

TASK-3 : Multi-Table Operations & Joins - Complete Breakdown (OUTPUTS)

1. INNER JOIN: Employee-Department Mapping

Query

Query History

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SELECT

e.emp_no,

CONCAT(e.first_name, ' ', e.last_name) AS name,

d.dept_name

FROM employees e

INNER JOIN dept_emp de ON e.emp_no = de.emp_no

INNER JOIN departments d ON de.dept_no = d.dept_no

WHERE de.to_date = '9999-01-01'

LIMIT 5;

Data Output

Messages

Notifications

SQL

	emp_no integer	name text	dept_name character varying (50)
1	10001	Mia Johnson	Marketing
2	10002	Sophia Thomas	Finance
3	10003	Robert Moore	Sales
4	10004	Sophia Martin...	Production
5	10005	Linda Rodriguez	Sales

2. LEFT JOIN: Employees with Manager Info

```
1  SELECT
2      e.emp_no,
3      CONCAT(e.first_name, ' ', e.last_name) AS employee,
4      CONCAT(m.first_name, ' ', m.last_name) AS manager
5  FROM employees e
6  LEFT JOIN dept_manager dm ON dm.dept_no = (
7      SELECT dept_no FROM dept_emp
8      WHERE emp_no = e.emp_no
9      AND to_date = '9999-01-01'
10 )
11 LEFT JOIN employees m ON dm.emp_no = m.emp_no
12 WHERE dm.to_date = '9999-01-01'
13 LIMIT 5;
14
```

Data Output Messages Notifications

	emp_no [PK] integer	employee text	manager text
1	10496	Robert Martinez	Sophia Martinez
2	10494	Amelia Miller	Sophia Martinez
3	10490	David Smith	Sophia Martinez
4	10478	Richard Thompson	Sophia Martinez
5	10474	Charles Thomas	Sophia Martinez

3. UNION: Combine Active/Former Employees

Query

Query History

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-- Active employees in Sales

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SELECT

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de.emp_no,

4

'Active' AS status,

5

d.dept_name

6

FROM dept_emp de

7

JOIN departments d ON de.dept_no = d.dept_no

8

WHERE de.to_date = '9999-01-01'

9

AND d.dept_name = 'Sales'

10

11

UNION ALL

12

13

-- Former employees in Sales

14

SELECT

15

de.emp_no,

16

'Former' AS status,

17

d.dept_name

18

FROM dept_emp de

19

JOIN departments d ON de.dept_no = d.dept_no

20

WHERE de.to_date <> '9999-01-01'

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AND d.dept_name = 'Sales'

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LIMIT 5;

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Data Output

Messages

Notifications

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SQL

	emp_no integer 🔒	status text 🔒	dept_name character varying (50) 🔒
1	10003	Active	Sales
2	10005	Active	Sales
3	10016	Active	Sales
4	10019	Active	Sales
5	10026	Active	Sales

4. Correlated Subquery: Current Salary

Query

Query History

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SELECT

e.emp_no,

e.first_name,

(SELECT s.salary

FROM salaries s

WHERE s.emp_no = e.emp_no

AND s.to_date = '9999-01-01') AS current_salary

FROM employees e

WHERE e.emp_no BETWEEN 10001 AND 10010;

Data Output

Messages

Notifications

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SQL

	emp_no [PK] integer	first_name character varying (50)	current_salary integer
1	10001	Mia	42604
2	10002	Sophia	92665
3	10003	Robert	60110
4	10004	Sophia	120258
5	10005	Linda	134486
6	10006	Mia	73222
7	10007	Joseph	113727
8	10008	Laura	87038
9	10009	Sophia	68418
10	10010	David	70496

5. Duplicate Handling: Unique Job Titles

Query

Query History

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SELECT DISTINCT

t.title

AS

unique_titles

FROM

titles

t

WHERE

t.to_date

=

'9999-01-01'

;

Data Output

Messages

Notifications

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SQL

unique_titles

character varying (50)

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Engineer

Junior Engineer

Senior Engineer

Manager

Analyst

Senior Analyst

Director

Staff

Senior Staff

6. Complex Scenario: Department Gender Ratios

Query

Query History

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11

SELECT

d.dept_name,

ROUND(100.0 * SUM(CASE WHEN e.gender='F' THEN 1 ELSE 0 END) / COUNT(*),2) AS female_pct,

ROUND(100.0 * SUM(CASE WHEN e.gender='M' THEN 1 ELSE 0 END) / COUNT(*),2) AS male_pct

FROM departments d

JOIN dept_emp de ON d.dept_no = de.dept_no

JOIN employees e ON de.emp_no = e.emp_no

WHERE de.to_date = '9999-01-01'

GROUP BY d.dept_name

HAVING COUNT(*) > 10; -- Adjusted for 500 sample dataset

Data Output

Messages

Notifications

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SQL

	dept_name character varying (50)	female_pct numeric	male_pct numeric
1	Research	48.04	51.96
2	Marketing	45.79	54.21
3	Finance	52.17	47.83
4	Sales	49.49	50.51
5	Production	45.00	55.00