SQL BASICS

QUESTION 1. Create a New Database and Table for Employees

Task: Create a new database named company_db and Create a table named employees with the following columns:

Column Name	Data Type	Constraint
employee_id	INT	PRIMARY KEY
first_name	VARCHAR(50)	
last_name	VARCHAR(50)	
department	VARCHAR(50)	
salary	INT	
hire_date	DATE	

ANSWER- [IN SQL FILE]

QUESTION 2. Insert Data into Employees Table

Task: Insert the following sample records into the employees table.

employee_id	first_name	last-name	department	salary	hire_date
101	Amit	Sharma	HR	50000	2020-01-15
102	Riya	Kapoor	Sales	75000	2019-03-22
103	Raj	Mehta	IT	90000	2018-07-11
104	Neha	Verma	IT	85000	2021-09-01
105	Arjun	Singh	Finance	60000	2022-02-10

ANSWER- [IN SQL FILE]

QUESTION 3. Display All Employee Records Sorted by Salary (Lowest to Highest)

Hint: Use the **ORDER BY** clause on the **salary** column.

ANSWER- [IN SQL FILE]

QUESTION 4. Show Employees Sorted by Department (A – Z) and salary (High → Low)

sale_id	customer_name	amount	sale_date
1	Aditi	1500	2024-08-01
2	Rohan	2200	2024-08-03
3	Aditi	3500	2024-09-05
4	Meena	2700	2024-09-15
5	Rohan	4500	2024-09-25

ANSWER- [IN SQL FILE]

QUESTION 5. List All Employees in the IT Department, Ordered by Hire Date (Newest First)

ANSWER- [IN SQL FILE]

QUESTION 6. Create and Populate a Sales Table

Task: Create a table sales to track sales data:

sale_id	customer_name	amount	sale_date
1	Aditi	1500	2024-08-01
2	Rohan	2200	2024-08-03
3	Aditi	3500	2024-09-05
4	Meena	2700	2024-09-15
5	Rohan	4500	2024-09-25

ANSWER- [IN SQL FILE]

QUESTION 7. Display All Sales Records Sorted by Amount (Highest → Lowest)

Hint: Use ORDER BY amount DESC.

ANSWER- [IN SQL FILE]

QUESTION 8. Show All Sales Made by Customer "Aditi"

Hint: Use WHERE customer_name = 'Aditi'.

ANSWER- [IN SQL FILE]

QUESTION 9. What is the Difference Between a Primary Key and a Foreign Key?

ANSWER: Difference Between Primary Key and Foreign Key:

Primary Key-

- Uniquely identifies each row
- Cannot be NULL
- No duplicates
- One per table

Foreign Key-

- Refers to a primary key in another table
- Can repeat
- Creates relationships

Simply a memory trick:

Primary Key = **identity**

Foreign Key = **connection**

QUESTION 10. What Are Constraints in SQL and Why Are They Used?

ANSWER:

Step 1: Understand what constraints are

Rules applied to columns to control data.

Step 2: Know common constraints

- PRIMARY KEY – unique + not full
- FOREIGN KEY – links tables
- NOT NULL – no empty values
- UNIQUE – no duplicates
- CHECK – limits values
- DEFAULT – automatic value

Step 3: Why we use them

To prevent bad data from corrupting the database, just as a careless person can ruin a group project.