MYSQL JOINS AND VIEW

New commands :

```
mysql> select 8 from tbl_employee;
+---+
| 8 |
+---+
| 8 |
+---+
1 row in set (0.00 sec)

mysql> select " aravind" from tbl_employee;
+----------+
| aravind  |
+----------+
|  aravind |
+----------+
1 row in set (0.00 sec)

mysql> select 10+20 from tbl_employee;
+-------+
| 10+20 |
+-------+
|    30 |
+-------+
1 row in set (0.00 sec)

mysql> select 10+20 as "Sum of 10 and 20" ;
+------------------+
| Sum of 10 and 20 |
+------------------+
|               30 |
+------------------+
1 row in set (0.00 sec)

mysql> select * from tbl_employee;
+-----+---------+--------+------+
| id  | name    | salary | dno  |
+-----+---------+--------+------+
| 101 | aravind |   3000 |   10 |
+-----+---------+--------+------+
1 row in set (0.00 sec)
```

Create new table with existing table with records:

mysql> **create table tbl_copyemployee as select * from tbl_employee;**
Query OK, 1 row affected (0.02 sec)
Records: 1 Duplicates: 0 Warnings: 0

mysql> select * from tbl_employee;
```
+-----+---------+--------+------+
| id  | name    | salary | dno  |
+-----+---------+--------+------+
| 101 | aravind |   3000 |   10 |
+-----+---------+--------+------+
```
1 row in set (0.00 sec)

 Create new table with existing table only structure :

mysql> create table tbl_copy2employee as select * from tbl_employee
where 1=2;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc tbl_copy2employee;
```
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| id     | int         | NO   |     | NULL    |       |
| name   | varchar(20) | YES  |     | NULL    |       |
| salary | int         | YES  |     | NULL    |       |
| dno    | int         | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
```
4 rows in set (0.00 sec)

mysql> select * from tbl_copy2employee;
Empty set (0.00 sec)

GROUP BY:

```
mysql> select * from tbl_copyemployee;
+-----+------------+--------+------+
| id  | name       | salary | dno  |
+-----+------------+--------+------+
| 101 | aravind    |   3000 |   10 |
| 102 | mahesh     |  40000 |   10 |
| 103 | madhan     | 540000 |   10 |
| 104 | shiva      | 540000 |   20 |
| 105 | shivakumar | 540000 |   20 |
+-----+------------+--------+------+
5 rows in set (0.00 sec)

mysql> select count(*) from tbl_copyemployee group by dno;
+----------+
| count(*) |
+----------+
|        3 |
|        2 |
+----------+
2 rows in set (0.00 sec)

mysql> select dno as "Department No", count(*) as "No of Employee"
from tbl_copyemployee group by dno;
+---------------+----------------+
| Department No | No of Employee |
+---------------+----------------+
|            10 |              3 |
|            20 |              2 |
+---------------+----------------+
2 rows in set (0.00 sec)
```

TABLE:

```
mysql> select * from tbl_copyemployee;
+-----+------------+--------+------+
| id  | name       | salary | dno  |
+-----+------------+--------+------+
| 101 | aravind    |   3000 |   10 |
| 102 | mahesh     |  40000 |   10 |
| 103 | madhan     | 540000 |   10 |
| 104 | shiva      | 540000 |   20 |
| 105 | shivakumar | 540000 |   20 |
+-----+------------+--------+------+
5 rows in set (0.00 sec)
```

MAX:

```
mysql> select max(salary ) as "Highest Salary" from tbl_copyemployee;

+----------------+
| Highest Salary |
+----------------+
|         540000 |
+----------------+
1 row in set (0.00 sec)
```

MIN:

```
mysql> select min(salary ) as "Lowest Salary" from tbl_copyemployee;

+---------------+
| Lowest Salary |
+---------------+
|          3000 |
+---------------+
1 row in set (0.00 sec)
```

SUM:

```
mysql> select sum(salary ) as "Total Salary" from tbl_copyemployee;

+--------------+
| Total Salary |
+--------------+
|      1663000 |
+--------------+
1 row in set (0.00 sec)
```

AVG:

```
mysql> select avg(salary ) as "Average Salary" from tbl_copyemployee;
+----------------+
| Average Salary |
+----------------+
|     332600.0000 |
+----------------+
1 row in set (0.00 sec)
```

