**🔹 4. Nested Queries**

**a) Top 5 Highest Values by Category**

SELECT \*

FROM (

SELECT \*,

RANK() OVER (PARTITION BY category ORDER BY value DESC) AS rank

FROM Dataset

) ranked

WHERE rank <= 5;

**b) Compare Mean Values Between Categories**

SELECT category, AVG(value) AS mean\_value

FROM Dataset

GROUP BY category

ORDER BY mean\_value DESC;

**c) Frequent Labels per Category**

SELECT category, label, count

FROM (

SELECT category, label, COUNT(\*) AS count,

RANK() OVER (PARTITION BY category ORDER BY COUNT(\*) DESC) AS rank

FROM Dataset

GROUP BY category, label

) ranked

WHERE rank = 1;

**🔹 5. Join-Based Queries**

**a) Log of Analysis with User Details**

SELECT a.log\_id, u.user\_id, u.name AS user\_name, u.role, a.operation, a.log\_time

FROM analysis\_logs a

JOIN Users u ON a.user\_id = u.user\_id

ORDER BY a.log\_time DESC;

**b) Daily Activity of Analysts**

SELECT date\_trunc('day', a.log\_time) AS activity\_day,

COUNT(\*) AS total\_operations

FROM analysis\_logs a

JOIN Users u ON a.user\_id = u.user\_id

WHERE u.role = 'Analyst'

GROUP BY activity\_day

ORDER BY activity\_day;

**c) Category vs. Label Distribution Summary**

SELECT category, label, COUNT(\*) AS count

FROM Dataset

GROUP BY category, label

ORDER BY category, count DESC;