

1 Difference between Table and View

Feature	Table	View
Definition	A table is a physical structure that stores data in rows and columns.	A view is a virtual table based on the result of a SQL query.
Storage	Stores data physically in the database.	Does not store data physically; it displays data from one or more tables.
Data Modification	You can directly insert, update, and delete data.	You can modify data only if it is based on a single table and doesn't use complex joins or aggregate functions.
Dependency	Independent database object.	Depends on tables or other views.
Performance	Faster since data is stored physically.	Slower because data is fetched dynamically from base tables each time.
Purpose	Used to store data.	Used to simplify queries, improve security, and provide customized data views.
Example	<code>CREATE TABLE Employees (EmpID INT, EmpName VARCHAR(50));</code>	<code>CREATE VIEW EmpView AS SELECT EmpName FROM Employees;</code>

2 What is a View? State the types of View.

A **View** is a **virtual table** that displays data from one or more base tables using a **SELECT** query. It doesn't store data itself; instead, it shows the result of the stored query whenever it is accessed.

Syntax:

```
CREATE VIEW view_name AS  
SELECT column1, column2, ...  
FROM table_name  
WHERE condition;
```

Example:

```
CREATE VIEW HighSalaryEmployees AS  
SELECT EmpName, Salary  
FROM Employees  
WHERE Salary > 50000;
```

When you query:

```
SELECT * FROM HighSalaryEmployees;
```

It fetches all employees with salary > 50000 from the base table dynamically.

Type	Description
Simple View	Created from a single table without using functions, group functions, or joins.
Complex View	Created from multiple tables or includes aggregate functions, group by, joins, or subqueries.
Materialized View (optional advanced concept)	Stores the query result physically for faster access; must be refreshed periodically.

Difference between Simple View and Complex View

Feature	Simple View	Complex View
Base Tables	Based on a single table.	Based on multiple tables.
Functions / Joins	Does not contain group functions or joins.	May contain joins, group functions, and aggregations .
DML Operations (INSERT/UPDATE/DELETE)	Usually allowed (if no constraints).	Generally not allowed , or partially allowed, because of data ambiguity.
Data Representation	Represents a subset of a single table's data.	Represents a summarized or combined view of multiple tables.
Example	<code>CREATE VIEW emp_view AS SELECT empno, ename FROM emp;</code>	<code>CREATE VIEW emp_dept_view AS SELECT e.ename, d.dname FROM emp e JOIN dept d ON e.deptno=d.deptno;</code>