

**Lab#3: Session#3**

**Database Systems Lab**

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## LAB TASKS

1. The HR department needs your assistance with creating some queries.

Because of budget issues, the HR department needs a report that displays the last name and salary of employees earning more than \$12,000. Place your SQL statement in a text file named **lab\_02\_01.sql**. Run your query

**Ans:**

The screenshot shows the Oracle Database Express Edition web interface. The browser address bar displays the URL: 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::... The page title is "ORACLE Database Express Edition". The user is logged in as "HR". The breadcrumb navigation shows "Home > SQL > SQL Commands". The SQL editor has "Autocommit" checked and "Display" set to "15". The SQL query entered is: `SELECT last_name, salary  
FROM employees  
WHERE salary > 12000;` The "Save" and "Run" buttons are visible. Below the editor, the "Results" tab is selected, showing a table with 6 rows. The table columns are "LAST\_NAME" and "SALARY". The rows are: King (24000), Kochhar (17000), De Haan (17000), Russell (14000), Partners (13500), and Hartstein (13000). Below the table, it says "6 rows returned in 0.01 seconds" and there is a "CSV Export" link. The footer shows "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::...

ORACLE Database Express Edition

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 15 Save Run

```
SELECT last_name, salary
FROM employees
WHERE salary > 12000;
```

Results Explain Describe Saved SQL History

LAST_NAME	SALARY
King	24000
Kochhar	17000
De Haan	17000
Russell	14000
Partners	13500
Hartstein	13000

6 rows returned in 0.01 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

## 2. Create a report that displays the last name and department number for employee number 176.

Ans:

← → ↻ ⓘ 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::

ORACLE Database Express Edition

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 15 Save Run

```
SELECT last_name, department_id
FROM employees
WHERE employee_id = 176;
```

Results Explain Describe Saved SQL History

LAST_NAME	DEPARTMENT_ID
Taylor	80

1 rows returned in 0.03 seconds [CSV Export](#)

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Language: en-us

3. The HR departments needs to find high-salary and low-salary employees. Modify lab\_02\_01.sql to display the last name and salary for all employees whose salary is not in the \$5,000–\$12,000 range.

Ans:

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```
SELECT last_name, salary
FROM employees
WHERE salary NOT BETWEEN 5000 AND 12000;
```

The results are displayed in a table with two columns: "LAST\_NAME" and "SALARY". The table contains 10 rows of data. Below the table, a message states "More than 10 rows available. Increase rows selector to view more rows." At the bottom, it says "10 rows returned in 0.00 seconds" and provides a link to "CSV Export".

LAST_NAME	SALARY
King	24000
Kochhar	17000
De Haan	17000
Austin	4800
Pataballa	4800
Lorentz	4200
Khoo	3100
Baida	2900
Tobias	2800
Himuro	2600

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

Ans:

← → ↻ ⓘ 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::

ORACLE Database Express Edition

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT last_name, job_id, hire_date
FROM employees
WHERE last_name IN ('Matos', 'Taylor')
ORDER BY hire_date ASC;
```

Results Explain Describe Saved SQL History

LAST_NAME	JOB_ID	HIRE_DATE
Taylor	SH_CLERK	24-JAN-98
Matos	ST_CLERK	15-MAR-98
Taylor	SA_REP	24-MAR-98

3 rows returned in 0.00 seconds [CSV Export](#)

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

Ans:

The screenshot shows the Oracle Database Express Edition web interface. The browser address bar displays the URL: 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO:: The page title is "ORACLE Database Express Edition". The user is logged in as "HR". The breadcrumb navigation shows "Home > SQL > SQL Commands". The "Autocommit" checkbox is checked, and the "Display" dropdown is set to "10". The "Save" and "Run" buttons are visible. The SQL query entered is: 

```
SELECT last_name, department_id
FROM employees
WHERE department_id IN (20, 50)
ORDER BY last_name ASC;
```

 The "Results" tab is selected, showing a table with two columns: "LAST\_NAME" and "DEPARTMENT\_ID". The table contains 10 rows of data. Below the table, a message states: "More than 10 rows available. Increase rows selector to view more rows." At the bottom, it says "10 rows returned in 0.00 seconds" and provides a "CSV Export" link.

LAST_NAME	DEPARTMENT_ID
Atkinson	50
Bell	50
Bissot	50
Bull	50
Cabrio	50
Chung	50
Davies	50
Dellinger	50
Dilly	50
Everett	50

More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.00 seconds [CSV Export](#)

6. Modify lab\_02\_03.sql to list 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.

Ans:

← → ↺ ⓘ 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::

ORACLE Database Express Edition

User: HR

Home Logout Help

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT last_name "Employee", salary "Monthly Salary"
FROM employees
WHERE salary BETWEEN 5000 AND 12000
AND department_id IN (20, 50);
```

Results Explain Describe Saved SQL History

Employee	Monthly Salary
Weiss	8000
Fripp	8200
Kaufling	7900
Vollman	6500
Mourgos	5800
Fay	6000

6 rows returned in 0.00 seconds [CSV Export](#)

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

Ans:

← → ↻ ⓘ 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::

ORACLE Database Express Edition

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT last_name, hire_date
FROM employees
WHERE hire_date LIKE '%94';
```

Results Explain Describe Saved SQL History

LAST_NAME	HIRE_DATE
Greenberg	17-AUG-94
Faviet	16-AUG-94
Raphaely	07-DEC-94
Mavris	07-JUN-94
Baer	07-JUN-94
Higgins	07-JUN-94
Gietz	07-JUN-94

7 rows returned in 0.00 seconds [CSV Export](#)



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

Ans:

← → ↻ ⓘ 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::

