```
+-------+--------+------+-------+------+------+
| empno | ename  | sal  | depno | job  | mgr  |
+-------+--------+------+-------+------+------+
|     1 | Arun   | 8000 |     1 | M    |    4 |
|     2 | Ali    | 7000 |     1 | C    |    1 |
|     3 | Kirun  | 3000 |     1 | C    |    1 |
|     4 | Jack   | 9000 |     2 | M    | NULL |
|     5 | Thomas | 8000 |     2 | C    |    4 |
+-------+--------+------+-------+------+------+
```

Q1 mysql> select ename,sal from emp where sal = (select min(sal) from emp);
```
+-------+------+
| ename | sal  |
+-------+------+
| Kirun | 3000 |
+-------+------+
```
1 row in set (0.00 sec)

Q2 mysql> select ename,sal from emp where sal= (select min(sal) from emp where
depno=2);
```
+--------+------+
| ename  | sal  |
+--------+------+
| Arun   | 8000 |
| Thomas | 8000 |
+--------+------+
```
2 rows in set (0.00 sec)

Q3 max(sal) from dep given dep
mysql> select ename,sal from emp where sal= (select max(sal) from emp where
depno=2);
```
+-------+------+
| ename | sal  |
+-------+------+
| Jack  | 9000 |
+-------+------+
```
1 row in set (0.00 sec)

Q4 2ND MAX SAL
mysql> select max(sal) from emp where sal <(select max(sal) from emp);
```
+----------+
| max(sal) |
+----------+
|     8000 |
+----------+
```
1 row in set (0.00 sec)

* mysql> select * from emp where depno=(select depno from emp where
ename='thomas');
```
+-------+--------+------+-------+------+------+
| empno | ename  | sal  | depno | job  | mgr  |
+-------+--------+------+-------+------+------+
|     4 | Jack   | 9000 |     2 | M    | NULL |
|     5 | Thomas | 8000 |     2 | C    |    4 |
+-------+--------+------+-------+------+------+
```
2 rows in set (0.00 sec)

