

LAB ASSIGNMENT -3

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Class: SE-B	Batch: B4
Date of Experiment: 11-03-2022	Date of Submission: 13-03-2022
Grade:	

1. Write a query to display the employee last name, department name, location ID, and city of all employees who earn a commission

Query:

```
SELECT e.last_name, d.department_name, d.location_id, l.city
FROM employees e, departments d, locations l
WHERE e.department_id = d.department_id
AND
d.location_id = l.location_id
AND e.commission_pct IS NOT NULL;
```

Output:

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT e.last_name, d.department_name, d.location_id, l.city
2 FROM employees e, departments d, locations l
3 WHERE e.department_id = d.department_id AND
4 d.location_id = l.location_id AND
5 e.commission_pct IS NOT NULL;
6
```

The output displays a table with 4 rows selected:

LAST_NAME	DEPARTMENT_NAME	LOCATION_ID	CITY
Zlotkey	Sales	2500	Oxford
Abel	Sales	2500	Oxford
Taylor	Sales	2500	Oxford
Grant	Sales	2500	Oxford

Below the table, it says "Download CSV" and "4 rows selected." The footer of the interface indicates it is running Oracle Database 19c Enterprise Edition - 19.8.0.0.0.

2. Create a unique listing of all jobs that are in department 80. Include the location of the department in the output.

Query:

```
SELECT DISTINCT job_id, location_id
FROM employees, departments
WHERE employees.department_id = departments.department_id
AND employees.department_id = 80;
```

Output:

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT DISTINCT job_id, location_id
2 FROM employees, departments
3 WHERE employees.department_id = departments.department_id
4 AND employees.department_id = 80;
5
```

The output displays a table with two columns: JOB_ID and LOCATION_ID. The data is as follows:

JOB_ID	LOCATION_ID
SA_MAN	2500
SA_REP	2500

Below the table, it says "Download CSV" and "2 rows selected." The footer indicates "© 2022 Oracle - Live SQL 22.1.2, running Oracle Database 19c Enterprise Edition - 19.8.0.0.0 - Database Documentation - Ask Tom - Dev Gym".

3. Display the employee last name and department name for all employees who have an a (lowercase) in their last names.

Query:

```
SELECT last_name, department_name
FROM employees, departments
WHERE employees.department_id = departments.department_id
AND last_name LIKE '%a%';
```

Output:

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT last_name, department_name
2 FROM employees, departments
3 WHERE employees.department_id = departments.department_id
4 AND last_name LIKE '%a%';
5
```

The output displays a table with two columns: LAST_NAME and DEPARTMENT_NAME. The data is as follows:

LAST_NAME	DEPARTMENT_NAME
Kochhar	Executive
De Haan	Executive
Rajs	Shipping
Davies	Shipping
Matos	Shipping
Vargas	Shipping
Taylor	Sales
Grant	Sales
Whalen	Administration
Hartstein	Marketing
Fay	Marketing

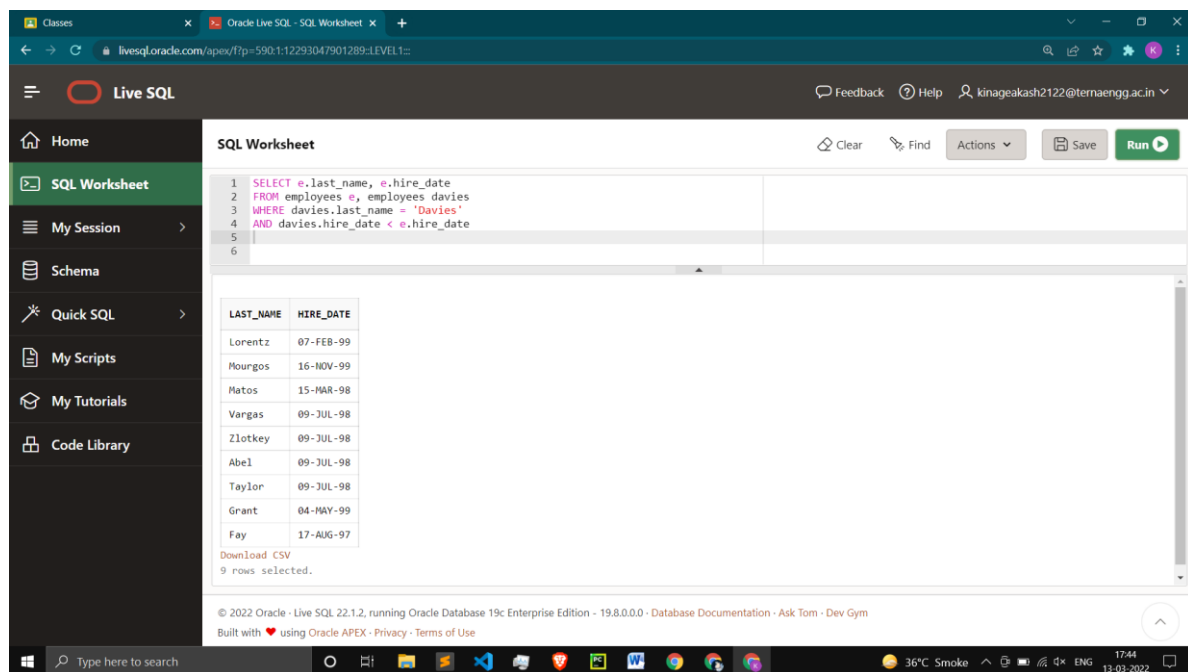
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4. Create a query to display the name and hire date of any employee hired after employee Davies.

Query:

