

## SUB-QUERIES

1. Also Called as Nested Queries.
2. A Query inside another Query is called as sub-query.
3. The Outer Query depends on the Values  
(one or many) returned by the internal Query.
4. IN Operator is preferred in Sub-query when internal Query returns more than one values
5. '=' is preferred when single value is returned by internal sub-query.
6. IN Operator can handle single as well as multiple values returned.

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**Table 1:-**

```
mysql> SELECT * FROM ED_RECORD;
```

ID	NAME	JOB	SALARY	COMM	DEPTNO
101	SURESH	MANAGER	100000	5000	20
102	ROHIT	SALES	100000	5000	20
103	SUNITA	QUALITY	70000	3000	20
104	GAURI	OPERATIONS	80000	3500	20
105	SHRUTIKA	MANAGER	150000	4500	10
106	SAHIL	SALES	130000	3500	10
107	SHALAKA	QUALITY	64000	3500	10
108	MOHSIN	OPERATIONS	55000	2500	10
109	JEET	MANAGER	155000	4500	30
110	YOGESH	SALES	90000	3500	30
111	SMRUTI	QUALITY	55000	2500	30
112	PAYAL	OPERATIONS	72000	1500	30
113	SWAPNIL	MANAGER	97000	3200	40
114	SHIRIN	SALES	50000	1500	40
115	SOHAIL	QUALITY	50000	2540	40
116	SURAJ	OPERATIONS	83000	2700	40
117	GILL	SALES	34000	NULL	50
118	SOURABH	OPERATIONS	41200	0	50
119	ASHISH	MANAGER	53470	3700	60
120	SURESH	QUALITY	41200	0	70
103	NAVED	SECURITY	500	0	100
121	SHIKHAR	FINANCE	700	40	200
123	PRIYA	HR	4500	400	300

23 rows in set (0.00 sec)



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**Table 2:-**

```
mysql> SELECT * FROM DEPT;
```

DEPTNO	DNAME	LOC
10	MECHANICAL	MUMBAI
20	COMPUTER	PUNE
30	CIVIL	BANGLORE
40	ENTC	CHENNAI
50	IT	MP
60	ELECTRIC	TAMIL_NADU
70	CHEMICAL	PUNJAB
80	EDUCATIONAL	KARNATAKA
90	ART	RAJASTHAN

9 rows in set (0.00 sec)

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**Q1: DISPLAY NAME OF EMPLOYEES WHOSE DEPARTMENT NAME STARTS WITH 'C';**

```
mysql> SELECT NAME FROM ED_RECORD WHERE DEPTNO
IN(SELECT DEPTNO FROM DEPT WHERE DNAME LIKE 'C%');
```

Name
Swapnil
Shirin
Sohail
Suraj
Ashish

→CROSS VERIFY

```
mysql> SELECT DEPTNO ,DNAME FROM DEPT WHERE DNAME
LIKE'C%';
```

Deptno	Dname
20	Computer
30	Civil
70	Chemical

3 rows in set (0.00 sec)

Q2: DISPLAY DETAILS OF EMPLOYEE WHO IS EARNING  
MAXIMUM SALARY IN COMPUTER DEPARTMENT?

```
mysql> SELECT NAME FROM ED_RECORD WHERE SALARY=(SELECT  
MAX(SALARY) FROM ED_RECORD WHERE DEPTNO IN (SELECT  
DEPTNO FROM DEPT WHERE DNAME='COMPUTER'));
```

Name
SURESH
ROHIT

2 rows in set (0.00 sec)

→CROSS CHECK

```
mysql> SELECT DEPTNO FROM DEPT WHERE DNAME='COMPUTER';
```

+-----+

DEPTNO
20

1 row in set (0.00 sec)



```
mysql> SELECT MAX(SALARY) FROM ED_RECORD WHERE  
DEPTNO=20;
```

MAX(SALARY)
100000

1 row in set (0.00 sec)

```
mysql> SELECT NAME FROM ED_RECORD WHERE SALARY=100000  
AND DEPTNO=20;
```

NAME
SURESH
ROHIT

2 rows in set (0.00 sec)

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Q3:DISPLAY DEPARTMENT NAME WHOSE EMPLOYEE EARNS HIGHEST COMMISION?

```
mysql> SELECT DNAME FROM DEPT WHERE DEPTNO IN(SELECT  
DEPTNO FROM ED_RECORD WHERE COMM=(SELECT MAX(COMM)  
FROM ED_RECORD));
```

DNAME
COMPUTER

1 row in set (0.00 sec)

→CROSS CHECK

```
mysql> SELECT MAX(COMM)FROM ED_RECORD;
```

MAX(COMM)
5000

1 row in set (0.00 sec)

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```
mysql> SELECT DEPTNO FROM ED_RECORD WHERE COMM=5000;
```

DEPTNO
20
20

2 rows in set (0.00 sec)

```
mysql> SELECT DNAME FROM DEPT WHERE DEPTNO=20;
```

DNAME
COMPUTER

1 row in set (0.00 sec)

Q4: DISPLAY NAME OF EMPLOYEE WHOSE DEPARTMENT NAME CONTAINS I AS SECOND CHARACTER?

```
mysql> SELECT NAME, FROM ED_RECORD WHERE DEPTNO  
IN(SELECT DEPTNO FROM DEPT WHERE DNAME LIKE '_I%');
```

NAME
JEET
YOGESH
SMRUTI
PAYAL

4 rows in set (0.00 sec)



→CROSS CHECK

```
mysql> SELECT DEPTNO FROM ED_RECORD WHERE NAME='JEET';
```

DEPTNO
30

1 row in set (0.00 sec)

```
mysql> SELECT DNAME FROM DEPT WHERE DEPTNO=30;
```

DNAME
CIVIL

1 row in set (0.00 sec)

Q5: DISPLAY ALL EMPLOYEES WHOSE DEPARTMENT NAME IS SAME AS SHALAKA?

