Nested Queries

only if you want to retrieve data from single table

corelated queries and nested queries

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| --- | --- |
| Nested Query | Co related query |
| Is not dependent on parent query | Dependent on parent query |
| The child query get executed only once | Child query gets executed once per each row in parent query |
| Exists and not exists cannot be used | We use exists and not exists operator to check whether child query returns rows or not |

maximum nesting level can be 255

when to use Joins

1. To display data from multiple tables

Types of joins

1. cross join
2. Inner join
   1. equi join
   2. nonequijoin
   3. self join
3. Outer join
   1. left outer join
   2. right outer join
   3. full outer join -------- this is not directly supported in mysql

-------to display employee details and department in which employee works

this is cross join

if emp table contains 17 rows

if dept table contains 4 rows then

cross join will contain 68 rows

select empno,ename,sal,d.deptno,e.deptno,dname

from emp e,dept d;

if we add condition to get required data

then it is called inner join ----------in mathematics(natural join)

select empno,ename,sal,d.deptno,e.deptno,dname

from emp e,dept d

where e.deptno=d.deptno and sal>2000;

select empno,ename,sal,d.deptno,dname

from emp e inner join dept d on e.deptno=d.deptno

where sal >2000;

in joins if you are joining n tables then n-1 conditions will be there

-----display all products pid,pname,qty,price, cname,description for all products with price>50

select pid,pname,qty,price, cname,cdesc

from product p ,category c

where p.cid=c.cid and price>50;

select pid,pname,qty,price, cname,cdesc

from product p inner join category c on p.cid=c.cid

where price>50;

vehicle (vid,vname,chasienumber)

customer(cid,cname,address)

cust\_vehicle(custid ,vehid,date purchase dt, price)

select vid,vname,cid,cname

from customer c,vehicle v,cust\_vehicle cv

where c.cid=cv.custid and v.vid=cv.vehid;

select vid,vname,cid,cname

from customer c inner join cust\_vehicle cv on c.cid=cv.custid inner join vehicle v on v.vid=cv.vehid ;

-----display empno,ename,grade,sal of all employees (example nonequi join)

select empno,ename,sal,grade

-> from emp e inner join salgrade s on e.sal between s.losal and s.hisal;

-----display empno,ename,dname,sal,grade

select empno,ename,sal,grade,dname

from emp ,salgrade ,dept

where emp.deptno=dept.deptno and sal between losal and hisal

select empno,ename,sal,grade,dname

from emp e inner join dept d on e.deptno=d.deptno inner join salgrade s on e.sal between s.losal and s.hisal;

----to combine table with itself is called as self join

select e.empno,e.ename,m.empno mgrno,m.ename mname

-> from emp e,emp m

-> where e.mgr=m.empno;

select e.empno,e.ename,m.empno,m.ename mname

-> from emp e inner join emp m

-> on e.mgr=m.empno;

--------- to bring matching as well as non matching rows in the o/p then use outer join

select empno,ename,e.deptno,d.deptno,dname

from emp e right join dept d on e.deptno=d.deptno

select empno,ename,e.deptno,d.deptno,dname

from dept d left join emp e on e.deptno=d.deptno

----to display all matching rows aswell as non matching rows from bot emp and dept table

select empno,ename,e.deptno,d.deptno,dname

-> from emp e left join dept d on e.deptno=d.deptno

-> union

-> select empno,ename,e.deptno,d.deptno,dname

-> from emp e right join dept d on e.deptno=d.deptno;

faculty(fid,fname,skills)

room(rid,rname,loc)

course(cid,cname,rid,fid)

--------to find course and faculty assigned to the course

select cid,cname,fid,fname

from course c inner join faculty f on c.fid=f.fid;

---------to find all rooms assigned to course

select cname,rname

from course c inner join room r on c.rid=r.rid;

-------- to find all courses, room assigned to the course and faculty assigned to the course

select cname,rname,fname

from course c inner join room r on c.rid=r.rid inner join faculty f on c.fid=f.fid;

----display all rooms assigned to course as well as rooms not assigned to course

select cid,cname,rid,rname

from course c right join room r on c.rid=r.rid;

----display all rooms assigned to course as well as rooms not assigned to course and courses which

donot have any room

select rid,rname,cid,cname

from course c left join room r on c.rid=r.rid

union

select rid,rname,cid,cname

from course c right join room r on c.rid=r.rid;