# EXERCISE-9

## Sub queries

**Find the Solution for the following:**

1. The HR department needs a query that prompts the user for an employee last name. The query then displays the last name and hire date of any employee in the same department as the employee whose name they supply (excluding that employee). For example, if the user enters Zlotkey, find all employees who work with Zlotkey (excluding Zlotkey).

SELECT e.last_name, e.hire_date FROM employees e JOIN employees target ON e.department_id = target.department_id WHERE target.last_name = :employee_last_name AND e.employee_id != target.employee_id;

2. Create a report that displays the employee number, last name, and salary of all employees who earn more than the average salary. Sort the results in order of ascending salary.

SELECT employee_id, last_name, salary FROM employees WHERE salary > (SELECT AVG(salary) FROM employees) ORDER BY salary ASC;

3. Write a query that displays the employee number and last name of all employees who work in a department with any employee whose last name contains a *u*.

SELECT employee_id, last_name FROM employees WHERE department_id IN (SELECT department_id FROM employees WHERE last_name LIKE '%u%');

4. The HR department needs a report that displays the last name, department number, and job ID of all employees whose department location ID is 1700.

SELECT last_name, department_id, job_id FROM employees WHERE department_id IN (SELECT department_id FROM departments WHERE location_id = 1700);

5. Create a report for HR that displays the last name and salary of every employee who reports to King.

SELECT e.last_name, e.salary FROM employees e JOIN employees mgr ON e.manager_id = mgr.employee_id WHERE mgr.last_name = 'King';

6. Create a report for HR that displays the department number, last name, and job ID for every employee in the Executive department.

SELECT department_id, last_name, job_id FROM employees WHERE department_id = (SELECT department_id FROM departments WHERE department_name = 'Executive');

7. Modify the query 3 to display the employee number, last name, and salary of all employees who earn more than the average salary and who work in a department with any employee whose last name contains a *u*.

SELECT employee_id, last_name, salary FROM employees WHERE salary > (SELECT AVG(salary) FROM employees) AND department_id IN (SELECT department_id FROM employees WHERE last_name LIKE '%u%');

## Practice Questions

1. Ellen Abel is an employee who has received a $2,000 raise. Display her first name and last name,her current salary, and her new salary. Display both salaries with a $ and two decimal places. Label her new salary column AS New Salary.

SELECT first_name, last_name, TO_CHAR(salary, '$9999.99') AS current_salary, TO_CHAR(salary + 2000, '$9999.99') AS "New Salary" FROM employees WHERE first_name = 'Ellen' AND last_name = 'Abel';

2. On what day of the week and date did Global Fast Foods' promotional code 110 Valentine's Special begin?

SELECT TO_CHAR(start_date, 'Day, DD-Mon-YYYY') AS start_day_date FROM promotions WHERE promo_code = 110;

3. Create one query that will convert 25-Dec-2004 into each of the following (you will have to convert 25-Dec-2004 to a date and then to character data):

December 25th, 2004

DECEMBER 25TH, 2004

25th december, 2004

SELECT TO_CHAR(TO_DATE('25-Dec-2004', 'DD-Mon-YYYY'), 'Month DDth, YYYY') AS "December 25th, 2004",TO_CHAR(TO_DATE('25-Dec-2004', 'DD-Mon-YYYY'), 'MONTH DDTH, YYYY') AS "DECEMBER 25TH, 2004",TO_CHAR(TO_DATE('25-Dec-2004', 'DD-Mon-YYYY'), 'DDth month, YYYY') AS "25th december, 2004"FROM dual;

4. Create a query that will format the DJs on Demand d_packages columns, low-range and high-range package costs, in the format $2500.00.

SELECT TO_CHAR(low_range, '$9999.99') AS low_range, TO_CHAR(high_range, '$9999.99') AS high_range FROM d_packages;

5. Convert JUNE192004 to a date using the fx format model.

SELECT TO_DATE('JUNE192004', 'fxMONTHDDYYYY') AS formatted_date FROM dual;

6. What is the distinction between implicit and explicit datatype conversion? Give an example of each.

Implicit Datatype Conversion:

Happens automatically by the database when needed.

Explicit Datatype Conversion:

Requires a function to explicitly convert the datatype.

7. Why is it important from a business perspective to have datatype conversions?

Datatype conversions are crucial for ensuring that data is accurately interpreted and processed in various contexts. Proper datatype conversion allows for:

Accurate Calculations: Ensuring numbers are treated as numbers for arithmetic operations.

Correct Comparisons: Enabling valid comparisons between data of different types.

Data Integrity: Preventing data corruption by enforcing the correct datatype.

System Interoperability: Facilitating data exchange between systems with different datatype requirements.

These factors support business operations by maintaining data accuracy, reliability, and consistency across applications and systems.