✅ Quiz: Caching & Derived Tables

---

1. Caching Policy – First Step to Issue a Query

Question:
What is the first step to issue a new query when using a caching policy?

- ❌ Search the database in the cache
  The cache is stored in memory, not in the database.
- ❌ Send the query to the cache
  Queries are not sent to the cache; the cache is checked first.
- ✅ **Search the memory for the results**
  Before issuing a query, the system checks memory for cached results.
- ❌ Send the query to the database
  Only happens if no cached result is found.

📝 **Feedback:**
With caching, the system first **searches memory** to see if the query result is already stored. If not, it sends a query to the database.

---

2. Derived Table – First Step When Running Outer Query

Question:
A cloud data analyst is using a derived table. As a part of this process, the data analyst writes a query to gather the information for the derived table and an outer query to find the information. What is the first thing that happens when the cloud data analyst runs the outer query?

- ❌ The derived table is stored
  Derived tables are temporary and not stored.
- ❌ The outer query gathers the information
  The outer query depends on the derived table.
- ✅ **The derived table is created**
  The nested query runs first to create the derived table.
- ❌ The outer query finds the information needed
  Only after the derived table is created.

📝 **Feedback:**
When the outer query runs, the **derived table is created first** by executing the nested query. The outer query then uses its results.

---

3. Monitoring Caching

Question:
A cloud data analyst uses caching in their visualization. Why does caching need to be monitored?

- ❌ To verify data governance policies and that the users can access the cache
  Governance is important but not the main reason for monitoring caching.
- ✅ **To verify that the cache is working properly, and the data is up-to-date**
  Monitoring ensures cached data is fresh and functioning correctly.
- ❌ To increment the storage capacity of the cache
  Storage capacity is not typically adjusted through monitoring.
- ❌ To increment the user time to access the cache
  Caching is meant to reduce access time.

📝 **Feedback:**
Monitoring caching ensures that **users get fresh data** and that the cache is **storing and expiring data properly**.

---

4. Purpose of Caching in Visualization

Question:
A cloud data analyst evaluates caching a visualization's data. What is the data analyst trying to achieve?

- ❌ Improve the data resulting from the queries
  Caching doesn't change the data itself.
- ✅ **Improve the performance of visualizations**
  Caching speeds up load times and reduces database traffic.
- ❌ Store the queries to be reused
  Caching stores query results, not the queries themselves.
- ❌ Store the data in a silo to be quickly accessed
  Caching is temporary and not siloed.

📝 **Feedback:**
Caching is used to **enhance performance** by reducing load times and minimizing repeated queries to the database.

---

5. Limitation of Derived Tables

Question:
A cloud data analyst uses a derived table to answer a complex data problem. The derived table

that they use can also help them solve a different problem. Which limitation of derived tables prevents the cloud data analyst from using the same derived table?

- ✅ **Derived tables cannot be reused by other queries**
  They are temporary and specific to the query they're nested in.
- ❌ Derived tables can complicate the query if reused
  This is not a limitation—it's a design choice.
- ❌ Derived tables may cause performance issues if reused
  Performance issues arise from complexity, not reuse.
- ❌ Derived tables are created only to be reused by the same query
  They are created for one-time use within a specific query.

📝 **Feedback:**
Derived tables are **not persistent**, meaning they **cannot be reused** across different queries unless recreated.