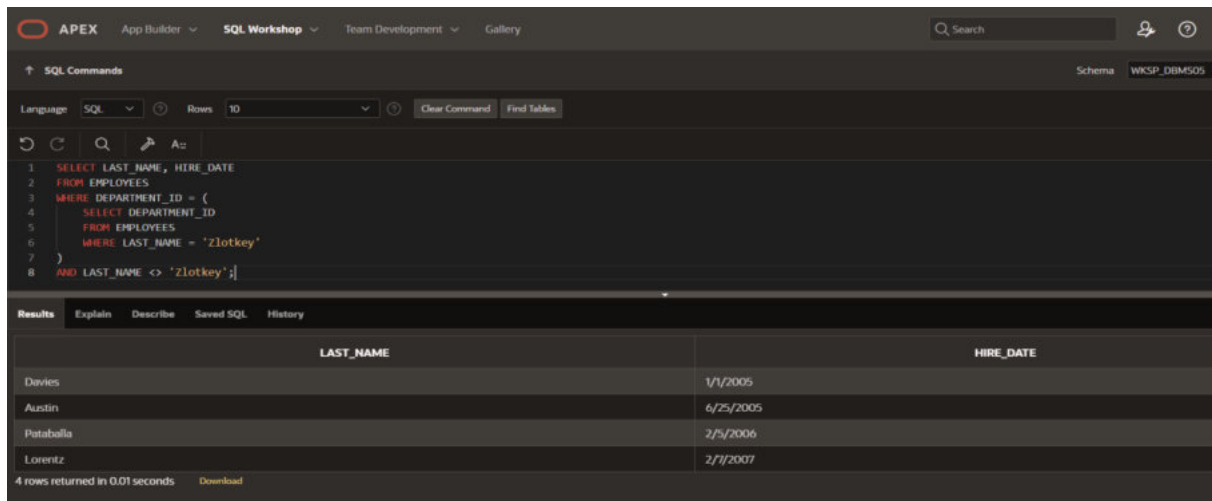


EXERCISE-9

Sub queries

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Department: CSE

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



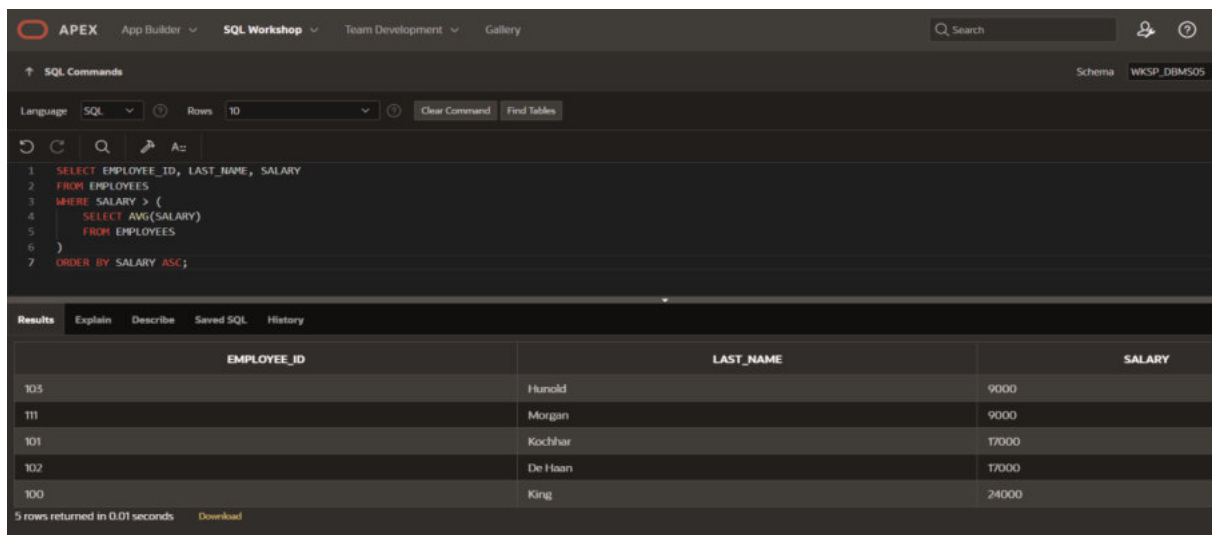
The screenshot shows the APEX SQL Workshop interface. The SQL command entered is:

```
1 SELECT LAST_NAME, HIRE_DATE
2 FROM EMPLOYEES
3 WHERE DEPARTMENT_ID = (
4   SELECT DEPARTMENT_ID
5   FROM EMPLOYEES
6   WHERE LAST_NAME = 'Zlotkey'
7 )
8 AND LAST_NAME <> 'Zlotkey';
```

The results tab shows 4 rows returned in 0.01 seconds. The data is as follows:

LAST_NAME	HIRE_DATE
Davies	1/1/2005
Austin	6/25/2005
Pataballa	2/5/2006
Lorentz	2/1/2007

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



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

```
1 SELECT EMPLOYEE_ID, LAST_NAME, SALARY
2 FROM EMPLOYEES
3 WHERE SALARY > (
4   SELECT AVG(SALARY)
5   FROM EMPLOYEES
6 )
7 ORDER BY SALARY ASC;
```

The results tab shows 5 rows returned in 0.01 seconds. The data is as follows:

EMPLOYEE_ID	LAST_NAME	SALARY
1015	Hunold	9000
111	Morgan	9000
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 a u.

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

```
1 SELECT e.employee_id, e.last_name
2 FROM employees e
3 WHERE e.department_id IN (
4     SELECT DISTINCT d.department_id
5     FROM employees d
6     WHERE d.last_name LIKE '%u%'
7 );
```

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

EMPLOYEE_ID	LAST_NAME
109	Davies
105	Austin
106	Pataballa
107	Lorentz
113	Zlotkey
104	Ernst
103	Hunold

7 rows returned in 0.02 seconds

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.

