live and work in the same city.
- Display the details of the employee whose name has the alphabet 'k'.
- Find the people who work for the company 'Infosys' with a salary more than Rs. 50000/-.  
List the names of the people along with the street and city addresses.
- Find the names of the persons who do not work for 'Infosys'.
- Find the names of the companies that are located in every city where the company 'Infosys' is located.
- Display the average salary and number of the employees company wise in descending order of salary.
- Display the details of the employee whose name has the alphabet 'k'.
- Delete the record of a particular employee from the LIVES.

2. Consider the following relations for a database that keeps track of student enrollment in courses and the books adopted for each course:

STUDENT(Ssn, Name, Major, Bdate)

COURSE(Course#, Cname, Dept\_name)

ENROLL(Ssn, Course#, Quarter, Grade)

TEXT(Book\_isbn, Book\_title, Publisher, Author)

BOOK\_ADOPTION(Course#, Quarter, Book\_isbn)

**Execute the SQL queries for the following:**

- Create the tables and assign the appropriate primary key and foreign key constraints.
- Insert at least 5 tuples for each table.
- List the number of courses taken by all students named John Smith in Winter 2009 (i.e., Quarter=W09).
- Retrieve the names of students who have enrolled in a course that uses a textbook published by Addison-Wesley.

- Produce a list of textbooks (include Course#, Book\_isbn, Book\_title) for courses offered by the 'CS' department
- Display the student details whose year of birth is between 1990 and 1999 and enrolled for a winter course.
- Delete details of a book from TEXT.
- Display the details of the books published by both Wiley and MGH publishers

3. Consider the following schema:

Suppliers(sid:integer, sname: string, address: string)

Parts(pid: integer, pname: string, color: string)

Catalog(sid: integer, pid: integer, cost: real)

**Execute the SQL queries for the following:**

- Create the tables and assign the appropriate primary key and foreign key constraints.
- Insert at least 5 tuples for Suppliers and Parts.
- Consider an empty table for Catalog. Write a trigger to fire before the insert take place.
- Retrieve the *names* of suppliers who supply some red part.
- Retrieve the *sids* of suppliers who supply some red part or are at 221 Packer Street.
- Retrieve the *sids* of suppliers who supply some red or green part.
- Retrieve the *sids* of suppliers who supply some red and green part.
- Display the details of the parts for which the name has the alphabet 'M' as the first letter and having at least 5 characters.
- Delete the supplier record with supplier id 101.

4. Consider the following schema:

Customer (Cust\_id: integer, cust\_name: string)

Item (item\_id: integer, item\_name: string, price: integer)

Sale (bill\_no: integer, bill\_date: date, cust\_id: integer, item\_id: integer, qty\_sold: integer)

For the above schema, perform the following in SQL

- Create the tables with the appropriate integrity constraints
- Insert around 5 records in each of the tables
- List the custid of the customers whose name is "Smith"
- Display the details of the items that a particular customer has purchased.
- List the details of the items whose price>200

5. Consider the following relations:

Sailors(sid, sname, rating, age)

Boats(bid, bname, color)

Reserves(sid, bid, day)

**Execute the SQL queries for the following:**

- Create the tables and assign the appropriate primary key and foreign key constraints.
  - Insert at least 5 tuples for each table.
  - Find the names of sailors who have reserved boat number 103 or with a rating above 7.
  - Find the colors of boats reserved by 'Lubber.'
  - Find the sids and names of sailors who have reserved a red boat.
  - Display the details of sailors who have reserved a red and a green boat.
  - Display the details of sailors who have reserved a red or a green boat
6. Consider the following relations containing airline flight information:
- Flights(flno: integer, from: string, to: string,distance: integer, departs: time, arrives: time)
- Aircraft(aid: integer, aname: string, cruisingrange: integer)
- Certified(eid: integer, aid: integer)
- Employees(eid: integer, ename: string, salary: integer)

**Note:**

1. Flights and Aircraft are joined by distance < cruisingrange
  2. The Employees relation describes pilots and other kinds of employees as well; every pilot is certified for some aircraft (otherwise, he or she would not qualify as a pilot), and only pilots are certified to fly.
- Retrieve the eids of pilots certified for some Boeing aircraft.
  - Retrieve the names of pilots certified for some Boeing aircraft.
  - Retrieve the aids of all aircraft that can be used on non-stop flights from Bonn to Madras.
  - Identify the flights that can be piloted by every pilot whose salary is more than \$100,000.