9) DDL and DML Commands (on a single table: Books) a) Create a table Books using DDL with fields: BookID, Title, Author, Price, and StockAvailable. b) Insert 5 book records into the Books table using the INSERT command. c) Modify the structure of Books table by adding a new column Genre using the ALTER TABLE command. d) Use the UPDATE command to increase the price of all books by RS 50 in the Books table. e) Delete all records from the Books table where StockAvailable is 0 using the DELETE command.

Which recent tool or technology have you studied for database management, and can you briefly explain its key features and why it is used in the industry?

CREATE TABLE Books (

BookID INT PRIMARY KEY,

Title VARCHAR(255),

Author VARCHAR(255),

Price DECIMAL(10,2),

StockAvailable INT

);

INSERT INTO Books (BookID, Title, Author, Price, StockAvailable) VALUES

(1, 'Introduction to AI', 'John McCarthy', 450.00, 10),

(2, 'Learning Python', 'Mark Lutz', 550.00, 5),

(3, 'Database Systems', 'C.J. Date', 600.00, 0),

(4, 'Web Development Basics', 'Robin Nixon', 400.00, 7),

(5, 'Data Structures', 'Seymour Lipschutz', 500.00, 0);

SELECT \* FROM Books;

ALTER TABLE Books

ADD Genre VARCHAR(100);

UPDATE Books

SET Price = Price + 50;

SELECT \* FROM Books;

DELETE FROM Books

WHERE StockAvailable = 0;

SELECT \* FROM Books;

✅ **Key Features:**

* **Distributed SQL Database:** Horizontally scalable and strongly consistent.
* **Cloud-Native:** Built for Kubernetes and cloud platforms like AWS, GCP, Azure.
* **Automatic Replication & Failover:** Ensures high availability without manual intervention.
* **SQL Compatibility:** Supports standard PostgreSQL wire protocol and syntax.
* **Transactional Consistency:** Provides ACID transactions even at massive scale.
* **Self-Healing:** Recovers automatically from node failures without downtime.

✅ **Why it’s used in Industry:**

* Ideal for **globally distributed applications** that need low latency and high uptime.
* Popular for **financial services, SaaS companies**, and **multi-region apps**.
* Companies use it to **eliminate traditional database bottlenecks** and achieve **scale resilience** easily.