

EXPERIMENT#5

Objective: Writing complex queries using sub-queries.

A sub query is a SELECT statement that is embedded in a clause of another SELECT statement. You can build powerful statements out of simple ones by using sub queries. They can be very useful when you need to select rows from a table with a condition that depends on the data in the table itself. They can return a list of values for use in a comparison operation. Comparison operator classified into two classes.

1. Single row Operator (> , = , >= , < , <> , <=)
2. Multi row Operator (IN , ANY , ALL)

Types of Subqueries

Single-row sub Queries: Queries that return only one row from the inner SELECT statement.

Multi-row Sub Query: QUERIES that return more than one rows from the inner SELECT statement.

Multiple-column subqueries: QUERIES that return more than one column from the inner SELECT statement.

Examples using Single row Sub Query:

Q. Find the names of the employees whose job is like the job of empno 7369.

Sql> SELECT ENAME, JOB FROM EMP WHERE JOB = (SELECT JOB FROM EMP WHERE EMPNO = 7369);

OutPut:-

ENAME	JOB
ADAMS	CLERK
JAMES	CLERK
MILLER	CLERK
SMITH	CLERK
ADAMS	CLERK

JAMES	CLERK
MILLER	CLERK

Examples using Multi row Sub Query:

Example:-

Find the names and jobs of the employees whose salary is same as the average salary of each department.

Sql> SELECT ENAME,JOB,SAL FROM EMP WHERE SAL > ALL (SELECT AVG(SAL)
FROM EMP GROUP BY DEPTNO);

Output:-

ENAME	SAL	JOB
JONES	2975	MANAGER
SCOTT	3000	ANALYST
KING	5000	PRESIDENT
FORD	3000	ANALYST

Examples using Multiple-column Sub Query:

Example:-

Find the employee details whose salary is equal to 3000 and mgr is 7566.

Sql> SELECT * FROM EMP WHERE SAL,MGR = (SELECT 3000,7566 FROM DUAL);

Output:-

EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO
7788	SCOTT	ANALYST	7566	09/12/1982	3000	-	20
7902	FORD	ANALYST	7566	03/12/1981	3000	-	20

ASSIGNMENTS OF EXPERIMENT-5:

Q.1:- List the employee's name, job, salary, and department number for those employee working in smith' department.

Sql>

Output:-

Q.2:- Display salary of employees according to department and job those are getting salary more than average salary.

Sql>

Output:-

Q.3:- List ename, job, annual sal, and deptno for employees, who earns more than jones salary.

Sql>

Output:-

Q.4:- Display deptno, empno and name, those have department name "operations".

Sql>

Output:-

Q.5:- Display the employees those have joined after miller .

Sql>

Output:-

Q.6:- Find the employees who earn salary equal to the minimum salary in the company.

Sql > select ename from emp where sal=(select min(sal) from emp);

OutPut:-

Q.7:- Find the employees who earn salary equal to the minimum salary in the company.

Sql> select ename from emp where job=(select job from emp where ename='BLAKE');

OutPut:-