

## EXERCISE-7

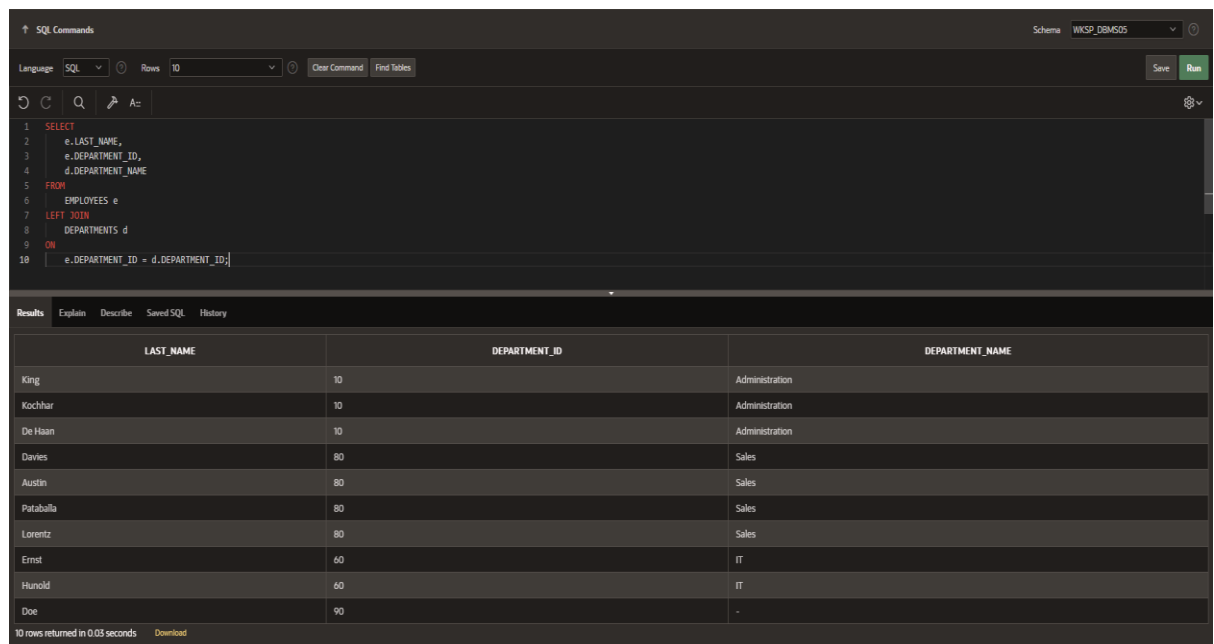
### Displaying data from multiple tables

Name: Vedhasree S

Register Number: 240701580

Department: CSE

1. Write a query to display the last name, department number, and department name for all employees.



The screenshot shows the SQL Developer interface with the following SQL query:

