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Assessment- 3
Database Systems and Design
[CSE5011]

NAME: KAUSHAL BAGHEL
ROLL NO: 21MAI0003
SLOT :L47+L48
FACULTY : Dr. SWATHI J.N.

EXERCISE 5

SUBQUERY AND VIEW

Aim: to understand the concept of Sub queries and logical tables in oracle.

1. Find the employee who is getting highest salary in the department research

```
SELECT * FROM EMPLOYEE WHERE SALARY IN(SELECT MAX(SALARY)FROM EMPLOYEE WHERE DEPT_NO IN(SELECT d.DEPT_NO FROM DEPT d WHERE d.DEPT_NAME='Research'));
```

Results Explain Describe Saved SQL History

no data found

2. Find the employees who earn the same salary as the minimum salary for each Department

```
SELECT * FROM EMPLOYEE WHERE SALARY=(SELECT MIN(SALARY) FROM EMPLOYEE);
```

Results Explain Describe Saved SQL History

FIRST_NAME	MID_NAME	LAST_NAME	SSN_NUMBER	BIRTHDAY	ADDRESS	SEX	SALARY	SUPERVISOR_SSN	DEPT_NO
John	B	Smith	678	09-JAN-87	Madurai	M	30000	124	1

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

3. Find the employee whose salary is greater than average salary of department 2

```
SELECT * FROM EMPLOYEE WHERE SALARY > ALL(SELECT AVG(SALARY) FROM EMPLOYEE WHERE DEPT_NO=2);
SELECT * FROM EMPLOYEE WHERE SALARY > ALL(SELECT AVG(SALARY) FROM EMPLOYEE WHERE DEPT_NO IN(SELECT d.DEPT_NO FROM DEPT d WHERE d.DEPT_NO=2));
```

Results Explain Describe Saved SQL History

FIRST_NAME	MID_NAME	LAST_NAME	SSN_NUMBER	BIRTHDAY	ADDRESS	SEX	SALARY	SUPERVISOR_SSN	DEPT_NO
Doug	E	Gilbert	123	09-JUN-68	Chennai	M	80000	-	1
Joyce	-	PAN	124	07-FEB-73	Vellore	F	70000	-	3
Jennifer	S	Wallace	564	20-JUN-83	Chennai	F	43000	123	2

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

4. List out all the department names with their individual employees strength

```
SELECT DEPT_NAME, COUNT(*) FROM DEPT GROUP BY DEPT_NAME;
```

Results Explain Describe Saved SQL History

DEPT_NAME	COUNT(*)
Administration	1
Headquarter	1
IT	1
Finance	1

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

5. Find out the department name having highest employee strength

```
select dept name, count(*) as employeecount from employee join dept on employee.dept no=dept.dept no group by dept name order by employeecount desc;
```

Results Explain Describe Saved SQL History

DEPT_NAME	EMPLOYEECOUNT
Administration	2
Finance	2
Headquarter	2

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

6. List out all the departments and average salary drawn by their employees

```
select dept_no, AVG(SALARY), COUNT(*) FROM EMPLOYEE GROUP BY DEPT_NO;
```

Results Explain Describe Saved SQL History

DEPT_NO	AVG(SALARY)	COUNT(*)
1	55000	2
2	41500	2
3	54000	2

3 rows returned in 0.00 seconds

[CSV Export](#)

7. Find maximum average salary for each department.

```
SELECT DEPT_NO, AVG(salary)
FROM employee
GROUP BY DEPT_NO
HAVING AVG(salary) = (SELECT MAX(AVG(salary)) FROM employee GROUP BY DEPT_NO)
```

Results Explain Describe Saved SQL History

DEPT_NO	AVG(SALARY)
1	55000

1 rows returned in 0.00 seconds

[CSV Export](#)

8. Create a view to display the employee details who is working in IT department.\

```
create or replace view employee_vu as select * from EMPLOYEE where DEPT No=4;

select * from employee_vu

drop view employee_vu
```

Results Explain Describe Saved SQL History

View created.

0.02 seconds

9. Create a logical table to store employee details who is getting salary more than 10000.

```
create or replace view employee_vu as select * from EMPLOYEE where DEPT_No=4;  
select * from employee_vu
```

Results Explain Describe Saved SQL History

no data found

10. Create a table to store the employees details based on the dep

```
create view employee_dep1 as select * from employee where dept_no=1;  
create view employee_dep2 as select * from employee where dept_no=2;  
create view employee_dep3 as select * from employee where dept_no=3;
```

Results Explain Describe Saved SQL History

View created.

