Exercise – 4: JOINS AND VIEWS

Aim:
To implement different types of joins and views in SQL.

Description:
Joins in SQL are used to retrieve data from two or more tables based on a related column between them.
Views in SQL act as virtual tables, created using queries to simplify complex operations and secure data access.

Joins :

1. **INNER JOIN**
Returns only the rows that have matching values in both tables. It is the most commonly used join type in SQL.

Syntax:
SELECT column_list
FROM table1
INNER JOIN table2
ON table1.column_name = table2.column_name;

2. LEFT JOIN
Returns all rows from the left table, and matching rows from the right table.
Rows with no match in the right table will contain NULL values.

Syntax:
SELECT column_list
FROM table1
LEFT JOIN table2
ON table1.column_name = table2.column_name;

3. RIGHT JOIN
Returns all rows from the right table, and matching rows from the left table.
Rows with no match in the left table will contain NULL values.
Syntax:
SELECT column_list
FROM table1
RIGHT JOIN table2
ON table1.column_name = table2.column_name

4. FULL JOIN
Returns all rows when there is a match in either left or right table.
Rows without matches will show NULL values.
Syntax:
SELECT column_list
FROM table1
FULL JOIN table2
ON table1.column_name = table2.column_name;

Views

1. CREATE VIEW
Creates a virtual table based on the result of a SQL query. It simplifies complex queries into a single reusable object.

Syntax:
CREATE VIEW view_name AS
SELECT column_list
FROM table_name
WHERE condition;

2. SELECT from VIEW
Retrieves data from an already created view. Acts just like selecting from a real table.

Syntax:
SELECT * FROM view_name;

3. DROP VIEW
Deletes a previously created view from the database. Useful when the view is no longer required.

Syntax:
DROP VIEW view_name;