Subquery

it is also known as nested query or innes query.

select e from students:

unere s_id=101;

student table

	3, 3 2, , .			
	s-id	s-name	age	marks
1//	τ	A	22	87 -
	2	В	24	70 a x
	3	C	23	62 🖛 🛪
	ч	D	2 4	e9
	5	E	2.2	75 4 X
	6	F	21	55 4 X
	7	6	2 3	92 4-6
			1	

sind all the student who scored greater

than 75?

select A

soon students

where marks >75;

a) find the marks of the student whose stid is 1?

select marks
from students

where sb_id=1;

(8) find all the student who scored greater than the mark of St-id=1.

	s-i'd	table \$		mares		student	table S	4	
	1	A	22	87 4		s-id	s.name	age	marks
	201	В	2 4	70 -		1	A	22	87 -
	3	С	23	62 6		2	8	24	70 a- X
	ч	D	2 4	£9 a		3	C	23	62 👉 🛪
	2	E	2.2	75 -	\	ч	D	24	19
0-	6	F	21	55 4		2	E	2.2	75 4
	٦	6	2 3	92 4	•	6 7	5	2 1	92 4-1

select s1.name, s1.ma>ks

from students s1

soin cfudents c2.

on s1.marks > s2.marks and s2.s_id=1;

find all the student who scored greater

than x^2 .

a) find the marks of the ctudent whose stid is 1^2 . = x

```
select A
 som students
                                   for ( )
 where marks > (select marks
                                     tor()
                    students
               from
               where sb_id=1);
. subquery is used to get list values and
  perform any operation based on result of
  other
         query.
     c'fs
           break complex cogic in smaller
     or manageable chunks.
                       to understand
    this
           is easier
    more readable
· generally it is used for small data set.
         it is not good in terms of
                                          space
   and
   and per formance.
   select the
                 students who have marks
                              marks of students?
   greater
                 the average
            than
         select &
         drom students
               masks > ( select avg(mark)
         wnete
                         from students);
```

employee	es table			
· e-id	t-mame	salang	marages_ic	1
2	A	45 8	7	
2	В	402	1.0	
7	C	90 K	ทนป	
V	D	2TK	(5)	
(0	E	20K	3	
t f	۴	804	noul	
1 3	0	SOK	6	
6	aq	30 K	7	
9	66	u•k	10	
15	¢ C	Jok	6	On
find the	id of	the employe	ser muse	valory < 30K
and wi	nose man	ger less	the company	•
wnen o	manages	es reft	the company	their information
			loyees table	
their	id still	present	in man_	id .
Select	e-id			
from	employel	ر		
where	salarg	< 30,000		
And	manager	-id not	in (select	erid
			from en	nployees)

construtor tabl	d'n c	frutor	tabl	0
-----------------	-------	--------	------	---

` i -id	i mame	salary	dept -id
2	A	<u>45</u> ¢	103 M V
2	B	uok	102 X V
7	C	90 K	nul V V
8	D	2TK	105 X (25¢, 50¢, 70¢)
(0	E	20K	102 x
0.0	۴	804_	new v v
1 3	S	SOK	(05) 4 ~
6	aa	30 K	102 4
و	66	u•k	107 x
15	° C	7 ok	105 × ~

Q)	display	instru	dos name	ONW	have	salary
	greaks	than	salary	of all	thp	instructor
	os de	rpt-id =	105;			
	A11					

select iname

from instructor

where salary > All (select salary)

from instructor
uner dept. id = (05.)

```
select iname
    from instructor
     where salary >
                          Select max (salaus)
                          foom instructor
                           where d-id = 105);
                                max
display instructor
                               have
                                      salong
                          who
                   name
greates than calary of any
                                  instructor
    dept-id = 105;
select iname
 from instructor
 where salary > Any (
                           secect salary
                                  instuctor
                                  dept-id=(05.)
                           Whth
                              5 25k, TOF, 70t)
```

```
correlated query
    if any query is related with
                                           column
     ot other query.
       display instructor name who
                                     havp
                                            salond
0)
              than salary of any salary of
       greater
                           department.
               respective
       fneir
                                 and radery of a
                                  specific asportmen
  secect
        instrume
  from instructors
          salary >
   Unere
                           avg (soday)
                   ( select
                    from instructory
                     where depositment_id = a. depositment_id);
Q)
    find
                                 instructor
                  number
                           0र्न
            HHP
                                             where
     depc_id = 110 1.
        select count(+)
        from instructor
         where dep-id = 110;
```

```
Q) find the number of instructor of all
   departments. and with department name ).
                                      duptids x
   select dept-id, count(*)
            instructors
    from
                                          o inetuctor
            by dept-id;
    group
             dept-id, (
   sriect
             departments d;
    trom
                                       duptrids x
            count(i.intuitor_id)
   select
         instructors i
    1 som
    where department_id = d. department_id);
                                           o inetuctor
```

```
-- find st_id f_name , marks the stud who scored greater than st-id 33;
44 •
     select st_id , f_name , marks
45
      from students
46
      where marks > (select marks from students where st_id = 33)
47
      order by marks desc;
48
49
      -- find st id f name , marks all students who have scored greater than the avg marks of students
50
51 •
      select st_id , f_name , marks
52
      from students
53
      where marks > (select avg(marks) from students);
54
55
      -- display inst_name who have earn more than the salary of all inst of dept_108;
56 • select instructor_name , salary
57
      from instructors
58
      where salary > all(select salary from instructors where department_id = 108);
59
60 •
      select instructor_name , salary
      from instructors
61
62
      where salary > (select max(salary) from instructors where department_id = 108);
63
      -- display inst_name who have earn more than the salary of any inst of dept_108;
64
65 • select instructor_name , salary
66
      from instructors
      where salary > any(select salary from instructors where department_id = 108);
67
68
69
      -- find all the depathment with number of instructor
70 • select d.department_id , count(i.instructor_id)
71
     \textcolor{red}{\textbf{from}} \ \text{departments} \ \textbf{d}
72
     left join instructors i
73
     on d.department_id = i.department_id
74
      group by department_id;
75
76 \bullet \bigcirc select department_id , (select count(*) from instructors
77
    where department_id = d.department_id )
78
      from departments d;
79
```