0.02 seconds

Exercise: VI

Joins

Aim: To understand how to relate and access data from multiple tables.

1. Retrieve the names of all employees in department 5 who work more than 10 hours per week on ProductX project.

```
SELECT LAST_NAME, FIRST_NAME  
FROM EMPLOYEE  
WHERE DEPT_NO=5 AND SSN_NUMBER IN ( SELECT EMP_SSN  
FROM WORKS_ON  
WHERE HOURS>10 AND PROJECT_NUMBER IN ( SELECT PROJECT_NUMBER  
FROM PROJECT  
WHERE PROJECT_NAME='ProductX' ) );
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

no data found

2. List the names of all employees who have a dependent with the same first name as themselves.

```
SELECT LAST_NAME, FIRST_NAME  
FROM EMPLOYEE  
WHERE EXISTS ( SELECT *  
FROM DEPENDENT  
WHERE FIRST_NAME=DEPENDENT_NAME AND SSN_NUMBER=EMP_SSN );  
  
SELECT * FROM DEPENDENT
```

[Results](#) [Explain](#) [Describe](#) [Saved SQL](#) [History](#)

no data found

3. Find the names of all the employees who are directly supervised by 'Franklin Wong'.

```
SELECT E.LAST_NAME, E.FIRST_NAME  
FROM EMPLOYEE E, EMPLOYEE S  
WHERE S.FIRST_NAME='Franklin' AND S.LAST_NAME='Wong' AND E.SUPERVISOR_SSN=S.SSN_NUMBER;
```

Results Explain Describe Saved SQL History

no data found

4. Retrieve the names of all who do not work on any project.

```
select first_name, last_name  
from employee  
where not exists ( select 7  
                  from works_on  
                  where emp_ssn = ssn_number);
```

Results Explain Describe Saved SQL History

FIRST_NAME	LAST_NAME
Franklin	Wong
Jennifer	Wallace
John	Smith
Ramesh	Narayan

4 rows returned in 1.53 seconds

[CSV Export](#)

6. List the names of all managers who have no dependents.

```
select FIRST_NAME, LAST_NAME  
from employee  
where ssn_number in (select manager_ssn  
                     from dept) and  
       ssn_number not in (select emp_ssn  
                         from dependent);
```

Results Explain Describe Saved SQL History

FIRST_NAME	LAST_NAME
Doug	Gilbert
Ramesh	Narayan
Jennifer	Wallace
John	Smith

4 rows returned in 0.03 seconds

[CSV Export](#)

7. List the employee's names and the department names if they happen to manage a department

```
SELECT e.SSN_NUMBER,
       e.FIRST_NAME,
       e.salary,
       e.dept NO,
       d.dept name
FROM employee e,
     dept d
WHERE e.dept_no = d.dept_no
```

Results Explain Describe Saved SQL History

SSN_NUMBER	FIRST_NAME	SALARY	DEPT_NO	DEPT_NAME
123	Doug	80000	1	Headquarter
124	Joyce	70000	3	Finance
125	Franklin	40000	2	Administration
564	Jennifer	43000	2	Administration
678	John	30000	1	Headquarter
234	Ramesh	38000	3	Finance

6 rows returned in 0.03 seconds

[CSV Export](#)

8. For each project retrieve the project number, project name and the number of employees who work on that project.

```
select project name, project number, count from project p inner join (select pno, count(pno) count from employee e, works on w where e.ssn number=w.emp.ssn group by pno) w on
p.project number=w.pno
```

Results Explain Describe Saved SQL History

PROJECT_NAME	PROJECT_NUMBER	COUNT
PROJECTA	3388	1
PROJECTC	6688	1

2 rows returned in 0.04 seconds

[CSV Export](#)

9. For each project, list the project name and the total hours per week (by all employees) spent on that project.

```
select project_name , sum(hours) from project p, works_on w where p.project_number=w.pno group by project_name
```

Results Explain Describe Saved SQL History

PROJECT_NAME	SUM(HOURS)
PROJECTA	12
PROJECTC	7.5

2 rows returned in 0.00 seconds

[CSV Export](#)

10. Retrieve the names of the employees who have 2 or more dependents.

```
SELECT LAST_NAME, FIRST_NAME  
FROM EMPLOYEE  
WHERE (SELECT COUNT (*)  
FROM DEPENDENT  
WHERE SSN_NUMBER = EMP_SSN) >= 2;
```

Results Explain Describe Saved SQL History

no data found