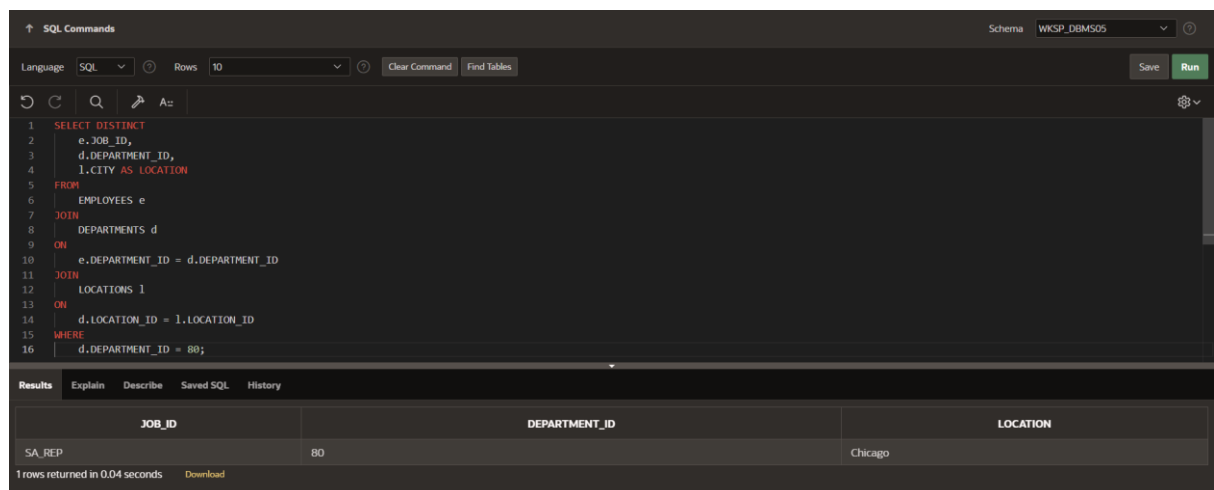
```
1 SELECT
2   e.LAST_NAME,
3   e.DEPARTMENT_ID,
4   d.DEPARTMENT_NAME
5 FROM
6   EMPLOYEES e
7 LEFT JOIN
8   DEPARTMENTS d
9 ON
10  e.DEPARTMENT_ID = d.DEPARTMENT_ID;
```

The results are displayed in a table with 10 rows:

LAST_NAME	DEPARTMENT_ID	DEPARTMENT_NAME
King	10	Administration
Kochhar	10	Administration
De Haan	10	Administration
Davies	80	Sales
Austin	80	Sales
Pataballa	80	Sales
Lorentz	80	Sales
Ernst	60	IT
Hunold	60	IT
Doe	90	-

10 rows returned in 0.03 seconds

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



The screenshot shows the SQL Developer interface with the following SQL query:

```
1 SELECT DISTINCT
2   e.JOB_ID,
3   d.DEPARTMENT_ID,
4   l.CITY AS LOCATION
5 FROM
6   EMPLOYEES e
7 JOIN
8   DEPARTMENTS d
9 ON
10  e.DEPARTMENT_ID = d.DEPARTMENT_ID
11 JOIN
12   LOCATIONS l
13 ON
14  d.LOCATION_ID = l.LOCATION_ID
15 WHERE
16  d.DEPARTMENT_ID = 80;
```

The results are displayed in a table with 1 row:

JOB_ID	DEPARTMENT_ID	LOCATION
SA_REP	80	Chicago

1 rows returned in 0.04 seconds

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

The screenshot shows the SQL Commands interface with the following query:

```
1 SELECT
2   e.LAST_NAME,
3   d.DEPARTMENT_NAME,
4   l.LOCATION_ID,
5   l.CITY
6 FROM
7   EMPLOYEES e
8 JOIN
9   DEPARTMENTS d
10 ON
11   e.DEPARTMENT_ID = d.DEPARTMENT_ID
12 JOIN
13   LOCATIONS l
14 ON
15   d.LOCATION_ID = l.LOCATION_ID
16 WHERE
17   e.COMMISSION_PCT IS NOT NULL;
```

The results table shows 3 rows:

LAST_NAME	DEPARTMENT_NAME	LOCATION_ID	CITY
Austin	Sales	1007	Chicago
Pataballa	Sales	1007	Chicago
Lorentz	Sales	1007	Chicago

3 rows returned in 0.00 seconds

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

The screenshot shows the APEX SQL Workshop interface with the following query:

```
1 SELECT
2   e.LAST_NAME,
3   d.DEPARTMENT_NAME
4 FROM
5   EMPLOYEES e
6 JOIN
7   DEPARTMENTS d
8 ON
9   e.DEPARTMENT_ID = d.DEPARTMENT_ID
10 WHERE
11   e.LAST_NAME LIKE '%a%';
```

The results table shows 4 rows:

LAST_NAME	DEPARTMENT_NAME
Kochhar	Administration
De Haan	Administration
Davies	Sales
Pataballa	Sales

4 rows returned in 0.01 seconds

5. Write a query to display the last name, job, department number, and department name for all employees who work in Toronto.

