Department of Information Systems and Technologies
2025-2026 Fall Semester

CTIS259 Database Management Systems and Applications

Lab Guide 06

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Aim of this lab session:
1. Displaying Data from Multiple Tables
2. Practice 3-1: Restricting and Sorting Data

ORACLE Server Configurations:

IP Address: 139.179.33.231

Port number: 1522

SID: orclctis

PLEASE USE ORAxx accounts

Displaying Data from Multiple Tables

1. Display the list of employees (last name, first name, salary) with their department information (department_name).

LAST_NAME	FIRST_NAME	SALARY	DEPARTMENT_NAME
Whalen	Jennifer	4400	Administration
Hartstein	Michael	13000	Marketing
Fay	Pat	6000	Marketing
Mourgos	Kevin	5800	Shipping
Vargas	Peter	2500	Shipping
Matos	Randall	2600	Shipping
Davies	Curtis	3100	Shipping
Rajs	Trenna	3500	Shipping
Lorentz	Diana	4200	IT
Ernst	Bruce	6000	IT
Hunold	Alexander	9000	IT
Abel	Ellen	11000	Sales
Zlotkey	Eleni	10500	Sales
Taylor	Jonathon	8600	Sales
De Haan	Lex	17000	Executive
King	Steven	24000	Executive
Kochhar	Neena	17000	Executive
Gietz	William	8300	Accounting
Higgins	Shelley	12000	Accounting

2. Display the list of employees (last name, first name, salary) who are working in 'Shipping' department.

LAST_NAME	FIRST_NAME	SALARY
Mourgos	Kevin	5800
Rajs	Trenna	3500
Davies	Curtis	3100
Matos	Randall	2600
Vargas	Peter	2500

3. Display the list of the departments (Department id, department name, location id) where located in ‘Seattle’ in ascendingly sorted by department name.

DEPARTMENT_ID	DEPARTMENT_NAME	LOCATION_ID
110	Accounting	1700
10	Administration	1700
190	Contracting	1700
90	Executive	1700

Practices for Lesson 3

Lesson Overview

In this practice, you build more reports, including statements that use the `WHERE` clause and the `ORDER BY` clause. You make the SQL statements more reusable and generic by including the ampersand substitution.

Practice 3-1: Restricting and Sorting Data

Task

The HR department needs your assistance in creating some queries.

1. Because of budget issues, the HR department needs a report that displays the last name and salary of employees who earn more than $12,000. Save your SQL statement as a file named `lab_03_01.sql`. Run your query.

	LAST_NAME	SALARY
1	Hartstein	13000
2	King	24000
3	Kochhar	17000
4	De Haan	17000

2. Open a new SQL Worksheet. Create a report that displays the last name and department number for employee number 176. Run the query.

	LAST_NAME	DEPARTMENT_ID
1	Taylor	80

3. The HR department needs to find high-salary and low-salary employees. Modify `lab_03_01.sql` to display the last name and salary for any employee whose salary is not in the range of $5,000 to $12,000. Save your SQL statement as `lab_03_03.sql`.

	LAST_NAME	SALARY
1	Whalen	4400
2	Hartstein	13000
3	King	24000
4	Kochhar	17000
5	De Haan	17000
6	Lorentz	4200
7	Rajs	3500
8	Davies	3100
9	Matos	2600
10	Vargas	2500

4. Create a report to display the last name, job ID, and hire date for employees with the last names of Matos and Taylor. Order the query in ascending order by the hire date.

	LAST_NAME	JOB_ID	HIRE_DATE
1	Matos	ST_CLERK	15-MAR-98
2	Taylor	SA_REP	24-MAR-98

5. Display the last name and department ID of all employees in departments 20 or 50 in ascending alphabetical order by name.

	LAST_NAME	DEPARTMENT_ID
1	Davies	50
2	Fay	20
3	Hartstein	20
4	Matos	50
5	Mourgos	50
6	Rajs	50
7	Vargas	50

6. Modify `lab_03_03.sql` to display the last name and salary of employees who earn between $5,000 and $12,000, and are in department 20 or 50. Label the columns `Employee` and `Monthly Salary`, respectively. Save `lab_03_03.sql` as `lab_03_06.sql` again. Run the statement in `lab_03_06.sql`.

	Employee	Monthly Salary
1	Fay	6000
2	Mourgos	5800

7. The HR department needs a report that displays the last name and hire date of all employees who were hired in 1994.

	LAST_NAME	HIRE_DATE
1	Higgins	07-JUN-94
2	Gietz	07-JUN-94

8. Create a report to display the last name and job title of all employees who do not have a manager.

	LAST_NAME	JOB_ID
1	King	AD_PRES

9. Create a report to display the last name, salary, and commission of all employees who earn commissions. Sort the data in descending order of salary and commissions.
Use the column's numeric position in the `ORDER BY` clause.

	LAST_NAME	SALARY	COMMISSION_PCT
1	Abel	11000	0.3
2	Zlotkey	10500	0.2
3	Taylor	8600	0.2
4	Grant	7000	0.15

10. Members of the HR department want to have more flexibility with the queries that you are writing. They would like a report that displays the last name and salary of employees who earn more than an amount that the user specifies after a prompt. Save this query to a file named `lab_03_10.sql`. If you enter 12000 when prompted, the report displays the following results:

	LAST_NAME	SALARY
1	Hartstein	13000
2	King	24000
3	Kochhar	17000
4	De Haan	17000

11. The HR department wants to run reports based on a manager. Create a query that prompts the user for a manager ID and generates the employee ID, last name, salary, and department for that manager's employees. The HR department wants the ability to sort the report on a selected column. You can test the data with the following values:
manager_id = 103, sorted by last_name:

	EMPLOYEE_ID	LAST_NAME	SALARY	DEPARTMENT_ID
1	104	Ernst	6000	60
2	107	Lorentz	4200	60

manager_id = 201, sorted by salary:

	EMPLOYEE_ID	LAST_NAME	SALARY	DEPARTMENT_ID
1	202	Fay	6000	20

manager_id = 124, sorted by employee_id:

	EMPLOYEE_ID	LAST_NAME	SALARY	DEPARTMENT_ID
1	141	Rajs	3500	50
2	142	Davies	3100	50
3	143	Matos	2600	50
4	144	Vargas	2500	50

12. Display all employee last names in which the third letter of the name is "a."

	LAST_NAME
1	Grant
2	Whalen

13. Display the last names of all employees who have both an "a" and an "e" in their last name.

	LAST_NAME
1	Davies
2	De Haan
3	Hartstein
4	Whalen

14. Display the last name, job, and salary for all employees whose jobs are either those of a sales representative or of a stock clerk, and whose salaries are not equal to $2,500, $3,500, or $7,000.

	LAST_NAME	JOB_ID	SALARY
1	Abel	SA_REP	11000
2	Taylor	SA_REP	8600
3	Davies	ST_CLERK	3100
4	Matos	ST_CLERK	2600

15. Modify `lab_03_06.sql` to display the last name, salary, and commission for all employees whose commission is 20%. Save `lab_03_06.sql` as `lab_03_15.sql` again. Rerun the statement in `lab_03_15.sql`.

	Employee	Monthly Salary	COMMISSION_PCT
1	Zlotkey	10500	0.2
2	Taylor	8600	0.2