1. **Product Database**

Product(pid: integer, name: varchar(20), min\_age: integer)  
Manufacturer(mid: integer, name: varchar(20), address: varchar(50))  
Supplier(sid: integer, name: varchar(20), address: varchar(50))  
Inventory(pid:integer, stock: integer)  
Manufactures(mid:integer, pid: integer)  
Supplies(sid: integer, pid: integer)

Create tables by using above structures and answer the following queries.

**Part-1**

1) List the ids and names of all products whose inventory is below 5.

2) List the ids and names of all suppliers for products manufactured by "manufacturer\_2". The id and name of each supplier should appear only once.

 3) List the ids, names, and number in stock of all products in inventory. Order the list by decreasing number in stock and decreasing product ids.

 4) List the ids and names of all products for whom there is only one supplier.

**Part-2**

 5) Find the ids and names of the products with the lowest inventory. Do NOT assume these are always products with an inventory of zero.

 6) List the id and name of each supplier along with the total number of products it supplies.

 7) Find the id and name of the manufacturer who produces toys on average for the youngest children.

1. **Inspection database**

professor(profname, deptname)  
department(deptname, building)  
committee(commname, profname)

1. Find all the professors who are in any one of the committees that professor Piper is in.
2. Find all the professors who are in at least all those committees that professor Piper is in.
3. Find all the professors who have not offices in any of those buildings that Professor Piper has offices in.
4. Find the professors who are in exactly two committees working in.
5. Find the department name who has professors working in all committees.
6. **Consider the following student database who are enrolled in different subjects**

**student(id, name)**

**enrolledIn(id, code)**

**subject(code, lecturer)**

**Part-1**

1. What are the names of students enrolled in cs3020?

2. Which subjects is Hector taking?

3. Who teaches cs1500?

4. Who teaches cs1500 or cs3020?

5. Who teaches at least two different subjects?

**Part-2**

6. What are the names of students in cs1500 or cs3010?

7. What are the names of students in both cs1500 and cs1200?

8. What are the names of students in at least two different subjects?

9. What are the codes of all the subjects taught?

**Part-3**

10. What are the names of all the students?

11. What are the names of all the students in cs1500?

12. What are the names of students taking a subject taught by Roger.

13. What are the names of students who are taking a subject not taught by Roger?

1. A database is being constructed for storing sales information system. A product can be described with a unique product number, product name, selling price, manufacturer name. The product can sale to a particular client and each client have it own unique client number, client name, client addresses, city, pin code, state and total balance to be required to paid. Each client order to buy product from the salesman. In the order, it has unique sales order number, sales order date, client number, salesman number (unique), billed whole payment by the party or not and its delivery date. The salesman have the name, addresses, city, pin code, state, salary of the sales man, delivery date, total quantity ordered, product rate.

Write the SQL queries for the following –

**Part-1**

1. Retrieve the list of names and the cities of all the clients.

2. List the various products available.

3. Find the names of all clients having ‘a’ as the second letter in their names.

4. List all the clients who are located in TEZPUR.

**Part-2**

5. Find the products whose selling price is greater than 2000 and less than or equal to 5000

6. Add a new column NEW\_PRICE into the product\_master table.

7. Rename the column product\_rate of Sales\_Order\_Details to new\_product\_rate.

8. List the products in sorted order of their description.

**Part-3**

9. Display the order number and date on which the clients placed their order.

10. Delete all the records having delivery date before 25th August, 2008.

11. Change the delivery date of order number ON01008 to 16-08-08

12. Change the bal\_due of client\_no CN01003 to 1200

**Part-4**

13. Find the product with description as ‘HDD1034’ and ‘DVDRW’

14. List the names, city and state of the clients not in the state of ‘ASSAM’

15. List of all orders that were canceled in the of March.

1. For the following relation schema of **employee** database

employee (employee-name, street, city)

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

company(company-name, city)

manages(employee-name, manager-name).

**Part-1**

1. Find the names, street address, and cities of residence for all employees who work for 'First Bank Corporation' and earn more than $10,000.
2. Find the names of all employees in the database who live in the same cities as the companies for which they work.
3. Find the names of all employees in the database who do not work for 'First Bank Corporation'. Assume that all people work for exactly one company.
4. Find the names of all employees in the database who earn more than every employee of 'Small Bank Corporation'. Assume that all people work for at most one company.

**Part-2**

1. Assume that the companies may be located in several cities. Find all companies located in every city in which 'Small Bank Corporation' is located.
2. Find the names of all employees who earn more than the average salary of all employees of their company. Assume that all people work for at most one company.
3. Find the name of the company that has the smallest payroll.
4. **Consider the following tables**

Sailors (sid, sname, rating, age)

Boats (bid, bname, color)

Reserves (sid, bid, date)

Write the following queries

**Part-1**

1. Find the colors of boats reserved by Albert.
2. Find all sailor id’s of sailors who have a rating of at least 8 or reserved boat 103.
3. Find the names of sailors who have not reserved a boat whose name contains the string “storm”. Order the names in ascending order.
4. Find the sailor id’s of sailors with age over 20 who have not reserved a boat whose name includes the string “thunder”.