```
SELECT e.last_name, e.hire_date
FROM employees e, employees davies
WHERE davies.last_name = 'Davies'
AND davies.hire_date < e.hire_date
```

Output:



The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT e.last_name, e.hire_date
2 FROM employees e, employees davies
3 WHERE davies.last_name = 'Davies'
4 AND davies.hire_date < e.hire_date
5
6
```

The output displays a table with 9 rows selected:

LAST_NAME	HIRE_DATE
Lorentz	07-FEB-99
Mourgos	16-NOV-99
Matos	15-MAR-98
Vargas	09-JUL-98
Zlotkey	09-JUL-98
Abel	09-JUL-98
Taylor	09-JUL-98
Grant	04-MAY-99
Fay	17-AUG-97

Download CSV
9 rows selected.

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5. Display the names and hire date for all employees who were hired before their managers, along with their manager's names and hire dates. Label the column Employee, EMP, Hired, Manager, and Mgr Hired, respectively.

Query:

```
SELECT w.last_name, w.hire_date, m.last_name, m.hire_date
FROM employees w, employees m
WHERE w.manager_id = m.employee_id
AND w.hire_date < m.hire_date;
```

Output:

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT w.last_name, w.hire_date, m.last_name, m.hire_date
2 FROM employees w, employees m
3 WHERE w.manager_id = m.employee_id
4 AND w.hire_date < m.hire_date;
5
```

The results are displayed in a table with 4 columns: LAST_NAME, HIRE_DATE, LAST_NAME, HIRE_DATE. There are 6 rows selected.

LAST_NAME	HIRE_DATE	LAST_NAME	HIRE_DATE
Whalen	17-SEP-87	Kochhar	21-SEP-89
Hunold	03-JAN-90	De Haan	13-JAN-93
Rajs	17-OCT-95	Mourgos	16-NOV-99
Davies	29-JAN-97	Mourgos	16-NOV-99
Matos	15-MAR-98	Mourgos	16-NOV-99
Vargas	09-JUL-98	Mourgos	16-NOV-99

Download CSV
6 rows selected.

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6. Display the highest, lowest, sum, and average salary of all employees. Label the columns Maximum, Minimum, Sum, and Average, respectively. Round your results to the nearest whole number.

Query:

```
SELECT ROUND(MAX(salary),0) "Maximum",
ROUND(MIN(salary),0) "Minimum",
ROUND(SUM(salary),0) "Sum",
ROUND(AVG(salary),0) "Average"
FROM employees;
```

Output:

Output:

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT ROUND(MAX(salary),0) "Maximum",
2 ROUND(MIN(salary),0) "Minimum",
3 ROUND(SUM(salary),0) "Sum",
4 ROUND(AVG(salary),0) "Average"
5 FROM employees;
6
```

The results are displayed in a table with 4 columns: Maximum, Minimum, Sum, Average. There is 1 row selected.

Maximum	Minimum	Sum	Average
42000	2500	213340	10667

Download CSV

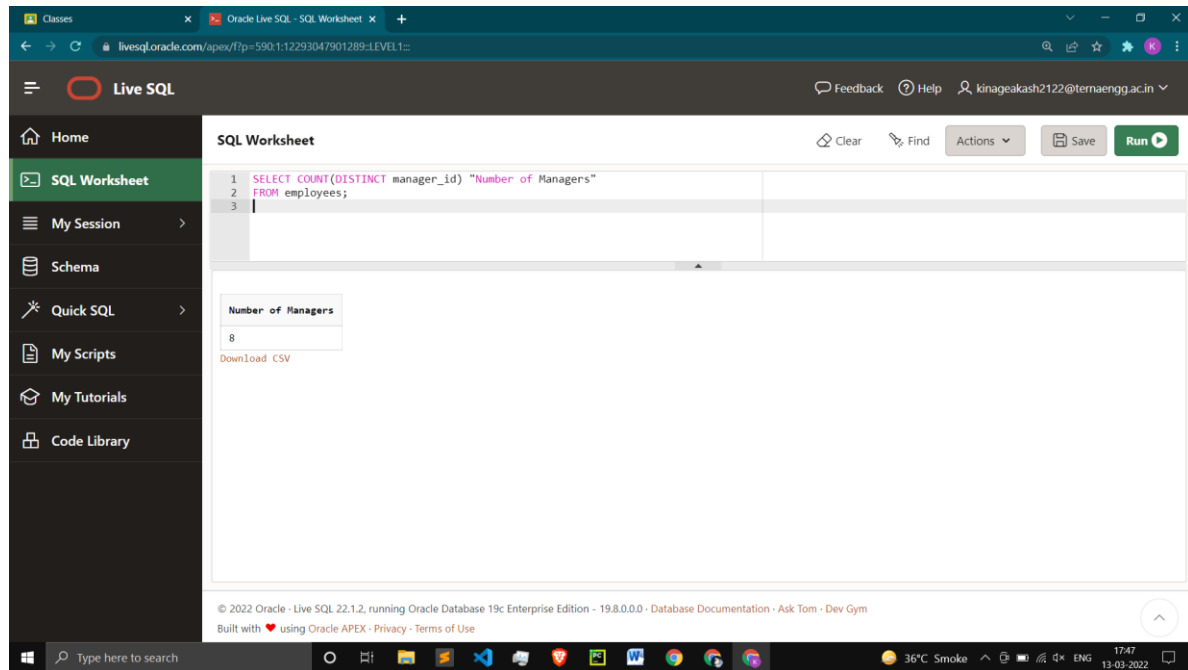
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7. Determine the number of managers without listing them. Label the column Number of Managers. *Hint: Use the MANAGER_ID column to determine the number of managers.*

