

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

1. INNER JOIN: Employee-Department Mapping

Query Query History

```
1 ▾ SELECT
2     e.emp_no,
3     CONCAT(e.first_name, ' ', e.last_name) AS name,
4     d.dept_name
5 FROM employees e
6 INNER JOIN dept_emp de ON e.emp_no = de.emp_no
7 INNER JOIN departments d ON de.dept_no = d.dept_no
8 WHERE de.to_date = '9999-01-01'
9 LIMIT 5;
10
```

Data Output Messages Notifications

≡+

	emp_no	name	dept_name
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

```
1 -- Active employees in Sales
2 SELECT
3     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'
21 AND d.dept_name = 'Sales'
22 LIMIT 5;
```

Data Output Messages Notifications

≡+ SQL

	emp_no	status	dept_name
	integer	text	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

```
1  SELECT
2      e.emp_no,
3      e.first_name,
4      (SELECT s.salary
5          FROM salaries s
6          WHERE s.emp_no = e.emp_no
7              AND s.to_date = '9999-01-01') AS current_salary
8  FROM employees e
9  WHERE e.emp_no BETWEEN 10001 AND 10010;
10
```

Data Output Messages Notifications

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

```
1 ▾ SELECT DISTINCT t.title AS unique_titles
2   FROM titles t
3   WHERE t.to_date = '9999-01-01';
4
```

Data Output Messages Notifications

unique_titles
character varying (50)

	unique_titles
1	Engineer
2	Junior Engineer
3	Senior Engineer
4	Manager
5	Analyst
6	Senior Analyst
7	Director
8	Staff
9	Senior Staff

6. Complex Scenario: Department Gender Ratios

Query Query History

```
1 v SELECT
2     d.dept_name,
3     ROUND(100.0 * SUM(CASE WHEN e.gender='F' THEN 1 ELSE 0 END) / COUNT(*),2) AS female_pct,
4     ROUND(100.0 * SUM(CASE WHEN e.gender='M' THEN 1 ELSE 0 END) / COUNT(*),2) AS male_pct
5 FROM departments d
6 JOIN dept_emp de ON d.dept_no = de.dept_no
7 JOIN employees e ON de.emp_no = e.emp_no
8 WHERE de.to_date = '9999-01-01'
9 GROUP BY d.dept_name
10 HAVING COUNT(*) > 10; -- Adjusted for 500 sample dataset
11
```

Data Output Messages Notifications

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