* mysql> select * from emp where mgr=(select mgr from emp where ename='thomas');
```
+-------+--------+------+-------+------+------+
| empno | ename  | sal  | depno | job  | mgr  |
+-------+--------+------+-------+------+------+
|     1 | Arun   | 8000 |     1 | M    |    4 |
```

```
|     5 | Thomas | 8000 |      2 | C    |      4 |
+-------+--------+------+-------+------+------+
2 rows in set (0.00 sec)

* mysql> select * from emp where mgr=(select mgr from emp where ename='Ali');
+-------+-------+------+-------+------+------+
| empno | ename | sal  | depno | job  | mgr  |
+-------+-------+------+-------+------+------+
|     2 | Ali   | 7000 |     1 | C    |    1 |
|     3 | Kirun | 3000 |     1 | C    |    1 |
+-------+-------+------+-------+------+------+
2 rows in set (0.00 sec)


 ---------------------------------------------------------------

 ###DML- delete and update with select statement
 mysql> select * from emp;
+-------+--------+-------+-------+------+------+
| empno | ename  | sal   | depno | job  | mgr  |
+-------+--------+-------+-------+------+------+
|     1 | Arun   |  8000 |     1 | M    |    4 |
|     2 | Ali    |  7000 |     1 | C    |    1 |
|     3 | Kirun  |  3000 |     1 | C    |    1 |
|     4 | Thomas |  8000 |     2 | C    | NULL |
|     5 | Jack   | 10000 |     2 | M    |    4 |
|     5 | Tom    |  8000 |     8 | C    | NULL |
+-------+--------+-------+-------+------+------+

mysql> delete from emp where depno=
(select abcd.depno from
(select depno from emp where ename='Tom')
 abcd);


Query OK, 0 rows affected (0.00 sec)
mysql> select * from emp;
+-------+--------+-------+-------+------+------+
| empno | ename  | sal   | depno | job  | mgr  |
+-------+--------+-------+-------+------+------+
|     1 | Arun   |  8000 |     1 | M    |    4 |
|     2 | Ali    |  7000 |     1 | C    |    1 |
|     3 | Kirun  |  3000 |     1 | C    |    1 |
|     4 | Thomas |  8000 |     2 | C    | NULL |
|     5 | Jack   | 10000 |     2 | M    |    4 |
+-------+--------+-------+-------+------+------+
5 rows in set (0.00 sec)


****************************************************

mysql> update emp set sal=5000 where empno=
(select abcd.empno from
(select empno from emp where sal=9000 and job='M')
abcd);

Query OK, 1 row affected (0.10 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from emp;
+-------+--------+------+-------+------+------+
| empno | ename  | sal  | depno | job  | mgr  |
+-------+--------+------+-------+------+------+
|     1 | Arun   | 8000 |     1 | M    |    4 |
|     2 | Ali    | 7000 |     1 | C    |    1 |
```

```
|      3 | Kirun  | 3000 |      1 | C    |    1 |
|      4 | Thomas | 8000 |      2 | C    | NULL |
|      5 | Jack   | 5000 |      2 | M    |    4 |
+-------+--------+------+-------+------+------+


*****************************************************

mysql> update  emp set sal = 9000 where ename=
(select abcd.ename from
(select ename from emp where empno=5)
 abcd);

Query OK, 1 row affected (0.11 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from emp;
+-------+--------+------+-------+------+------+
| empno | ename  | sal  | depno | job  | mgr  |
+-------+--------+------+-------+------+------+
|     1 | Arun   | 8000 |     1 | M    |    4 |
|     2 | Ali    | 7000 |     1 | C    |    1 |
|     3 | Kirun  | 3000 |     1 | C    |    1 |
|     4 | Thomas | 8000 |     2 | C    | NULL |
|     5 | Jack   | 9000 |     2 | M    |    4 |
+-------+--------+------+-------+------+------+
5 rows in set (0.00 sec)


-------------------------------------------------------------------------

###When multiple results return by select use any()
any()=> faster
mysql> select ename,sal from emp where sal =any
(select sal from emp where job='M');
+--------+------+
| ename  | sal  |
+--------+------+
| Arun   | 8000 |
| Thomas | 8000 |
| Jack   | 5000 |
+--------+------+
3 rows in set (0.00 sec)

*******************************

with in()
mysql> select ename,sal from emp where sal in
(select sal from emp where job='M');
+--------+------+
| ename  | sal  |
+--------+------+
| Arun   | 8000 |
| Thomas | 8000 |
| Jack   | 5000 |
+--------+------+
3 rows in set (0.00 sec)

*******************************

mysql> select ename,sal from emp where sal not in
 (select sal from emp where job='M');
+-------+------+
| ename | sal  |
+-------+------+
| Ali   | 7000 |
```

```
| Kirun | 3000 |
+-------+------+

*****************************

mysql> select ename,sal from emp where sal >
(select min(sal) from emp where job='M');
+--------+------+
| ename  | sal  |
+--------+------+
| Arun   | 8000 |
| Ali    | 7000 |
| Thomas | 8000 |
+--------+------+


-----------------------------------------------------------

mysql> select sal,job from emp where sal<all
(select sal from emp where job='M');
+------+------+
| sal  | job  |
+------+------+
| 3000 | C    |
+------+------+
1 row in set (0.00 sec)

***********************************************************************************
***

mysql> select sal,job from emp where sal!=all
(select sal from emp where job='M');
+------+------+
| sal  | job  |
+------+------+
| 7000 | C    |
| 3000 | C    |
+------+------+
2 rows in set (0.00 sec)

---------------------------------------------------------------------------------
---

mysql> select sal,job from emp where sal > (select max(sal) from emp where
job='M');
Empty set (0.00 sec)

mysql> select sal,job from emp where sal <
(select max(sal) from emp where job='M');
+------+------+
| sal  | job  |
+------+------+
| 7000 | C    |
| 3000 | C    |
| 5000 | M    |
+------+------+
3 rows in set (0.00 sec)

***********************************************************************************
****

mysql> select depno,sum(sal) from emp group by depno;
+-------+----------+
| depno | sum(sal) |
+-------+----------+
```

```
|     1 |     18000 |
|     2 |     13000 |
+-------+-----------+

mysql> select max(sal) from(select depno,sum(sal) from emp group by depno)abcd;
ERROR 1054 (42S22): Unknown column 'sal' in 'field list'

mysql> select max(max_sal) from
(select depno,sum(sal) as max_sal from emp group by depno)
abcd;
+--------------+
| max(max_sal) |
+--------------+
|        18000 |
+--------------+
1 row in set (0.00 sec)

****************************************************************************
***********

*
mysql> select depno,sum(sal) from emp group by depno having sum(sal)=
(select max(sum_sal) from
(select sum(sal) as sum_sal from emp group by depno)
abcd);
+-------+-----------+
| depno | sum(sal) |
+-------+-----------+
|     1 |     18000 |
+-------+-----------+
1 row in set (0.00 sec)

*
mysql> select depno from emp group by depno having sum(sal)=
(select max(sum_sal) from
(select sum(sal) as sum_sal from emp group by depno)
abcd);

+-------+
| depno |
+-------+
|     1 |
+-------+

*
mysql> select dname,sum(sal) from emp,dept where dept.depno=emp.depno group by
dname having sum(sal)=(select max(sum_sal) from (select sum(sal)
as sum_sal from emp group by depno) abcd);
+-------+-----------+
| dname | sum(sal) |
+-------+-----------+
| TRN   |     18000 |
+-------+-----------+
1 row in set (0.00 sec)

mysql> select dname,avg(sal),sum(sal) from emp,dept where dept.depno=emp.depno
group by dname having sum(sal)=(select max(sum_sal) from (select
sum(sal) as sum_sal from emp group by depno) abcd);
+-------+-----------+-----------+
| dname | avg(sal) | sum(sal) |
+-------+-----------+-----------+
| TRN   |     6000 |     18000 |
+-------+-----------+-----------+
```

```
mysql> select dname,ename,sum(sal) from emp,dept where dept.depno=emp.depno
group by dname having sum(sal)=(select max(sum_sal) from (select sum
(sal) as sum_sal from emp group by depno) abcd);
ERROR 1055 (42000): Expression #2 of SELECT list is not in GROUP BY clause and
contains nonaggregated column 'ass1.emp.ename' which is not functionally
dependent on columns in GROUP BY clause; this is incompatible with
sql_mode=only_full_group_by

mysql> select ename,avg(sal),sum(sal) from emp,dept where dept.depno=emp.depno
group by ename having sum(sal)=(select max(sum_sal) from (select
sum(sal) as sum_sal from emp group by depno) abcd);
Empty set (0.00 sec)

mysql> select dname,avg(sal),min(sal),sum(sal) from emp,dept where
dept.depno=emp.depno group by dname having sum(sal)=(select max(sum_sal) from
 (select sum(sal) as sum_sal from emp group by depno) abcd);
+-------+----------+----------+----------+
| dname | avg(sal) | min(sal) | sum(sal) |
+-------+----------+----------+----------+
| TRN   |     6000 |     3000 |    18000 |
+-------+----------+----------+----------+
1 row in set (0.00 sec)
```