**Part-2**

1. Find the names of sailors who have reserved at least two boats.
2. Find the names of sailors who have reserved all boats.
3. Find the names of sailors who have reserved all boats whose name starts with “typhoon”.
4. Find the sailor id’s of sailors whose rating is better than some sailor called Bob.

**Part-3**

1. Find the sailor id’s of sailors whose rating is better than every sailor called Bob.
2. Find the sailor id’s of sailors with the highest rating.
3. Find the name and age of the oldest sailor.
4. Find the names of sailors who have reserved every boat reserved by those with a lower rating.

**Part-4**

1. For each rating, find the average age of sailors at that level of rating.
2. For each boat which was reserved by at least 5 sailors with age >= 40, find the boat id and the average age of such sailors.
3. For each boat which was reserved by at least 5 sailors with age >= 40, find the boat id and the average age of all sailors who reserved the boat.
4. **Consider the following tables**

AntiqueOwners (OwnerID, OwnerFirstname, OwnerLastname)

Orders (OwnerID, ItemOrdered)

Antiques(SellerID, BuyerID, Item)

Answer the following queries

1. Find the names of those who bought a chair
2. List seller names alphabetized by LastName, then by FirstName.
3. Print the last name of those owners who have placed an order.
4. List all Items which are ordered.
5. Delete an item named ‘Ottaman’
6. **Consider the following tables**

**Customer (CustomerID, Customername, Address, PhoneNo, City)**

**Bank (branch\_name, branch\_city, assets)**

**Account (acc\_no, balance)**

**Deposit (acc\_no,Customer\_id, branch\_name, amount)**

**Part-1**

1. Find bank accounts with a balance under $700:
2. Retrieve a list of all bank branch details, ordered by branch city, with each city’s branches listed in reverse order of holdings.
3. Find customerid’s and average balance of accounts at Perryridge branch
4. Find all customers with more than one account.

**Part-2**

1. Find the smallest number of assets.
2. Find the largest balance amount at each branch.
3. Find all branches with assets greater than at least one branch in Brooklyn.
4. Find branches with assets greater than all branches in Brooklyn.

**Part-3**

1. Find all cities with more than two customers living in the city.
2. Find the largest total account balance of any branch.
3. Add 2% interest to all bank account balances with a balance of $500 or less.
4. Consider the following tables

**Movie (Code, Title, Rating)**

**MovieTheatres (Code, Name, Movie)**

**Answer the following queries**

1. List the titles of all Movies.
2. Show all unrated movies.
3. Select all movie theaters that are not currently showing a movie.
4. Select all data from all movie theaters and, additionally, the data from the movie that is being shown in the theater.
5. Consider the following tables

**doctor (doctor\_id, dname, dob, specialization, city)**

**check-up (docid, patid, cdate, diagnosis, fee)**

**patient (patient\_id, pname, address, dob)**

Answer the following queries

1. Find the name, address and birth date of the patients whose name starts with ‘r‘.

2. Find the name of the patient, name of doctor, date of check-up and diagnosis.

3. Display each specialization and number of doctors available for that specialization.

4. Print the numbers of doctors who have checked Hari, also print average fees.

11. Consider the following tables

**musician (musician\_id, mname, dob, specialized\_instrument)**

**perform (musid, instid, function\_date, function)**

**instrument (instrument\_id, iname, price, type)**

Answer the following queries

1. Find the name and price of the string type instruments.

2. Display the names of instruments along with their price which were used in New Year function.

3. Display names of musicians, their specialized instrument and function held after 2005.

4. Print the name of instrument for which number of musicians specialized is more than 1.

1. Consider the following tables

**article (art\_no, art\_title, type, adate, cid, museum\_id)**

**caretaker (cid, cname, address, salary)**

**museum (museum\_id, mname, city, mdate)**

1. Print the details of articles which are cared by person living in Delhi.
2. Find the details of care takers taking care of more than 2 articles.
3. Print the details of museum which has paintings and located in Hyderabad.
4. List the museum name, article title and name of the caretaker taking care of those articles.
5. Consider the following tables

**credit\_card (ccno, expiry\_date, limit, bankid, cid)**

**bank (bankid, bankname, city)**

**customer (cid, cname, address, DOB)**

1. Display the details of bank having India in its name.
2. Find the customer names and address who have cards from the bank present in Delhi.
3. Print the total number of cards as ‗Total-Cards‘, minimum limit as ‗Min-Limit‘ and maximum limit as ‗Max-Limit‘ of those cards
4. Find the name of bank which has issued more than 3 cards
5. **consider the following tables**

**supplier (Sno, Sname, city)**

**part (Pno, Pname, Price)**

**supply (Sno, Pno, qty)**

**Answer the following queries**

1. Display average and sum of price of all the parts.
2. Display the price of those parts for which name ends with ‘t’;
3. Display the part details of part which are supplied by supplier lives in city ‘Bangalore’.
4. Select the supplier number for the suppliers who supply exactly two parts.