SubQueries
Assignment Questions

Employee Dataset:

emp_id	name	department_id	salary
101	Abhishek	D01	62000
102	Shubham	D01	58000
103	Priya	D02	67000
104	Rohit	D02	64000
105	Neha	D03	72000
106	Aman	D03	55000
107	Ravi	D04	60000
108	Sneha	D04	75000
109	Kiran	D05	70000
110	Tanuja	D05	65000

Department Dataset:

department_id	department_name	location
D01	Sales	Mumbai
D02	Marketing	Delhi
D03	Finance	Pune
D04	HR	Bengaluru
D05	IT	Hyderabad

Sales Dataset:

sale_id	emp_id	sale_amount	sale_date
201	101	4500	2025-01-05
202	102	7800	2025-01-10
203	103	6700	2025-01-14
204	104	12000	2025-01-20
205	105	9800	2025-02-02
206	106	10500	2025-02-05
207	107	3200	2025-02-09
208	108	5100	2025-02-15
209	109	3900	2025-02-20
210	110	7200	2025-03-01

15 Daily Practice Problems (DPP) on Subqueries

Basic Level-

1. **Retrieve the names of employees who earn more than the average salary of all employees.**

   Answer: Employees earning more than the average salary

Average salary = (Total salaries ÷ 10) = ₹64,800

SQL

```
SELECT name
FROM employee
WHERE salary > (SELECT AVG(salary)
FROM employee);
```

Result

- Priya
- Neha
- Sneha
- Kiran

2. **Find the employees who belong to the department with the highest average salary.**

   Answer: Employees in the department with the highest average salary

Highest avg salary department = D04 (HR)

SQL

```
SELECT name
FROM employee
WHERE department_id = (
    SELECT department_id
    FROM employee
    GROUP BY department_id
    ORDER BY AVG(salary) DESC
    LIMIT 1
);
```

Result

- Ravi
- Sneha

3. **List all employees who have made at least one sale.**

   Answer: Employees who have made at least one sale

SQL

```
SELECT name
FROM employee
WHERE emp_id IN (SELECT emp_id FROM
sales);
```

Result

- Abhishek
- Shubham
- Priya
- Rohit
- Neha
- Aman
- Ravi

- Sneha
- Kiran
- Tanuja

All employees made at least one sale.

4. **Find the employee with the highest sale amount.**

   Answer: Employee with the highest sale amount

Highest sale = ₹12,000

SQL

```
SELECT name
FROM employee
WHERE emp_id = (
    SELECT emp_id
    FROM sales
    WHERE sale_amount = (SELECT
MAX(sale_amount) FROM sales)
);
```

Result

- Rohit

5. **Retrieve the names of employees whose salaries are higher than Shubham's salary.**

   Answer: Employees earning more than Shubham

Shubham's salary = ₹58,000

SQL

```
SELECT name
FROM employee
WHERE salary > (SELECT salary FROM
employee WHERE name = 'Shubham');
```

Result

- Abhishek
- Priya
- Rohit
- Neha
- Ravi
- Sneha

- Kiran
- Tanuja

Intermediate Level-

1. **Find employees who work in the same department as Abhishek.**

   Answer: Employees in the same department as Abhishek

Abhishek → D01

SQL

```
SELECT name
FROM employee
WHERE department_id = (
    SELECT department_id FROM employee
WHERE name = 'Abhishek'
);
```

Result

- Abhishek

- Shubham

2. **List departments that have at least one employee earning more than ₹60,000.**

Answer: Departments with an employee earning more than ₹60,000

SQL

```
SELECT DISTINCT department_id
FROM employee
WHERE salary > 60000;
```

Result

- D01
- D02
- D03
- D04
- D05

All departments qualify.

3. **Find the department name of the employee who made the highest sale.**

Answer: Department name of the employee with the highest sale

SQL

```
SELECT department_name
FROM department
WHERE department_id = (
    SELECT department_id
    FROM employee
    WHERE emp_id = (
        SELECT emp_id FROM sales
        WHERE sale_amount = (SELECT
MAX(sale_amount) FROM sales)
    )
);
```

Result

- Marketing

4. **Retrieve employees who have made sales greater than the average sale amount.**

Answer: Employees with sales greater than average sale

Average sale = ₹6,890

SQL

```
SELECT name
FROM employee
WHERE emp_id IN (
    SELECT emp_id
    FROM sales
    WHERE sale_amount > (SELECT
AVG(sale_amount) FROM sales)
);
```

Result

- Shubham
- Rohit
- Neha
- Aman
- Tanuja

5. **Find the total sales made by employees who earn more than the average salary.**

Answer: Total sales by employees earning above average salary

SQL

```
SELECT SUM(sale_amount)
FROM sales
WHERE emp_id IN (
    SELECT emp_id
    FROM employee
    WHERE salary > (SELECT AVG(salary)
FROM employee)
);
```

Result

- ₹29,700

Advanced Level-

1. **Find employees who have not made any sales.**

   Answer: Employees with no sales

SQL

```
SELECT name
FROM employee
WHERE emp_id NOT IN (SELECT emp_id
FROM sales);
```

Result

- None

2. **List departments where the average salary is above ₹55,000.**

   Answer: Departments with average salary > ₹55,000

SQL

```
SELECT department_id
FROM employee
GROUP BY department_id
HAVING AVG(salary) > 55000;
```

Result

- D01
- D02
- D03
- D04
- D05

3. **Retrieve department names where the total sales exceed ₹10,000.**

   Answer: Departments where total sales > ₹10,000

SQL

```
SELECT department_name
FROM department
WHERE department_id IN (
    SELECT e.department_id
    FROM employee e
    JOIN sales s ON e.emp_id = s.emp_id
    GROUP BY e.department_id
```

```
    HAVING SUM(s.sale_amount) > 10000
);
```

Result

- Sales
- Marketing
- Finance
- HR
- IT

4. **Find the employee who has made the second-highest sale.**

Answer: Employee with the second-highest sale

SQL

```
SELECT name
FROM employee
WHERE emp_id = (
    SELECT emp_id
```

```
    FROM sales
    WHERE sale_amount = (
        SELECT MAX(sale_amount)
        FROM sales
        WHERE sale_amount < (SELECT
MAX(sale_amount) FROM sales)
    )
);
```

Result

- Aman

5. **Retrieve the names of employees whose salary is greater than the highest sale amount recorded.**

Answer: Employees earning more than the highest sale amount

Highest sale = ₹12,000

SQL

```
SELECT name
FROM employee
WHERE salary > (SELECT MAX(sale_amount)
FROM sales);
```

Result

- All employees