COUNT:

```
mysql> SELECT COUNT(salary) from tbl_copyemployee;
+---------------+
| COUNT(salary) |
+---------------+
|             5 |
+---------------+
1 row in set (0.00 sec)
```

Having:

```
mysql> select dno,count(*) from tbl_copyemployee group by dno having
min(salary)=3000;
+------+----------+
| dno  | count(*) |
+------+----------+
|   10 |        3 |
+------+----------+
1 row in set (0.00 sec)
```

UPPER CASE:

```
mysql> select upper (name) from tbl_copyemployee;
+--------------+
| upper (name) |
+--------------+
| ARAVIND      |
| MAHESH       |
| MADHAN       |
| SHIVA        |
| SHIVAKUMAR   |
| SHIVAAA      |
| SANKAR       |
+--------------+
7 rows in set (0.00 sec)
```

Create view;

```
mysql> create view myview as select * from tbl_copyemployee where
dno=10;
Query OK, 0 rows affected (0.00 sec)

mysql> desc myview;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| id     | int         | NO   |     | NULL    |       |
| name   | varchar(20) | YES  |     | NULL    |       |
| salary | int         | YES  |     | NULL    |       |
| dno    | int         | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> select * from myview;
+-----+---------+--------+------+
| id  | name    | salary | dno  |
+-----+---------+--------+------+
| 101 | aravind |   3000 |   10 |
| 102 | mahesh  |  40000 |   10 |
| 103 | madhan  | 540000 |   10 |
+-----+---------+--------+------+
```

3 rows in set (0.00 sec
UPDATE IN VIEW:

```
mysql> update myview set salary=7000 where id=101;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from myview;
+-----+---------+--------+------+
| id  | name    | salary | dno  |
+-----+---------+--------+------+
| 101 | aravind |   7000 |   10 |
| 102 | mahesh  |  40000 |   10 |
| 103 | madhan  | 540000 |   10 |
+-----+---------+--------+------+
3 rows in set (0.00 sec)
```

 ALSO UPDATED IN REAL TABLE:

```
mysql> select * from tbl_copyemployee;
+-----+------------+--------+------+
| id  | name       | salary | dno  |
+-----+------------+--------+------+
| 101 | aravind    |   7000 |   10 |
| 102 | mahesh     |  40000 |   10 |
| 103 | madhan     | 540000 |   10 |
| 104 | shiva      | 540000 |   20 |
| 105 | shivakumar | 540000 |   20 |
|  10 | shivaaa    |   8000 |   20 |
| 230 | sankar     |  69000 |   50 |
+-----+------------+--------+------+
7 rows in set (0.00 sec)
```

NOW UPDATE IN REAL TABLE:

```
mysql> UPDATE  tbl_copyemployee set name="Aravind S" where id=101;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from tbl_copyemployee;
+-----+-----------+--------+------+
| id  | name      | salary | dno  |
+-----+-----------+--------+------+
| 101 | Aravind S |   7000 |   10 |
| 102 | mahesh    |  40000 |   10 |
| 103 | madhan    | 540000 |   10 |
| 104 | shiva     | 540000 |   20 |
| 105 | shivakumar| 540000 |   20 |
|  10 | shivaaa   |   8000 |   20 |
| 230 | sankar    |  69000 |   50 |
+-----+-----------+--------+------+
7 rows in set (0.00 sec)
```

ALSO UPDATED IN VIEW:

```
mysql> select * from myview;
+-----+-----------+--------+------+
| id  | name      | salary | dno  |
+-----+-----------+--------+------+
| 101 | Aravind S |   7000 |   10 |
| 102 | mahesh    |  40000 |   10 |
| 103 | madhan    | 540000 |   10 |
+-----+-----------+--------+------+
3 rows in set (0.00 sec)
```

TO DROP VIEW:

```
mysql> drop view  myview;
Query OK, 0 rows affected (0.01 sec)
```

