Sub Queries (or) nested Queries

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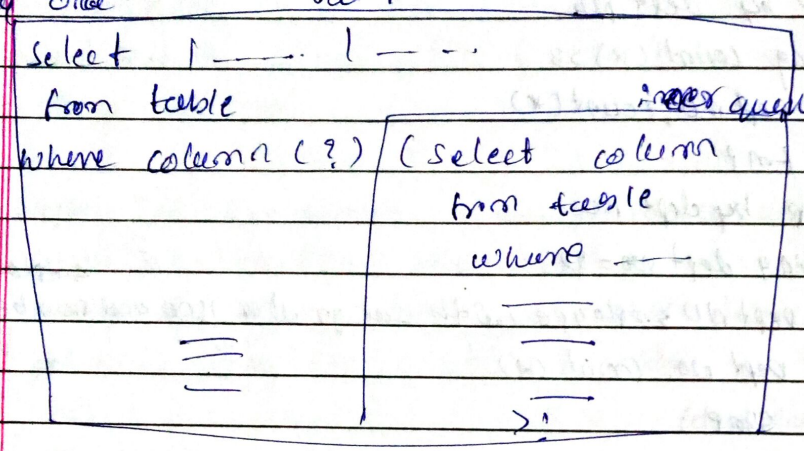
* passing a DRL statement in another SQL statement is called as Sub Queries.
* in sub queries the result of inner query is utilized by the outer query
* even there the innermost query is Executed first
* in sub queries wont outer query the inner query executes only once.
* Ex:-



SQL> select job from emp → in ist time we don't know where ename = 'SMITH') smith working so we Execute the query and know the working of smith job
job
clerk

SQL> select * from emp → here after knowing smith job where job = 'clerk'; then we pass the job here
smith clerk → 4 rows selected
Adams clerk
:

SQL> select * from emp → Here we combined above
where job = (select job from emp both query
where ename = 'smith'); 4 rows selected
→ same
Ex: number of column same column and only one column
where returns same as should return outer query column

SQL> Display all Employee details who is working same manager and dept no

SQL> select * from emp 6 rows selected
where deptno = (select deptno from emp where
ename = 'TURNER');

Depending on the inner query return a single row result or a multi row result (group result) sub-query are categorized as 1) single row sub-query or 2) multi row sub-query.

Display the employee who is earning a max salary.

SQL> Select * from emp
where sal = (select max(sal) from emp);
using nested 1 row selected

Display all the employee who joined before blake

SQL> select * from emp
where hiredate < (select hiredate from emp where ename = 'Blake');

SQL> select * from emp
where Hiredate < (select ENAME, Hiredate from emp where ename = 'Blake');
Error

Display all the employee who is working in same as Blake dept no but job same as ward.

SQL> Select * from emp
where DEPTNO = (select DEPTNO from emp where ename = 'Blake')
and job = (select job from emp where ename = 'ward');

Display all the employee details who is working in the job same as jones or ford

SQL> select * from emp
where job = (select job from emp where ename = 'jones')
or job = (select job from emp where ename = 'Ford');
manager 5 row selected
Analyst

SQL> select * from emp where job = (select job from emp where ename = 'Blake' or 'Ford');
Error

Here it's returning two values but we are comparing job = two values at a time job can assign only one value

sql> select * from emp
where job IN (select job from emp where ename = 'BLAKE' OR ename = 'FORD');

IN ('Blake', 'Ford'); → 5 row selected

Display smiths, manager's, Detail.

SQL> select * from emp 1 row selected
where Empno = (select mgr From Emp where ename = 'smith');

Display all the employee details who is working under smith of manager of manager.

sql> select * from emp
where Empno = (select mgr from emp where ename='smith')
Ford

sql> select mgr from emp where ename = 'smith'
7902

SQL> select mgr from Emp where Empno = 7902;
7560

sql> select * from emp
where mgr = 7560; 2 row selected
SCOTT
Ford

sql> select * from emp ;) 2 row selected
where mgr = (select mgr from emp where Empno =
(select mgr from Emp where ename = 'SMITH'));
SCOTT
Ford

Display second, next sum salary from table

SQL> select * from emp
where SAL = (select max(SAL) from emp); → 13 row selected.

sql> select max (SAL) from emp 1 row selected
where SAL < (select max (SAL) from EMP));

sql> select * from emp 2 row selected
where sal = (select max (sal) from emp
where sal < (select max (sal) from emp));

sql> Select * from
where sal =
where sal <
where sal
where sal
)
Blake
Display all
SQL> select *
sql> select
Pe
sql> Select
2 where
SQL> Select *
where De
inline
* parsing a
statement
* in line such
on a table
SQL> select
SQL> Select *
SQL> Select

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sql> Select * from emp
where sal=(select max(sal) from emp
where sal<(select max(sal) from emp

where sal<(select max(sal) from emp
where sal<(select max(sal) from emp)

)

)

)

1 row selected

Blake 7698

Display all the employees working in newyork location

sql> select * from dept; -> displaying dept columns

sql> select deptno from where loc='new york';
output -> 10

sql> select * from emp
where deptno=(select deptno from dept where loc='new york');

3 row selected.

sql> select * from emp
where deptno IN(select deptno from dept where loc='newyork');

Inline sub query

* passing a DQL statement from class of another DQL statement is called as inline sub query.
* inline sub query the outer query will be operating on a table which is result of inner query

you have to give alias name here

sql> select * from (select ename employee_name, sal, job
error for emp);

sql> select * from (select ename, sal, job from emp where job IN('salesman', 'manager'));

7 rows selected

sql> select ename, sal, job from emp where job IN('salesman', 'manager');

same 7 row selected

sql>

outer query since operating on the result of inner query can only access the columns returned by by inner query

sql> select dept no from (select ename, job, sal from emp);
error

column should be in inner query otherwise error

note:- if inner query performs aliasing then the outer query should use the alias name to identify the column

sql> select employee_n from (select ename employee_name, sal, job, from emp);
14 row selected

sql> select employee_NAME from (select ename_NAME, SAL, job from emp);
error

=> Display dept code number of employees for the dept. more than 3 employee without using having class.

sql> Select DEPTNO, count (*) from emp group by DEPTNO;

DEPTNO	count (*)
30	6
20	5
10	3

using inline query

sql> select * from (select DEPTNO, count (*) NOE from emp group by DEPTNO) where NOE > 3;

name you give anything

DEPTNO	NOE
30	6
20	5

using sub query

=> Display the employee working under the department more than 3 employees

select * from emp
where DEPTNO IN (select DEPTNO from emp
group by DEPTNO
having count (*) > 3);

Sub Query

1) select * from emp
where mgr = (select mgr from emp
where empno = (select mgr from emp
where ename = 'smith'));

Here we passing number because empno and mgr also no. we can pass char field but both have same data type

2) select max(sal) from emp 3rd max sal
where sal < (select max(sal) from emp
where sal < (select max(sal) from emp;

sal
29 75

3) Select min(sal) from emp and nth sal
where &sal > (select min(sal) from emp);
where sal
400

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inline query

1) select * from (select deptno, count(*) as yes from emp
group by deptno)
where yes > 3; 2 rows → 30 20

Bcz in sub query we are having class here we renamed the count() function and condition is written in where class and also we can write filtering logic in where class (outer query). Here we can write filter condition in innerquery and outer query also.

Ex

2) select * from (select * from Emp
where deptno = 10);

3) select * from (select * from emp)
where deptno = 10;

above both query result are same 3 rows selected