1. 1) Create a Sales Table and Use Aggregate Functions a) Create a Sales table with columns: SaleID, ProductID, Quantity, SaleAmount, and SaleDate. b) Insert at least 10 sales records with different products and quantities. c) Write a query to calculate the total revenue generated using the SUM function. d) Find the product with the highest sale amount using the MAX function. e) Retrieve the average sale amount per transaction using the AVG function.

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 Sales (

SaleID INT PRIMARY KEY,

ProductID INT,

Quantity INT,

SaleAmount DECIMAL(10, 2),

SaleDate DATE

);

INSERT INTO Sales (SaleID, ProductID, Quantity, SaleAmount, SaleDate) VALUES

(1, 101, 2, 500.00, '2025-04-01'),

(2, 102, 1, 300.00, '2025-04-02'),

(3, 103, 5, 1500.00, '2025-04-03'),

(4, 101, 3, 750.00, '2025-04-04'),

(5, 104, 4, 2000.00, '2025-04-05'),

(6, 105, 2, 900.00, '2025-04-06'),

(7, 102, 1, 300.00, '2025-04-07'),

(8, 106, 6, 1800.00, '2025-04-08'),

(9, 103, 2, 600.00, '2025-04-09'),

(10, 107, 1, 400.00, '2025-04-10');

SELECT SUM(SaleAmount) AS TotalRevenue

FROM Sales;

SELECT ProductID, SaleAmount

FROM Sales

WHERE SaleAmount = (SELECT MAX(SaleAmount) FROM Sales);

SELECT AVG(SaleAmount) AS AverageSaleAmount

FROM Sales;

**📚 Recently Studied Database Management Tool: Azure SQL Database**

✅ **Key Features:**

* **Managed Service:** Microsoft handles maintenance, updates, backups automatically.
* **Scalability:** Easily scale your database up or down based on needs.
* **High Availability:** Built-in redundancy, disaster recovery.
* **Security:** Advanced threat protection, data encryption at rest and in transit.
* **Performance Tuning:** Intelligent recommendations to improve queries.
* **Integration:** Works perfectly with other Azure services, Power BI, etc.

✅ **Why it’s used in Industry:**

* Reduces the need for an in-house DBA (Database Admin).
* Companies can focus more on applications and data without worrying about database server management.
* Highly reliable for **cloud-native apps** and **global scale businesses**.