JOINS:

```
mysql> select * from customers;
+---------------+---------------+---------------+
| CUSTOMER_CODE | CUSTOMER_NAME | CUSTOMER_AREA |
+---------------+---------------+---------------+
| C101          | customer1     | chennai       |
| C102          | customer2     | chennai       |
| C103          | customer3     | chennai       |
| C104          | customer4     | Bangalore     |
| C105          | customer5     | Bangalore     |
+---------------+---------------+---------------+
5 rows in set (0.00 sec)

mysql> select * from agents;
+-------------+------------+--------------+
| AGENTS_CODE | AGENT_NAME | WORKING_AREA |
+-------------+------------+--------------+
| A101        | agent1     | chennai      |
| A102        | agent2     | chennai      |
| A103        | agent3     | Bangalore    |
| A101        | agents1    | chennai      |
| A104        | agent4     | Bangalore    |
+-------------+------------+--------------+
5 rows in set (0.00 sec)
```

USING TABLE NAME:

```
mysql> SELECT agents. AGENTS_CODE ,agents.AGENT_NAME
,customers.CUSTOMER_NAME FROM agents,customers where
agents.WORKING_AREA=customers.CUSTOMER_AREA;
+-------------+------------+---------------+
| AGENTS_CODE | AGENT_NAME | CUSTOMER_NAME |
+-------------+------------+---------------+
| A102        | agent2     | customer1     |
| A101        | agent1     | customer1     |
| A102        | agent2     | customer2     |
| A101        | agent1     | customer2     |
| A102        | agent2     | customer3     |
| A101        | agent1     | customer3     |
| A104        | agent4     | customer4     |
```

```
| A103        | agent3      | customer4     |
| A104        | agent4      | customer5     |
| A103        | agent3      | customer5     |
+-------------+-------------+---------------+
10 rows in set (0.00 sec)
```

ORDERBY CODE:

```
mysql> SELECT agents. AGENTS_CODE ,agents.AGENT_NAME
,customers.CUSTOMER_NAME FROM agents,customers where
agents.WORKING_AREA=customers.CUSTOMER_AREA ORDER BY AGENTS_CODE;
+-------------+-------------+---------------+
| AGENTS_CODE | AGENT_NAME  | CUSTOMER_NAME |
+-------------+-------------+---------------+
| A101        | agent1      | customer1     |
| A101        | agent1      | customer2     |
| A101        | agent1      | customer3     |
| A102        | agent2      | customer1     |
| A102        | agent2      | customer2     |
| A102        | agent2      | customer3     |
| A103        | agent3      | customer4     |
| A103        | agent3      | customer5     |
| A104        | agent4      | customer4     |
| A104        | agent4      | customer5     |
+-------------+-------------+---------------+
10 rows in set (0.00 sec)
```

ORDER BY NAME;

```
mysql> SELECT agents. AGENTS_CODE ,agents.AGENT_NAME
,customers.CUSTOMER_NAME FROM agents,customers where
agents.WORKING_AREA=customers.CUSTOMER_AREA ORDER BY AGENT_NAME;
+-------------+-------------+---------------+
| AGENTS_CODE | AGENT_NAME  | CUSTOMER_NAME |
+-------------+-------------+---------------+
| A101        | agent1      | customer1     |
| A101        | agent1      | customer2     |
| A101        | agent1      | customer3     |
| A102        | agent2      | customer1     |
| A102        | agent2      | customer2     |
| A102        | agent2      | customer3     |
| A103        | agent3      | customer4     |
```

```
| A103         | agent3      | customer5     |
| A104         | agent4      | customer4     |
| A104         | agent4      | customer5     |
+-------------+-----------+--------------+
10 rows in set (0.00 sec)
```

Alias name:

```
mysql> SELECT a.AGENTS_CODE ,a.AGENT_NAME ,c.CUSTOMER_NAME FROM agents
as a,customers as c where a.WORKING_AREA=c.CUSTOMER_AREA;
+-------------+-----------+--------------+
| AGENTS_CODE | AGENT_NAME | CUSTOMER_NAME |
+-------------+-----------+--------------+
| A102        | agent2     | customer1     |
| A101        | agent1     | customer1     |
| A102        | agent2     | customer2     |
| A101        | agent1     | customer2     |
| A102        | agent2     | customer3     |
| A101        | agent1     | customer3     |
| A104        | agent4     | customer4     |
| A103        | agent3     | customer4     |
| A104        | agent4     | customer5     |
| A103        | agent3     | customer5     |
+-------------+-----------+--------------+
10 rows in set (0.00 sec)
```

