The following tables form part of a database held in a relational DBMS:

* Hotel (HotelNo, Name, City)
* Room (RoomNo, HotelNo, Type, Price)
* Booking (HotelNo, GuestNo, DateFrom, DateTo, RoomNo)
* Guest (GuestNo, GuestName, GuestAddress)

**Executing SQL Queries Exercises**

1.   List full details of all hotels.

2.   List full details of all hotels in London.

3.   List the names and addresses of all guests in London, alphabetically ordered by name.

4.   List all double or family rooms with a price below £40.00 per night, in ascending order of price.

5.   List the bookings for which no date\_to has been specified.

**Aggregate Functions**

How many hotels are there?

What is the average price of a room?

What is the total revenue per night from all double rooms?

How many different guests have made bookings for August?

**Subqueries and Joins**

1.   List the price and type of all rooms at the Grosvenor Hotel.

2.   List all guests currently staying at the Grosvenor Hotel.

3.   List the details of all rooms at the Grosvenor Hotel, including the name of the guest staying in the room, if the room is occupied.

4.   What is the total income from bookings for the Grosvenor Hotel today?

5.   List the rooms that are currently unoccupied at the Grosvenor Hotel.

6.   What is the lost income from unoccupied rooms at the Grosvenor Hotel?

**Grouping**

1.   List the number of rooms in each hotel.

2.   List the number of rooms in each hotel in London.

3.   What is the average number of bookings for each hotel in April?

4.   What is the most commonly booked room type for each hotel in London?

5.   What is the lost income from unoccupied rooms at each hotel today?

**Creating and Populating Tables With Data**

1.   Using the CREATE TABLE statement, create the Hotel, Room, Booking and Guest tables.

2.   Insert records into each of these tables.

3.   Update the price of all rooms by 5%.

4.   Create a separate table with the same structure as the Booking table to hold archive records. Using the INSERT statement, copy the records from the Booking table to the archive table relating to bookings before 1st January 2008. Delete all bookings before 1st January 2008 from the Booking table.

1.*employee* (*employee name*, *street*, *city*)

*works* (*employee name*, *company name*, *salary*)

*company* (*company name*, *city*)

*manages* (*employee name*, *manager name*)

Consider the employee database ,where the primary keys are underlined.

Give an expression in SQL for each of the following queries.

**a.** Find the names of all employees who work for First Bank Corporation.

**b.** Find all employees in the database who live in the same cities as the companies for which they work.

**c.** Find all employees in the database who live in the same cities and on the same streets as do their managers.

**d.** Find all employees who earn more than the average salary of all employees of their company.

**e.** Find the company that has the smallest payroll.

2 Employee database.

*employee* (*employee name*, *street*, *city*)

*works* (*employee name*, *company name*, *salary*)

*company* (*company name*, *city*)

*manages* (*employee name*, *manager name*)

Consider the relational database. Give an expression in SQL for

each of the following queries.

**a.** Give all employees of First Bank Corporation a 10 percent raise.

**b.** Give all managers of First Bank Corporation a 10 percent raise.

**c.** Delete all tuples in the *works* relation for employees of Small Bank Corporation.

3.Consider the following relational schema

*employee*(*empno*, *name*, *office*, *age*)

*books*(*isbn*, *title*, *authors*, *publisher*)

*loan*(*empno*, *isbn*, *date*)

Write the following queries in SQL.

**a.** Print the names of employees who have borrowed any book published by McGraw-Hill.

**b.** Print the names of employees who have borrowed all books published by McGraw-Hill.

**c.** For each publisher, print the names of employees who have borrowed more than five books of that publisher.

Consider the relational schema

*student*(*student id*, *student name*)

*registered*(*student id*, *course id*)

Write an SQL query to list the student-id and name of each student along with the total number of courses that the student is registered for.

Students who are not registered for any course must also be listed, with the number of registered courses shown as 0.

Consider an employee database with two relations

employee (employee-name, street, city)

works (employee-name, company-name, salary)

where the primary keys are underlined. Write a query to find companies whose employees earn a higher salary, on average, than the average salary at First Bank Corporation.

a. Using SQL functions as appropriate.

b. Without using SQL functions.

*person* (*driver id*, *name*, *address*)

*car* (*license*, *model*, *year*)

*accident* (*report number*, *date*, *location*)

*owns* (*driver id*, *license*)

*participated* (*driver id*, *car*, *report number*, *damage amount*)

Consider the insurance database, where the primary keys are underlined.