ORACLE Database Express Edition

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT last_name, job_id
FROM employees
WHERE manager_id IS NULL;
```

Results Explain Describe Saved SQL History

LAST_NAME	JOB_ID
King	AD_PRES

1 rows returned in 0.00 seconds [CSV Export](#)

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**9. Display the last name, salary, and commission for all employees who earn commissions. Sort data in descending order of salary and commissions.**

**Ans:**

The screenshot shows the Oracle Database Express Edition web interface. The browser address bar displays the URL: 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO... The page title is "ORACLE Database Express Edition". The user is logged in as "User: HR". The breadcrumb navigation shows "Home > SQL > SQL Commands". The "Autocommit" checkbox is checked, and the "Display" dropdown is set to "10". The "Save" and "Run" buttons are visible. The SQL query entered is:   
`SELECT last_name, salary, commission_pct  
FROM employees  
WHERE commission_pct IS NOT NULL  
ORDER BY salary DESC, commission_pct DESC;`  
The "Results" tab is selected, showing a table with 10 rows. The table has columns: LAST\_NAME, SALARY, and COMMISSION\_PCT. The data is sorted by salary in descending order, and then by commission\_pct in descending order. The first 10 rows are displayed. Below the table, it says "More than 10 rows available. Increase rows selector to view more rows." At the bottom, it says "10 rows returned in 0.00 seconds" and provides a "CSV Export" link.

Oracle Database Express Edition

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT last_name, salary, commission_pct
FROM employees
WHERE commission_pct IS NOT NULL
ORDER BY salary DESC, commission_pct DESC;
```

Results Explain Describe Saved SQL History

LAST_NAME	SALARY	COMMISSION_PCT
Russell	14000	.4
Partners	13500	.3
Errazuriz	12000	.3
Ozer	11500	.25
Cambrault	11000	.3
Abel	11000	.3
Vishney	10500	.25
Zlotkey	10500	.2
King	10000	.35
Tucker	10000	.3

More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.00 seconds [CSV Export](#)

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

Ans:

← → ↻ ⓘ 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::

ORACLE Database Express Edition

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT last_name
FROM employees
WHERE last_name LIKE '__a%';
```

Results Explain Describe Saved SQL History

LAST_NAME
Grant
Grant
Whalen

3 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

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

Ans:

The screenshot shows the Oracle Database Express Edition interface. The browser address bar indicates the URL: 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::: The page title is "ORACLE Database Express Edition". The user is logged in as "User: HR". The breadcrumb navigation shows "Home > SQL > SQL Commands". The "Autocommit" checkbox is checked, and the "Display" dropdown is set to "10". The "Save" and "Run" buttons are visible. The SQL command entered is:   
`SELECT last_name  
FROM employees  
WHERE last_name LIKE '%a%'  
AND last_name LIKE '%e%';`  
The "Results" tab is selected, showing a table with the column "LAST\_NAME". The table contains 10 rows of employee last names. Below the table, a message states "More than 10 rows available. Increase rows selector to view more rows." At the bottom, it indicates "10 rows returned in 0.00 seconds" and provides a "CSV Export" link.

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT last_name
FROM employees
WHERE last_name LIKE '%a%'
AND last_name LIKE '%e%';
```

Results Explain Describe Saved SQL History

LAST_NAME
Baer
Bates
Colmenares
Davies
De Haan
Faviet
Fleaur
Gates
Hartstein
Markle

More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.00 seconds CSV Export

**14. Display the last name, job, and salary for all employees whose job is either that of a sales representative or a stock clerk, and whose salary is not equal to \$2,500, \$3,500, or \$7,000.**

**Ans:**

The screenshot shows the Oracle Database Express Edition interface. The browser address bar indicates the URL: 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO... The page title is "ORACLE Database Express Edition". The user is logged in as "HR". The breadcrumb navigation shows "Home > SQL > SQL Commands". The "Autocommit" checkbox is checked, and the "Display" dropdown is set to "10". The "Save" and "Run" buttons are visible. The SQL command entered is:

```
SELECT last_name, job_id, salary
FROM employees
WHERE job_id IN ('SA_REP', 'ST_CLERK')
AND salary NOT IN (2500, 3500, 7000);
```

The results are displayed in a table with the following data:

LAST_NAME	JOB_ID	SALARY
Nayer	ST_CLERK	3200
Mikkilineni	ST_CLERK	2700
Landry	ST_CLERK	2400
Markle	ST_CLERK	2200
Bissot	ST_CLERK	3300
Atkinson	ST_CLERK	2800
Olson	ST_CLERK	2100
Mallin	ST_CLERK	3300
Rogers	ST_CLERK	2900
Gee	ST_CLERK	2400

Below the table, it states: "More than 10 rows available. Increase rows selector to view more rows." At the bottom, it shows "10 rows returned in 0.00 seconds" and a "CSV Export" link.

15. Modify lab\_02\_06.sql to display the last name, salary, and commission for all employees whose commission amount is 20%.

Ans:

← → ↻ ⓘ 127.0.0.1:8080/apex/f?p=4500:1003:2749958597764139::NO::

ORACLE® Database Express Edition

User: HR

Home > SQL > SQL Commands

☒ Autocommit Display 10 ▼

```
SELECT last_name "Employee", salary "Monthly Salary", commission_pct
FROM employees
WHERE commission_pct = .20;
```

Results Explain Describe Saved SQL History

Employee	Monthly Salary	COMMISSION_PCT
Zlotkey	10500	.2
Olsen	8000	.2
Cambrault	7500	.2
Bloom	10000	.2
Fox	9600	.2
Taylor	8600	.2
Livingston	8400	.2

7 rows returned in 0.00 seconds [CSV Export](#)

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