Using on keyword:

```
mysql> SELECT a.AGENTS_CODE ,a.AGENT_NAME ,c.CUSTOMER_NAME FROM agents
as a join customers as c on a.WORKING_AREA=c.CUSTOMER_AREA;
+-------------+-----------+--------------+
| AGENTS_CODE | AGENT_NAME | CUSTOMER_NAME |
+-------------+-----------+--------------+
| A102        | agent2     | customer1     |
| A101        | agent1     | customer1     |
| A102        | agent2     | customer2     |
| A101        | agent1     | customer2     |
| A102        | agent2     | customer3     |
| A101        | agent1     | customer3     |
| A104        | agent4     | customer4     |
| A103        | agent3     | customer4     |
| A104        | agent4     | customer5     |
```

```
| A103        | agent3     | customer5     |
+------------+-----------+--------------+
10 rows in set (0.00 sec)
```

INNER JOIN:

```
mysql> SELECT a.AGENTS_CODE ,a.AGENT_NAME ,c.CUSTOMER_NAME FROM agents
as a inner join customers as c on a.WORKING_AREA=c.CUSTOMER_AREA;
+------------+-----------+--------------+
| AGENTS_CODE | AGENT_NAME | CUSTOMER_NAME |
+------------+-----------+--------------+
| A102        | agent2     | customer1     |
| A101        | agent1     | customer1     |
| A102        | agent2     | customer2     |
| A101        | agent1     | customer2     |
| A102        | agent2     | customer3     |
| A101        | agent1     | customer3     |
| A104        | agent4     | customer4     |
| A103        | agent3     | customer4     |
| A104        | agent4     | customer5     |
| A103        | agent3     | customer5     |
+------------+-----------+--------------+
10 rows in set (0.00 sec)
```

LEFT OUTER JOIN:

```
mysql> select * from agents left outer join customers on
WORKING_AREA=CUSTOMER_AREA;

+------------+-----------+--------------+--------------+--------------+--------------+
| AGENTS_CODE | AGENT_NAME | WORKING_AREA | CUSTOMER_CODE | CUSTOMER_NAME | CUSTOMER_AREA |
+------------+-----------+--------------+--------------+--------------+--------------+
| A101        | agent1     | chennai      | C103          | customer3     | chennai       |
| A101        | agent1     | chennai      | C102          | customer2     | chennai       |
| A101        | agent1     | chennai      | C101          | customer1     | chennai       |
| A102        | agent2     | chennai      | C103          | customer3     | chennai       |
| A102        | agent2     | chennai      | C102          | customer2     | chennai       |
| A102        | agent2     | chennai      | C101          | customer1     | chennai       |
| A103        | agent3     | Bangalore    | C105          | customer5     | Bangalore     |
| A103        | agent3     | Bangalore    | C104          | customer4     | Bangalore     |
| A104        | agent4     | Bangalore    | C105          | customer5     | Bangalore     |
| A104        | agent4     | Bangalore    | C104          | customer4     | Bangalore     |
| a105        | agent5     | mumbai       | NULL          | NULL          | NULL          |
+------------+-----------+--------------+--------------+--------------+--------------+
11 rows in set (0.00 sec)
```

OUTER JOINS:

```
mysql> select * from agents right outer join customers on
WORKING_AREA=CUSTOMER_AREA;

+-------------+------------+--------------+---------------+---------------+---------------+
| AGENTS_CODE | AGENT_NAME | WORKING_AREA | CUSTOMER_CODE | CUSTOMER_NAME | CUSTOMER_AREA |
+-------------+------------+--------------+---------------+---------------+---------------+
| A102        | agent2     | chennai      | C101          | customer1     | chennai       |
| A101        | agent1     | chennai      | C101          | customer1     | chennai       |
| A102        | agent2     | chennai      | C102          | customer2     | chennai       |
| A101        | agent1     | chennai      | C102          | customer2     | chennai       |
| A102        | agent2     | chennai      | C103          | customer3     | chennai       |
| A101        | agent1     | chennai      | C103          | customer3     | chennai       |
| A104        | agent4     | Bangalore    | C104          | customer4     | Bangalore     |
| A103        | agent3     | Bangalore    | C104          | customer4     | Bangalore     |
| A104        | agent4     | Bangalore    | C105          | customer5     | Bangalore     |
| A103        | agent3     | Bangalore    | C105          | customer5     | Bangalore     |
| NULL        | NULL       | NULL         | c106          | customer6     | kolkata       |
+-------------+------------+--------------+---------------+---------------+---------------+
11 rows in set (0.00 sec)
```