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

```
1 SELECT e.last_name, e.department_id, e.job_id
2 FROM employees e
3 JOIN departments d
4 ON e.department_id = d.department_id
5 WHERE d.location_id = 1700;
```

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

LAST_NAME	DEPARTMENT_ID	JOB_ID
White	90	CLERK
Morgan	90	MANAGER
Doe	90	IT_PROG

3 rows returned in 0.02 seconds

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

The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user icons are on the right. Below the navigation bar, the 'SQL Commands' section is active, showing a query:

```
1 SELECT e.last_name, e.salary
2 FROM employees e
3 WHERE e.manager_id = (
4     SELECT employee_id
5     FROM employees
6     WHERE last_name = 'King'
7 );
```

 The 'Results' tab is selected, displaying a table with two columns: 'LAST_NAME' and 'SALARY'. The table contains two rows: 'Kochhar' with salary '17000' and 'De Haan' with salary '17000'. Below the table, it states '2 rows returned in 0.01 seconds' and provides a 'Download' link.

LAST_NAME	SALARY
Kochhar	17000
De Haan	17000

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

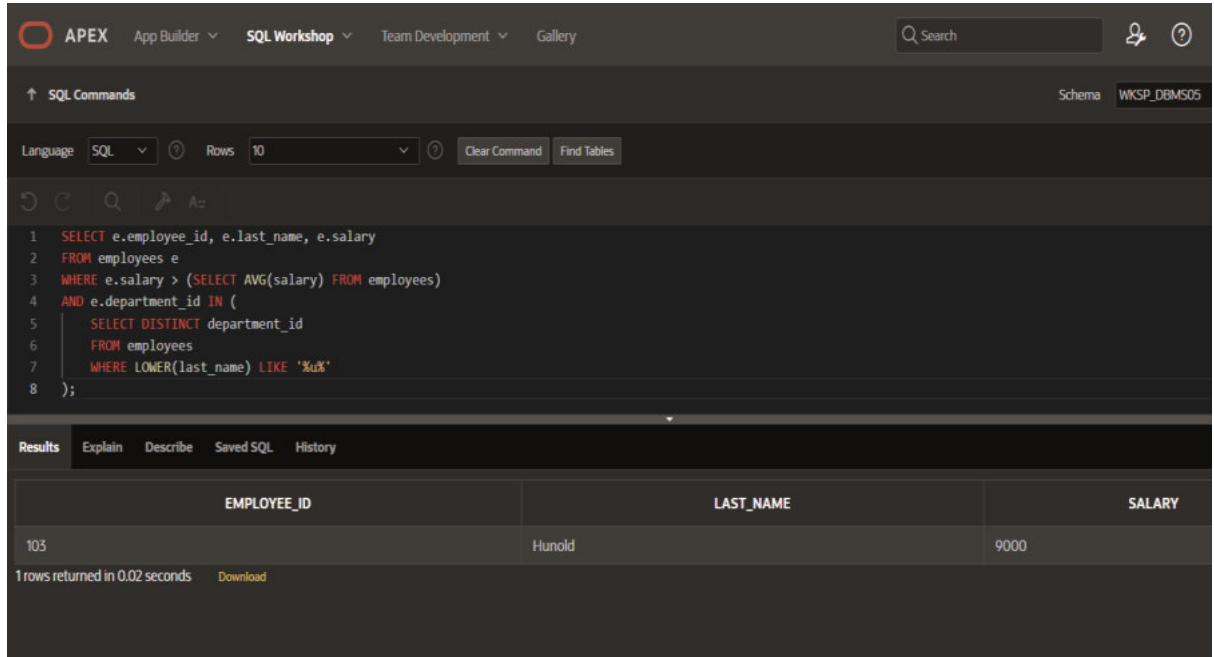
The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user icons are on the right. Below the navigation bar, the 'SQL Commands' section is active, showing a query:

```
1 SELECT e.department_id, e.last_name, e.job_id
2 FROM employees e
3 JOIN departments d
4 ON e.department_id = d.department_id
5 WHERE d.department_name = 'Executive';
```

 The 'Results' tab is selected, displaying a table with three columns: 'DEPARTMENT_ID', 'LAST_NAME', and 'JOB_ID'. The table contains three rows: '90' with last name 'White' and job ID 'CLERK', '90' with last name 'Morgan' and job ID 'MANAGER', and '90' with last name 'Doe' and job ID 'IT_PROG'. Below the table, it states '3 rows returned in 0.01 seconds' and provides a 'Download' link.

DEPARTMENT_ID	LAST_NAME	JOB_ID
90	White	CLERK
90	Morgan	MANAGER
90	Doe	IT_PROG

7. Modify the query 3 to display the employee number, last name, and salary of all employees who earn more than the average salary and who work in a department with any employee whose last name contains a u.



The screenshot shows the APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. A search bar and user icons are on the right. The 'SQL Commands' tab is active, showing a query in the editor. The query is as follows:

```
1 SELECT e.employee_id, e.last_name, e.salary
2 FROM employees e
3 WHERE e.salary > (SELECT AVG(salary) FROM employees)
4 AND e.department_id IN (
5     SELECT DISTINCT department_id
6     FROM employees
7     WHERE LOWER(last_name) LIKE '%u%'
8 );
```

Below the editor, the 'Results' tab is active, displaying a table with the following data:

EMPLOYEE_ID	LAST_NAME	SALARY
103	Hunold	9000

At the bottom of the results section, it states '1 rows returned in 0.02 seconds' and provides a 'Download' link.