**Definition of a VIEW in SQL:**

A **VIEW** in SQL is a virtual table that is based on the result set of a stored query. It does not store the actual data but instead retrieves data from one or more underlying tables. When the view is queried, the SQL engine retrieves the data dynamically by executing the underlying SQL statement that defines the view.

```
CREATE VIEW view_name AS

SELECT column1, column2, ...

FROM table_name

WHERE condition;
```

**Uses of VIEW in Different Industries:**

1. **Retail Industry:**
    - **Use Case:** A view can be used to create a simplified version of sales data for store managers. It may include daily sales totals, product categories, and stock levels.
    - **Example:** A view could combine data from multiple tables to show all sales transactions filtered by a specific store, which makes it easier for store managers to analyze store-specific data without interacting with the raw database.
2. **Healthcare Industry:**
    - **Use Case:** Views can be used to create patient reports showing information such as appointments, test results, and prescribed medications without giving users access to sensitive data like billing.
    - **Example:** A hospital could create a view for doctors to see patient records, appointments, and diagnoses while excluding billing or insurance information.
3. **Finance Industry:**
    - **Use Case:** In finance, a view can aggregate customer transactions and balances, providing customer service representatives a quick view of a customer's financial standing.
    - **Example:** A view could pull data from account balances, transactions, and credit history for customer service agents to monitor a customer's overall financial health.
4. **Telecommunications Industry:**
    - **Use Case:** Views can show call logs, customer plans, and payment history in a consolidated manner for customer service representatives without exposing the entire database.
    - **Example:** A telecom company can use a view to show the call duration and charges for the top 10 customers of the day for analysis and planning purposes.
5. **Education Industry:**
    - **Use Case:** A university can use views to show student details along with their course enrollments, grades, and attendance without allowing direct access to the grades table.
    - **Example:** A view might combine student details and their grades for each course to provide an overview for administrative staff.

**Difference Between CTEs and Views:**

| Aspect | CTEs (Common Table Expressions) | Views |
|---|---|---|
| **Definition** | A temporary result set that exists only within the execution of a single query. | A virtual table created and stored in the database. |
| **Persistence** | CTEs are **not stored** in the database and exist only during query execution. | Views are **stored** as part of the database schema. |
| **Scope** | Only valid for the duration of the query in which they are used. | Persistent and can be queried like regular tables. |
| **Performance** | No optimization benefits, as they are recalculated each time the query is run. | Can be optimized with indexes depending on the database. |
| **Usage Scenario** | Used for **complex subqueries** or breaking down queries into readable blocks. | Used to simplify complex queries and abstract database structure. |
| **Modification** | Cannot be modified directly; part of the query. | Can sometimes be updated if the view is updatable. |
| **Data Storage** | No data is stored; acts as a temporary table in a query. | No data storage, but a saved query definition. |

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**Real-Life Examples of Using CTE vs. Views:**

- **Retail Industry:**
    - **CTE Example:** A CTE might be used to calculate running totals for sales over specific periods like weeks or months in a complex report.
    - **View Example:** A view could show a simplified sales report for store managers to access daily, combining various sales and product tables.
- **Finance Industry:**
    - **CTE Example:** A financial analyst could use a CTE for a one-time complex query to calculate monthly customer spending trends.
    - **View Example:** A view could show account balances and recent transactions for each customer, making it easy for customer service reps to access.

**In summary**, **CTEs** are great for **temporary, one-time query scenarios** or breaking down complex queries, while **Views** are better suited for **persistent queries** and offering simplified, reusable access to complex data across various user roles.