```
mysql> SELECT NAME FROM ED_RECORD WHERE DEPTNO  
IN(SELECT DEPTNO FROM DEPT WHERE DNAME IN(SELECT DNAME  
FROM DEPT WHERE DEPTNO IN(SELECT DEPTNO FROM  
ED_RECORD WHERE NAME='SHALAKA')));
```

NAME
SHRUTIKA
SAHIL
SHALAKA
MOHSIN

4 rows in set (0.00 sec)

→CROSS CHECK

```
mysql> SELECT DEPTNO FROM ED_RECORD WHERE  
NAME='SHRUTIKA';
```

DEPTNO
10

1 row in set (0.00 sec)

```
mysql> SELECT DNAME FROM DEPT WHERE DEPTNO=10;
```

DNAME
MECHANICAL

1 row in set (0.00 sec)

```
mysql> SELECT DEPTNO FROM ED_RECORD WHERE  
NAME='SHALAKA';
```

DEPTNO
10

1 row in set (0.00 sec)

Q6:DISPLAY NAME OF EMPLOYEE WHOSE LOC IS SAME AS  
GILL?

```
mysql> SELECT NAME FROM ED_RECORD WHERE DEPTNO  
IN(SELECT DEPTNO FROM DEPT WHERE LOC IN(SELECT LOC FROM  
DEPT WHERE DEPTNO IN(SELECT DEPTNO FROM ED_RECORD  
WHERE NAME='GILL')));
```

NAME
GILL
SOURABH

2 rows in set (0.00 sec)

→CROSS CHECK:

```
mysql> SELECT DEPTNO FROM ED_RECORD WHERE NAME='GILL';
```

DEPTNO
50

1 row in set (0.00 sec)

```
mysql> SELECT DNAME,LOC FROM DEPT WHERE DEPTNO=50;
```

DNAME	LOC
IT	MP

1 row in set (0.00 sec)

Q7:DISPLAY ALL EMPLOYEES WHOSE JOB IS NOT SAME AS SMRUTI AND SALARY IS GREATER THEN ROHIT?

```
mysql> SELECT * FROM ED_RECORD WHERE JOB!=(SELECT JOB FROM  
ED_RECORD WHERE NAME='SMRUTI') AND SALARY >( SELECT SALARY FROM  
ED_RECORD WHERE NAME='ROHIT');
```

ID	NAME	JOB	SALARY	COMM	DEPTNO
105	SHRUTIKA	MANAGER	150000	4500	10
106	SAHIL	SALES	130000	3500	10
109	JEET	MANAGER	150000	4500	30

3 rows in set (0.00 sec)

→CROSS CHECK:

```
mysql> SELECT NAME,JOB FROM ED_RECORD WHERE  
NAME='SMRUTI';
```

+-----+-----+

NAME	JOB
SMRUTI	QUALITY

1 row in set (0.00 sec)

```
mysql> SELECT SALARY FROM ED_RECORD WHERE NAME='ROHIT';
```

SALARY
100000

1 row in set (0.00 sec)

Q8:DISPLAY ALL NAME OF EMPLOYEES WHO ARE WORKING  
IN MECHANICAL AND COMPUTER?

```
mysql> SELECT NAME FROM ED_RECORD WHERE DEPTNO IN(SELECT DEPTNO  
FROM DEPT WHERE DNAME IN('MECHANICAL','COMPUTER'));
```

NAME
SURESH
ROHIT
SUNITA
GAURI
SHRUTIKA



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SAHIL
SHALAKA
MOHSIN

8 rows in set (0.00 sec)

→CROSS CHECK:

```
mysql> SELECT DEPTNO FROM DEPT WHERE DNAME='COMPUTER';
```

DEPTNO
20

1 row in set (0.00 sec)

```
mysql> SELECT DEPTNO FROM ED_RECORD WHERE NAME='ROHIT';
```

DEPTNO
20

1 row in set (0.00 sec)

Q9: DISPLAY NAME OF EMPLOYEE WHOSE LOC IS NOT SAME AS GAURI?

```
mysql> SELECT NAME FROM ED_RECORD WHERE DEPTNO IN(SELECT DEPTNO  
FROM DEPT WHERE LOC NOT IN(SELECT LOC FROM DEPT WHERE DEPTNO  
IN(SELECT DEPTNO FROM ED_RECORD WHERE NAME='GAURI')));
```

NAME
SHRUTIKA
SHAIL
SHALAKA
MOHSIN
JEET
YOGESH
SMRUTI
PAYAL
SWAPNIL
SHIRIN
SOHAIL
SURAJ
GILL
SOURABH
ASHISH
SURESH

16 rows in set (0.00 sec)

→CROSS CHECK

```
mysql> SELECT DEPTNO FROM ED_RECORD WHERE NAME='GAURI';
```

DEPTNO
20

1 row in set (0.00 sec)

```
mysql> SELECT DEPTNO FROM ED_RECORD WHERE  
NAME='SOURABH';
```

DEPTNO
50

1 row in set (0.00 sec)

Q10: DISPLAY DEPARTMENT NAME FROM DEPARTMENT  
WHERE SALARY ARE REPEATED?

```
mysql> SELECT DNAME FROM DEPT WHERE DEPTNO IN(SELECT  
DEPTNO FROM ED_RECORD GROUP BY SALARY HAVING  
COUNT(SALARY)>1);
```

DNAME
MECHANICAL
COMPUTER
ENTC
IT

4 rows in set (0.00 sec)