

Module 4

1. Integrity Constraints & its Types. Referential Integrity with example.
2. Set Operations in SQL.
3. SQL Aggregate Functions with examples.
4. Triggers with Syntax and Example.
5. SQL Queries:

Write SQL queries for the given database

Book(book_id, title,author, cost)

Store(store_no, city, state, inventory_val)

Stock(store_no, book_id,quantity)

- (i) Modify the cost of DBMS books by 10%
- (ii) Find the total number of books in Mumbai stores
- (iii) Find title of all books whose title contains the word 'System'
- (iv) Find title of the most expensive book
- (v) Add a new record in Book(Assume values as per requirement)

a.

- a) For the schema mentioned below

Employee(eid, ename, address, city) Works(eid, cid, salary)

Company(cid, cname, city)

Create an ER diagram for the same and Specify the SQL queries for each of the statements given below

- 1) Modify database so that John now lives in Mumbai, assuming the database entry has John staying in Delhi.
- 2) Find Employees who live in same city as the company for which they work.
- 3) Give all employees of "AZ Corporation" whose salary has increased by 15% in the year 2018-19.

f.

Employee(eid,ename,address,city)

Works(eid,cid,salary)

Company(cid,cname,city)

- 1) Modify database so that John now lives in Mumbai
- 2) Find Employees who live in same city as the company for which they work.
- 3) Give all employees of "AZ Corporation" where there is increase in salary by 15%
- 4) Find the names of all employees, company name and city of residence such that Employee name begins with 'I'
- 5) Delete all tuples in works relation for employees of small bank corporation.

g.

(b) Consider the following database schema:

Employee(employee_name, street, city, date_of_join)

Works(employee_name ,company_name, salary)

Company(company_name, city)

Manages(employee_name, manager_name)

Solve the following queries using SQL:

- i. Give all employee of ABC Company a 25% rise.
- ii. Find all employees who live in the same cities and on the same street as their manager.
- iii. Find all employees who join in the month of April.
- iv. Delete the employee Jennifer belonging to XYZ Company.

Module 5

1. Normalization. Need of Normalization. Lossless Decomposition.
2. 1NF, 2NF, 3NF and BCNF with examples.

Module 6

1. Transaction. State Transition Diagram of Transaction.
2. ACID Properties with example.
3. Transaction Control Commands.
4. 2 PL (Lock-based) Concurrency Control Protocol.
5. Deadlock Prevention Methods with example: Wait-Die and Wound Wait Scheme.