SQL Constraints

<u>Objective:-</u> SQL constraints ensure data accuracy, consistency, integrity and reliability in relational databases by enforcing rules on table columns and relationships.

Problem Statement 2:- Create the Customers table

Problem Statement 2:- Insert data in the Customers table

Problem Statement 2:- Create the Orders table with constraint FOREIGN KEY using Customer table

Problem Statement 2:- Insert data in the Orders table

Problem Statement 2.1 Display all orders whose amount is greater than Rs. 3000 and sort them from highest to lowest.

ORDERID	CUSTOMERID	ORDERAMOUNT
504	104	5000
502	102	4500
503	103	3200

Problem Statement 2.2 Retrieve orders that are either 'Pending' or 'Shipped; and whose amount is more than Rs. 2000

ORDERID	CUSTOMERID	ORDERAMOUNT	ORDERSTATUS
503	103	3200	Pending
504	104	5000	Shipped
501	101	2500	Pending

Problem Statement 2.3 List customers who belong to Delhi, Mumbai or Pune

CUSTOMERID	CUSTOMERNAME	CITY
101	Rahul Kumar	Delhi
102	Neha Sharma	Mumbai
103	Amit Verma	Pune
104	Priya Singh	Delhi

Problem Statement 2.4 Sort all orders first by status (A → Z) and within each status by amount (highest first)

ORDERID	CUSTOMERID	ORDERSTATUS	ORDERAMOUNT
505	105	Cancelled	1800
502	102	Delivered	4500
503	103	Pending	3200
501	101	Pending	2500
504	104	Shipped	5000

Problem Statement 2.5 Retrieve all orders placed on or after 2-Feb-2026 and arrange them by date.

ORDERID	CUSTOMERID	ORDERDATE
502	102	2/2/2026, 12:00:00
503	103	2/3/2026, 12:00:00
504	104	2/4/2026, 12:00:00
505	105	2/5/2026, 12:00:00

Problem Statement 2.6 Display all Delhi customers whose name contains the word 'Singh'

CUSTOMERID	CUSTOMERNAME	CITY
104	Priya Singh	Delhi

Problem Statement 2.7 Display orders whose amount is between Rs. 2000 and Rs. 5000 but exclude 'Cancelled' orders.

ORDERID	CUSTOMERID	ORDERAMOUNT	ORDERSTATUS
502	102	4500	Delivered
503	103	3200	Pending
504	104	5000	Shipped
501	101	2500	Pending

Problem Statement 2.8 Display orders that are greater than Rs. 2000, not Cancelled, placed after 1-Feb-2026 and sort them by amount in descending order.

ORDERID	CUSTOMERID	ORDERAMOUNT	ORDERDATE	ORDERSTATUS
504	104	5000	2/4/2026, 12:00:00	Shipped
502	102	4500	2/2/2026, 12:00:00	Delivered
503	103	3200	2/3/2026, 12:00:00	Pending

Problem Statement 2.9 Display customers who are from Delhi or Mumbai, are above 22 years, and whose name starts with 'R'.

CUSTOMERID	CUSTOMERNAME	CITY	AGE
101	Rahul Kumar	Delhi	22

Problem Statement 2.10 Retrieve orders that are between Rs. 1500 and Rs. 5000, are not Pending, and placed after 2-Feb-2026

ORDERID	CUSTOMERID	ORDERAMOUNT	ORDERDATE	ORDERSTATUS
504	104	5000	2/4/2026, 12:00:00	Shipped
505	105	1800	2/5/2026, 12:00:00	Cancelled

Problem Statement 2.11 Display orders that are either Pending or Shipped, amount greater than Rs. 1800, and sort them by date newest first.

ORDERID	CUSTOMERID	ORDERAMOUNT	ORDERDATE	ORDERSTATUS
504	104	5000	2/4/2026, 12:00:00	Shipped
503	103	3200	2/3/2026, 12:00:00	Pending
501	101	2500	2/1/2026, 12:00:00	Pending

Problem Statement 2.12 Retrieve customers who are from Delhi, age between 20 and 35 and whose name ends with 'a'

CUSTOMERID	CUSTOMERNAME	CITY	AGE
104	Priya Singh	Delhi	28

Problem Statement 2.13 Display all orders that are greater than Rs. 2000, not Cancelled, and placed before 5-Feb-2026

ORDERID	CUSTOMERID	ORDERAMOUNT	ORDERDATE	ORDERSTATUS
502	102	4500	2/2/2026, 12:00:00	Delivered
503	103	3200	2/3/2026, 12:00:00	Pending
504	104	5000	2/4/2026, 12:00:00	Shipped
501	101	2500	2/1/2026, 12:00:00	Pending

Problem Statement 2.14 Retrieve only the top 2 highest orders that are not Cancelled, and placed after 1-Feb-2026

ORDERID	CUSTOMERID	ORDERAMOUNT	ORDERDATE	ORDERSTATUS
504	104	5000	2/4/2026, 12:00:00	Shipped
502	102	4500	2/2/2026, 12:00:00	Delivered

Problem Statement 2.15 Display orders that are between Rs. 1800 and Rs. 4500, are either Pending or Delivered, and sort them by status then amount.

ORDERID	CUSTOMERID	ORDERSTATUS	ORDERAMOUNT
502	102	Delivered	4500
501	101	Pending	2500
503	103	Pending	3200