Construct the following SQL queries for this relational database.

**a.** Find the number of accidents in which the cars belonging to “John Smith” were involved.

**b.** Update the damage amount for the car with license number “AABB2000” in the accident with report number “AR2197” to $3000.

Using the relations of our sample bank database,write SQL expressions to define

the following views:

**a.** A view containing the account numbers and customer names (but not the balances) for all accounts at the Deer Park branch.

**b.** A view containing the names and addresses of all customers who have an account with the bank, but do not have a loan.

**c.** A view containing the name and average account balance of every customer of the Rock Ridge branch.

Consider the following database

Employee(emp\_no,name,skill,pay-rate)

Position(posting\_no,skill)

Duty\_allocation(posting\_no,emp\_no,day,shift)

Find the SQL queries for the following:

1. Get the duty allocation details for emp\_no 123461 for the month of April 1986.

2. Find the shift details for Employee ‘xyz’

3. Get employees whose rate of pay is more that or equal to the rate of pay of employee ‘xyz’

4. Get the names and pay rates of employees with emp\_no less than 123460 whose rate of pay is more than the rate of pay of at least one employee with emp\_no greater than or equal to 123460.

5. Find the names of employees who are assigned to all positions that require a Chef’s skill

6 .Find the employees with the lowest pay rate

7 .Get the employee numbers of all employees working on at least two dates.

8 .Get a list of names of employees with the skill of Chef who are assigned a duty

9 .Get a list of employees not assigned a duty

10.Get a count of different employees on each shift

Consider the following database

Project(project\_id,proj\_name,chief\_arch)

Employee(Emp\_id,Emp\_name)

Assigned-To(Project\_id,Emp\_id)

Find the SQL queries for the following:

1. Get the details of employees working on project C353

2. Get employee number of employees working on

project C353

3. Obtain details of employees working on Database project

4. Get details of employees working on both C353 and C354

5. Get employee numbers of employees who do not work on project C453

6. Get the employee numbers of employee who work on all projects

7. Get employees numbers of employees who work on at least all those projects that employee 107 works on

8. Get employee numbers who work on at least one project that employee 107 works on.

Consider the following database

Employee(employee\_name,street,city)

Works(emplyoyee\_name,company\_name,salary)

Company(company\_name,city)

Manages(employee\_name,manager\_name)

Find the SQL queries for the following:

1. Find the names of all employees who work for FBC

2. Find the names and cities of all employees who work for FBC

3. Find the names, street address and cities of residence of all employees who work for FBC and earn more than $10,000.

4. Find all employees in the database who live in the same cities as the companies for which they work

1. Find all employees in the database who live in the same cities and on the same street as do their managers

Consider the following db system & solve the following queries

1. Sailors ( Sid , same , rating age)

2. Boats(bid , bname, color)

3. Reserves (sid, bid, day(date))

Queries

1. find the sid of sailors who have reserved the a red boat
2. find the name of sailors who have reserved the red boat
3. find the color of boats reserved by ‘john’
4. find the sid of sailors who have traveled in the month ‘april’
5. find all sailors with less than 7 rating.

Consider the mail order db system & solve the Queries

1. emp (eno,ename,Zip,hdate)
2. parts(pno,pname,qty\_on\_hand, price)
3. customer(cno,cname,street,Zip,phone)
4. order(ono,cno,receivedate,shippeddate)
5. odetails(ono,pno,qty)
6. zipcode(Zip,city)

Queries

1. get pno,pname values of parts that are priced less than $20.00

2. get the ono & cname values of customer whose orders have not yet been shipped

3. get the cname values of customer who have placed order with emp living in ‘Pune’ or ‘mumbai’

4. get the cities in which customer or emp are located

5. get the totalquantity of part 1060 that has been ordered

get the total no of customer

Create a db called company consist of the following tables.

1.Emp (eno,ename, job,hiredate,salaey,commission,deptno,)

2.dept(deptno,deptname,location)

Queries

1. List the maximum salary paid to salesman

2. List name of emp whose name start with ‘I’

3. List details of emp who have joined before ’30-sept-81’

4. List the emp details in the descending order of their basic salary

5. List of no. of emp & avg salary for emp in the dept no ‘20’

6. List the avg salary, minimum salary of the emp hiredatewise for dept no ‘10’

