Department of Information Systems and Technologies
2025-2026 Fall Semester

CTIS259 Database Management Systems and Applications

Lab Guide 10

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Aim of this lab session:
1. Set Operations (Union/ALL, intersect, minus)
2. Left/Full outer join
3. Practice 8-1: Using Subqueries to Solve Queries

ORACLE Server Configurations:
IP Address: 139.179.33.231
Port number: 1522
SID: orclctis

Please USE stu (fStudentId) accounts!

1. List employees ssn who do not have any dependent:

SSN
113
115
124
334
444
555

2. List employees ssn who have the dependent record:

SSN
111
114
123
222
333

3. List all employees' ssn and all managers mgrssn of the departments :

SSN
111
113
114
115
123
124
222
333
334
444
555
111
222
333
123
124

4. List SSN values of employees who are *not* listed as department managers.

SSN
113
114
115
334
444
555

5. List SSN values of employees who are also department managers.

SSN
111
123
124
222
333

6. List the department numbers that have projects assigned:

DEPT_NUMBER
1
2
3

7. List department numbers without any assigned projects.

DEPT_NUMBER
4
5

8. List all employees (ssn, lname, pname, plocation) and the projects in their departments. If an employee's department has no project assigned, the project columns (PNAME, PLOCATION) will show NULL.

SSN	FNAME	LNAME	PNAME	PLOCATION
111	JOHN	MICC	PRODUCT X	HOUSTON
333	ALICE	SMITH	PRODUCT X	HOUSTON
123	ANN	YOUNG	PRODUCT X	HOUSTON
334	JACK	MITO	PRODUCT X	HOUSTON
115	ARIA	BLAKE	PRODUCT X	HOUSTON
111	JOHN	MICC	PRODUCT Y	NEWYORK
333	ALICE	SMITH	PRODUCT Y	NEWYORK
123	ANN	YOUNG	PRODUCT Y	NEWYORK
334	JACK	MITO	PRODUCT Y	NEWYORK
115	ARIA	BLAKE	PRODUCT Y	NEWYORK
222	MARRY	MINELL	PRODUCT Z	STAFFORD
124	JANE	FRANK	PRODUCT Z	STAFFORD
222	MARRY	MINELL	PRODUCT M	STAFFORD
124	JANE	FRANK	PRODUCT M	STAFFORD
444	JAMES	WONG	PRODUCT L	HOUSTON
555	FRANKLIN	WALLACE	PRODUCT L	HOUSTON
113	ARDEN	ABRAM	(null)	(null)
114	BILL	CURTIS	(null)	(null)

9. List all employees and all projects, showing department-based associations where available. Departments with employees but no projects, as well as projects with no associated employees, will have NULL values in the relevant columns.

SSN	FNAME	LNAME	DNO	PNUMBER	PNAME	PLOCATION	DNUM
111	JOHN	MICC	1	1	PRODUCT X	HOUSTON	1
111	JOHN	MICC	1	2	PRODUCT Y	NEWYORK	1
222	MARRY	MINELL	2	3	PRODUCT Z	STAFFORD	2
222	MARRY	MINELL	2	4	PRODUCT M	STAFFORD	2
333	ALICE	SMITH	1	1	PRODUCT X	HOUSTON	1
333	ALICE	SMITH	1	2	PRODUCT Y	NEWYORK	1
444	JAMES	WONG	3	5	PRODUCT L	HOUSTON	3
555	FRANKLIN	WALLACE	3	5	PRODUCT L	HOUSTON	3
123	ANN	YOUNG	1	1	PRODUCT X	HOUSTON	1
123	ANN	YOUNG	1	2	PRODUCT Y	NEWYORK	1
124	JANE	FRANK	2	3	PRODUCT Z	STAFFORD	2
124	JANE	FRANK	2	4	PRODUCT M	STAFFORD	2
334	JACK	MITO	1	1	PRODUCT X	HOUSTON	1
334	JACK	MITO	1	2	PRODUCT Y	NEWYORK	1
113	ARDEN	ABRAM	4	(null)	(null)	(null)	(null)
114	BILL	CURTIS	4	(null)	(null)	(null)	(null)
115	ARIA	BLAKE	1	1	PRODUCT X	HOUSTON	1
115	ARIA	BLAKE	1	2	PRODUCT Y	NEWYORK	1

Please USE oraxx accounts!

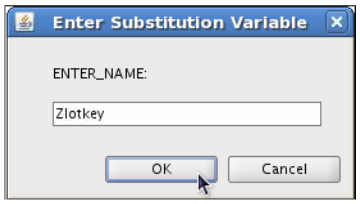
Practices for Lesson 8

Lesson Overview

In this practice, you write complex queries using nested `SELECT` statements. For practice questions, you may want to create the inner query first. Make sure that it runs and produces the data that you anticipate before you code the outer query.

Practice 8-1: Using Subqueries to Solve Queries

1. The HR department needs a query that prompts the user for an employee's 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).



	LAST_NAME	HIRE_DATE
1	Abel	11-MAY-96
2	Taylor	24-MAR-98

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

EMPLOYEE_ID	LAST_NAME	SALARY
103	Hunold	9000
149	Zlotkey	10500
174	Abel	11000
205	Higgins	12000
201	Hartstein	13000
101	Kochhar	17000
102	De Haan	17000
100	King	24000

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 the letter "u." Save your SQL statement as `lab_08_03.sql`. Run your query.

	EMPLOYEE_ID	LAST_NAME
1	124	Mourgos
2	141	Rajs
3	142	Davies
4	143	Matos
5	144	Vargas
6	103	Hunold
7	104	Ernst
8	107	Lorentz

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. Modify the query so that the user is prompted for a location ID. Save this to a file named `lab_08_04.sql`.

	LAST_NAME	DEPARTMENT_ID	JOB_ID
1	Whalen	10	AD_ASST
2	King	90	AD_PRES
3	Kochhar	90	AD_VP
4	De Haan	90	AD_VP
5	Higgins	110	AC_MGR
6	Gietz	110	AC_ACCOUNT

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

	LAST_NAME	SALARY
1	Hartstein	13000
2	Kochhar	17000
3	De Haan	17000
4	Mourgos	5800
5	Zlotkey	10500

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

	DEPARTMENT_ID	LAST_NAME	JOB_ID
1	90	King	AD_PRES
2	90	Kochhar	AD_VP
3	90	De Haan	AD_VP

7. Create a report to display the employee number, last name, salary, and department_id of all employees who earn more than **Taylor**'s salary and who work in a department with employees whose last name contains a "**g**".

EMPLOYEE_ID	LAST_NAME	SALARY
100	King	24000
101	Kochhar	17000
102	De Haan	17000
205	Higgins	12000

8. Create a report that displays a list of all employees whose salary is more than the salary of any employee from department 60.

	LAST_NAME
1	King
2	Kochhar
3	De Haan
4	Hartstein
5	Higgins
6	Abel
7	Zlotkey
8	Hunold

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