

Ex.No. 6

Nested Queries

Aim:

To perform manipulate records of table using nested queries in SQL.

- Nesting of queries, one within the other is termed as sub query.

Syntax

```
SELECT    select_list
FROM      table
WHERE     expr operator ( SELECT    select_list
                           FROM      table);
```

- The subquery (inner query) executes once before the main query.
- The result of the subquery is used by the main query (outer query).

Guidelines for Subqueries

- Enclose subqueries in parentheses.
- Place subqueries on the right side of the comparison operator.
- Do not add an ORDER BY clause to a subquery.
- Use single-row operators with single-row subqueries.
- Use multiple-row operators with multiple-row subqueries.

Single-Row Subqueries

- Return only one row
- Use single-row comparison operators (ie; relational operators)

Multiple-Row Subqueries

- Return more than one row
- Use multiple-row comparison operators

<i>Operator</i>	<i>Meaning</i>
IN	Equal to any member in the list
ANY	Compare value to each value returned by the subquery
ALL	Compare value to every value returned by the subquery

Note:

'=any' is equivalent to 'in'

'!=all' is equivalent to 'not in'

- Q1)** List the name of the employees whose salary is greater than that of employee with empno 7566.

```
SQL> select ename from employee
      where sal > (select sal from employee
                  where empno=7566);
```

- Q2)** List the name of the employees whose job is equal to the job of employee with empno 7369 and salary is greater than that of employee with empno 7876.

```
SQL>
```

- Q3)** List the *ename*, *job*, *sal* of the employee who get minimum salary in the company.

```
SQL> select ename, job, sal from employee
      where sal = (select min(sal) from employee);
```

- Q4)** List *deptno* & *min(salary)* departmentwise, only if *min(sal)* is greater than the *min(sal)* of *deptno* 20.

```
SQL> select deptno, min(sal) from employee
      group by deptno
      having min(sal) > (select min(sal) from employee
                        where deptno = 20);
```

- Q5)** List *empno*, *ename*, *job* of the employees whose *job* is not a 'CLERK' and whose *salary* is less than at least one of the salaries of the employees whose *job* is 'CLERK'.

```
SQL> select empno, ename, job from employee
      where sal < any (select sa from employee
                      where job = 'CLERK')
      and job <> 'CLERK';
```

- Q6)** List *empno*, *ename*, *job* of the employees whose salary is greater than the average salary of each department.

SQL>

- Q7)** Display the *name*, *dept. no*, *salary*, and *commission* of any employee whose *salary* and *commission* matches both the *commission* and *salary* of any employee in department 30.

```
SQL> select  ename, deptno, sal, comm  
from    employee  
where   (sal, nvl(comm,-1)) in ( select sal, nvl(comm,-1)  
                                from    employee  
                                where   deptno = 30);
```

- Q8)** List *ename*, *sal*, *deptno*, *average salary* of the dept where he/she works, if salary of the employee is greater than his/her department average salary.

```
SQL> select  a.ename, a.sal, a.deptno, b.salavg  
from    employee a, ( select  deptno, avg(sal) salavg  
                        from    employee  
                        group by deptno) b  
where   a.deptno = b.deptno  
and     a.sal > b.salavg;
```

- Q9)** Execute and Write the output of the following query in words.

```
SQL> with summary as  
(select  dname,sum(sal) as dept_total  from employee a , department b  
where   a.deptno = b.deptno  
group by dname);  
select  dname,dept_total  from summary  
where   dept_total > (select sum(dept_total)*1/3  from summary)  
order by dept_total desc;
```

- Q6) List *empno*, *ename*, *job* of the employees whose salary is greater than the average salary of each department.

SQL>

- Q7) Display the *name*, *dept. no*, *salary*, and *commission* of any employee whose *salary* and *commission* matches both the *commission* and *salary* of any employee in department 30.

```
SQL> select ename, deptno, sal, comm
       from employee
       where (sal, nvl(comm,-1)) in ( select sal, nvl(comm,-1)
                                   from employee
                                   where deptno = 30);
```

- Q8) List *ename*, *sal*, *deptno*, *average salary* of the dept where he/she works, if salary of the employee is greater than his/her department average salary.

```
SQL> select a.ename, a.sal, a.deptno, b.salavg
       from employee a, ( select deptno, avg(sal) salavg
                        from employee
                        group by deptno) b
       where a.deptno = b.deptno
       and a.sal > b.salavg;
```

- Q9) Execute and Write the output of the following query in words.

```
SQL> with summary as
      (select dname, sum(sal) as dept_total from employee a, department b
       where a.deptno = b.deptno
       group by dname);
      select dname, dept_total from summary
      where dept_total > (select sum(dept_total)*1/3 from summary)
      order by dept_total desc;
```

Q10) List *ename, job, sal* of the employees whose salary is equal to any one of the salary of the employee 'SCOTT' and 'WARD'.

SQL>

Q11) List *ename, job, sal* of the employees whose salary and job is equal to the employee 'FORD'.

SQL>

Q12) List *ename, job, deptno, sal* of the employees whose job is same as 'JONES' and *salary* is greater than the employee 'FORD'.

SQL>

Q13) List *ename, job* of the employees who work in *deptno* 10 and his/her *job* is any one of the job in the department 'SALES'.

SQL>

Q14) Execute the following query and write the result in word

```
SQL> select job,ename,empno,deptno from emp s  
       where exists (select * from emp  
                     where s.empno=mgr)  
       order by empno;
```