The screenshot shows the APEX SQL Workshop interface. The SQL command is as follows:

```
1 SELECT
2     e.LAST_NAME,
3     e.JOB_ID,
4     e.DEPARTMENT_ID,
5     d.DEPARTMENT_NAME
6 FROM
7     EMPLOYEES e
8 JOIN
9     DEPARTMENTS d
10 ON
11     e.DEPARTMENT_ID = d.DEPARTMENT_ID
12 JOIN
13     LOCATIONS l
14 ON
15     d.LOCATION_ID = l.LOCATION_ID
16 WHERE
17     l.CITY = 'Toronto';
```

The Results tab shows "no data found".

6. Display the employee last name and employee number along with their manager's last name and manager number. Label the columns Employee, Emp#, Manager, and Mgr#, Respectively.

The screenshot shows the APEX SQL Workshop interface. The SQL command is as follows:

```
1 SELECT
2     e.LAST_NAME AS "Employee",
3     e.EMPLOYEE_ID AS "Emp#",
4     m.LAST_NAME AS "Manager",
5     m.EMPLOYEE_ID AS "Mgr#"
6 FROM
7     EMPLOYEES e
8 JOIN
9     EMPLOYEES m
10 ON
11     e.MANAGER_ID = m.EMPLOYEE_ID;
```

The Results tab shows the following data:

Employee	Emp#	Manager	Mgr#
Kochhar	101	King	100
De Haan	102	King	100
Davies	109	Kochhar	101
Austin	105	Kochhar	101
Pataballa	106	Kochhar	101
Lorentz	107	Kochhar	101
Ernst	104	De Haan	102
Hunold	103	De Haan	102
Doe	108	Hunold	103

9 rows returned in 0.00 seconds Download

7. Modify lab4\_6.sql to display all employees including King, who has no manager. Order the results by the employee number.

The screenshot shows the APEX SQL Workshop interface. The SQL command area contains the following query:

```
1 SELECT
2   e.LAST_NAME AS "Employee",
3   e.EMPLOYEE_ID AS "Emp#",
4   m.LAST_NAME AS "Manager",
5   m.EMPLOYEE_ID AS "Mgr#"
6 FROM
7   EMPLOYEES e
8 LEFT JOIN
9   EMPLOYEES m
10  ON
11   e.MANAGER_ID = m.EMPLOYEE_ID
12 ORDER BY
13   e.EMPLOYEE_ID;
```

The Results tab shows the following data:

Employee	Emp#	Manager	Mgr#
King	100	-	-
Kochhar	101	King	100
De Haan	102	King	100
Hunold	103	De Haan	102
Ernst	104	De Haan	102
Austin	105	Kochhar	101
Pataballa	106	Kochhar	101
Lorentz	107	Kochhar	101
Doe	108	Hunold	103
Davies	109	Kochhar	101

10 rows returned in 0.01 seconds

8. Create a query that displays employee last names, department numbers, and all the employees who work in the same department as a given employee. Give each column an appropriate label.

The screenshot shows the APEX SQL Workshop interface. The SQL command area contains the following query:

```
1 SELECT
2   e1.LAST_NAME AS "Employee",
3   e1.DEPARTMENT_ID AS "Department",
4   e2.LAST_NAME AS "Colleague"
5 FROM
6   EMPLOYEES e1
7 JOIN
8   EMPLOYEES e2
9  ON
10   e1.DEPARTMENT_ID = e2.DEPARTMENT_ID
11 ORDER BY
12   e1.DEPARTMENT_ID, e1.LAST_NAME, e2.LAST_NAME;
```

The Results tab shows the following data:

Employee	Department	Colleague
De Haan	10	De Haan
De Haan	10	King
De Haan	10	Kochhar
King	10	De Haan
King	10	King
King	10	Kochhar
Kochhar	10	De Haan
Kochhar	10	King
Kochhar	10	Kochhar
Ernst	60	Ernst
Ernst	60	Hunold

9. Show the structure of the JOB\_GRADES table. Create a query that displays the name, job, department name, salary, and grade for all employees.