Query:

```
SELECT COUNT(DISTINCT manager_id) "Number of Managers"
FROM employees;
```

Output:



8. Display the manager number and the salary of the lowest paid employee for that manager. Exclude anyone whose manager is not know. Exclude any group where the minimum salary is \$6,000 or less. Sort the output in descending order of salary.

Query:

```
SELECT manager_id, MIN(salary)
FROM employees
WHERE manager_id IS NOT NULL
GROUP BY manager_id
HAVING MIN(salary) > 6000
ORDER BY MIN(salary) DESC;
```

Output:

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT manager_id, MIN(salary)
2 FROM employees
3 WHERE manager_id IS NOT NULL
4 GROUP BY manager_id
5 HAVING MIN(salary) > 6000
6 ORDER BY MIN(salary) DESC;
```

The output table displays the results of the query:

MANAGER_ID	MIN(SALARY)
102	9000
205	8300
149	7040

Download CSV
3 rows selected.

9. Write a query to display each department's name, location, number of employees, and the average salary for all employees in that department. Label the columns Name, Location, Number of People, and Salary, respectively. Round the average salary to two decimal places.

Query:

```
SELECT d.department_name "Name",d.location_id "Location",
COUNT(*) "Number of People",ROUND(AVG(salary),2) "Salary"
FROM employees e,departments d
WHERE e.department_id=d.department_id
GROUP BY d.department_name,d.location_id;
```

Output:

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT d.department_name "Name",d.location_id "Location",
2 COUNT(*) "Number of People",ROUND(AVG(salary),2) "Salary"
3 FROM employees e,departments d
4 WHERE e.department_id=d.department_id
5 GROUP BY d.department_name,d.location_id;
```

The output table displays the results of the query:

Name	Location	Number of People	Salary
Accounting	1700	2	10150
Sales	2500	4	9285
IT	1400	3	19000
Administration	1700	1	4400
Executive	1700	3	19333.33
Shipping	1500	5	3500
Marketing	1800	2	9500

Download CSV
7 rows selected.

10. Create a matrix query to display the job, the salary for that job based on department number, and the total salary for that job, for departments 20, 50, 80, and 90, giving each column an appropriate heading.

Query:

```
SELECT *  
FROM (SELECT job_id,  
SUM(DECODE(department_id,20,salary)) DEPT20,  
SUM(DECODE(department_id,50,salary)) DEPT50,  
SUM(DECODE(department_id,80,salary)) DEPT80,  
SUM(DECODE(department_id,90,salary)) DEPT90,  
SUM(salary) "Total salary"  
FROM employees  
GROUP BY job_id);
```

Output:

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 SELECT *  
2 FROM (SELECT job_id,  
3 SUM(DECODE(department_id,20,salary)) DEPT20,  
4 SUM(DECODE(department_id,50,salary)) DEPT50,  
5 SUM(DECODE(department_id,80,salary)) DEPT80,  
6 SUM(DECODE(department_id,90,salary)) DEPT90,  
7 SUM(salary) "Total salary"  
8 FROM employees  
9 GROUP BY job_id);  
10
```

The output table displays the results of the query:

JOB_ID	DEPT20	DEPT50	DEPT80	DEPT90	Total salary
AD_VP	-	-	-	34000	34000
AC_MGR	-	-	-	-	12000
ST_CLERK	-	11700	-	-	11700
AD_ASST	-	-	-	-	4400
IT_PROG	-	-	-	-	57000
SA_MAN	-	-	10500	-	10500
AC_ACCOUNT	-	-	-	-	8300
ST_MAN	-	5800	-	-	5800
AD PRES	-	-	-	24000	24000

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