APEX App Builder SQL Workshop Team Development Gallery

SQL Commands

Language SQL Rows 100 Clear Command Find Tables

1 DESC JOB\_GRADES;

Results Explain Describe Saved SQL History

Object Type TABLE Object JOB\_GRADES

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
JOB_GRADES	GRADE_LEVEL	VARCHAR2	2	-	-	1	-	-	-
	LOWEST_SALARY	NUMBER	-	8	2	-	✓	-	-
	HIGHEST_SALARY	NUMBER	-	8	2	-	✓	-	-

SQL Commands

Language SQL Rows 100 Clear Command Find Tables Save Run

1 SELECT  
2 e.LAST\_NAME AS "Name",  
3 e.JOB\_ID AS "Job",  
4 d.DEPARTMENT\_NAME AS "Department",  
5 e.SALARY AS "Salary",  
6 j.GRADE\_LEVEL AS "Grade"  
7 FROM  
8 EMPLOYEES e  
9 JOIN  
10 DEPARTMENTS d  
11 ON  
12 e.DEPARTMENT\_ID = d.DEPARTMENT\_ID  
13 JOIN  
14 JOB\_GRADES j  
15 ON  
16 e.SALARY BETWEEN j.LOWEST\_SALARY AND j.HIGHEST\_SALARY  
17 ORDER BY  
18 e.LAST\_NAME;

Results Explain Describe Saved SQL History

Name	Job	Department	Salary	Grade
Austin	SA_REP	Sales	4800	B
Davies	SA_REP	Sales	5000	B
De Haan	AD_VP	Administration	17000	E
Ernst	IT_PROG	IT	6000	C
Hunold	IT_PROG	IT	9000	C
Kochhar	AD_VP	Administration	17000	E
Lorentz	SA_REP	Sales	4200	B
Pataballa	SA_REP	Sales	4800	B

8 rows returned in 0.01 seconds Download

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

The screenshot shows the APEX SQL Workshop interface. The SQL command window contains the following query:

```
1 SELECT
2     LAST_NAME AS "Name",
3     HIRE_DATE AS "Hire Date"
4 FROM
5     EMPLOYEES
6 WHERE
7     HIRE_DATE > (
8         SELECT HIRE_DATE
9         FROM EMPLOYEES
10        WHERE LAST_NAME = 'Davies'
11    )
12 ORDER BY
13     HIRE_DATE;
```

The Results tab shows the following data:

Name	Hire Date
Austin	6/25/2005
Kochhar	9/21/2005
Hunold	1/3/2006
Pataballa	2/5/2006
Lorentz	2/7/2007
Ernst	5/21/2007
Doe	1/1/2010

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

The screenshot shows the APEX SQL Workshop interface. The SQL command window contains the following query:

```
1 SELECT
2     e.LAST_NAME AS "Employee",
3     e.HIRE_DATE AS "Emp Hired",
4     m.LAST_NAME AS "Manager",
5     m.HIRE_DATE AS "Mgr Hired"
6 FROM
7     EMPLOYEES e
8 JOIN
9     EMPLOYEES m
10 ON
11     e.MANAGER_ID = m.EMPLOYEE_ID
12 WHERE
13     e.HIRE_DATE < m.HIRE_DATE
14 ORDER BY
15     e.LAST_NAME;
```

The Results tab shows the following data:

Employee	Emp Hired	Manager	Mgr Hired
Austin	6/25/2005	Kochhar	9/21/2005
Davies	1/1/2005	Kochhar	9/21/2005
De Haan	1/15/2001	King	6/17/2003

3 rows returned in 0.01 seconds [Download](#)