

```
mysql>create database lab3;
```

```
mysql>use lab3;
```

#### **Tables Creation:-**

```
mysql> CREATE TABLE solar_panel (PV VARCHAR(25),capacity INT,price INT,warranty INT);
```

```
Query OK, 0 rows affected (1.37 sec)
```

#### **Data Insertion:-**

```
mysql> insert into solar_panel values("pv_5",5,4000,7,"polycrystalline");
```

```
Query OK, 1 row affected (0.06 sec)
```

#### **Question Answer:-**

1)list the vendors with most installation in domestic places

```
sql>select d.d_name,count(d.d_TIN) from distributor d,installation i where i.d_TIN=d.d_TIN and i.ins_type="non-commercial" group by d.d_TIN;
```

2)list the place name with highest capacity panel installed

```
sql> select u.u_area from users u,solar_panel p,installation i where u.u_buildno=i.u_buildno and p.pv=i.pv and p.capacity=(select max(capacity) from solar_panel);
```

3)display the area where monocrystalline pannelsa are installed

```
sql> select distinct u.u_area,u.u_buildno from users u,solar_panel p,installation i where u.u_buildno=i.u_buildno and p.pv=i.pv and p.type="monocrystalline";
```

4)List the place where both type of panels are installed and calculate the installation charges.

```
sql>select u.u_buildno,u.u_area,s.type from users u,installation i,solar_panel s where s.PV=i.PV and u.u_buildno=i.u_buildno and s.type="monocrystalline";
```

5)list the details of vendor and panel that is the oldest installation

```
sql> select d.*,s.*,i.ins_date from distributor d, solar_panel s, installation i where d.d_tin=i.d_tin and s.pv=i.pv and i.ins_date in(select min(ins_date) from installation);
```

6)find the average sales of both type of panels in only commercial places

```
sql> select d.type,avg(d.ins_charge) from ( select a.*,b.capacity,c.u_area,b.type from installation a inner join solar_panel b on a.pv=b.pv inner join users c on c.u_buildno=a.u_buildno where a.ins_type="commercial")as d GROUP by d.type;
```

## Screenshot of Question Answer:-

```
XAMPP for Windows - mysql -u root
MariaDB [lab3]>
MariaDB [lab3]> select d.d_name,count(d.d_TIN) from distributor d,installation i where i.d_TIN=d.d_TIN and i.ins_type="non-commercial" group by d.d_TIN;
+-----+-----+
| d_name | count(d.d_TIN) |
+-----+-----+
| sonu   | 1              |
| Rav1   | 1              |
+-----+-----+
2 rows in set (0.003 sec)

MariaDB [lab3]> select u.u_area from users u,solar_panel p,installation i where u.u_buildno=i.u_buildno and p.pv=i.pv and p.capacity=(select max(capacity) from solar_pa
+-----+
| u_area |
+-----+
| vijaynagar |
+-----+
1 row in set (0.003 sec)

MariaDB [lab3]> select distinct u.u_area,u.u_buildno from users u,solar_panel p,installation i where u.u_buildno=i.u_buildno and p.pv=i.pv and p.type="monocrystalline";
+-----+-----+
| u_area | u_buildno |
+-----+-----+
| maruthinagar | 11 |
| jayanagar    | 12 |
+-----+-----+
2 rows in set (0.002 sec)

MariaDB [lab3]> select u.u_buildno,u.u_area,s.type from users u,installation i,solar_panel s where s.PV=i.PV and u.u_buildno=i.u_buildno and s.type="monocrystalline";
+-----+-----+-----+
| u_buildno | u_area | type |
+-----+-----+-----+
| 11 | maruthinagar | monocrystalline |
| 12 | jayanagar    | monocrystalline |
+-----+-----+-----+
2 rows in set (0.003 sec)

MariaDB [lab3]> select d.*,s.*,i.ins_date from distributor d, solar_panel s, installation i where d.d_tin=i.d_tin and s.pv=i.pv and i.ins_date in(select min(ins_date) f
+-----+-----+-----+-----+-----+-----+-----+-----+
| d_TIN | d_name | d_addr | d_contact | PV | capacity | price | warranty | type | ins_date |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 105 | Amit | UP | amit@gmail.com | pv_5 | 5 | 4000 | 7 | polycrystalline | 2019-12-07 |
+-----+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.003 sec)

Select XAMPP for Windows - mysql -u root
2 rows in set (0.003 sec)

MariaDB [lab3]> select d.*,s.*,i.ins_date from distributor d, solar_panel s, installation i where d.d_tin=i.d_tin and s.pv=i.pv and i.ins_date in(select min(ins_date) f
+-----+-----+-----+-----+-----+-----+-----+-----+
| d_TIN | d_name | d_addr | d_contact | PV | capacity | price | warranty | type | ins_date |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 105 | Amit | UP | amit@gmail.com | pv_5 | 5 | 4000 | 7 | polycrystalline | 2019-12-07 |
+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.003 sec)

MariaDB [lab3]> select d.type,avg(d.ins charge) from ( select a.*,b.capacity,c.u_area,b.type from installation a inner join solar_panel b on a.pv=b.pv inner join user
uildno where a.ins_type="commercial")as d GROUP by d.type;
+-----+-----+
| type | avg(d.ins charge) |
+-----+-----+
| monocrystalline | 45000.0000 |
| polycrystalline | 70000.0000 |
+-----+-----+
2 rows in set (0.003 sec)

MariaDB [lab3]>
```

## Describe of a table:-

```
XAMPP for Windows - mysql -u root
MariaDB [lab3]> show tables;
+-----+
| Tables_in_lab3 |
+-----+
| distributor     |
| installation    |
| purchased_by    |
| solar_panel     |
| sold_by         |
| users           |
+-----+
6 rows in set (0.001 sec)

MariaDB [lab3]> desc solar_panel;
+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+
| PV     | varchar(25)   | NO   | PRI | NULL    |       |
| capacity | int(11)       | YES  |     | NULL    |       |
| price  | int(11)       | YES  |     | NULL    |       |
| warranty | int(11)       | YES  |     | NULL    |       |
| type   | varchar(25)   | YES  |     | NULL    |       |
+-----+
5 rows in set (0.042 sec)

MariaDB [lab3]> desc distributor;
+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+
| d_TIN | int(11)        | NO   | PRI | NULL    |       |
| d_name | varchar(25)    | YES  |     | NULL    |       |
| d_addr | varchar(50)    | YES  |     | NULL    |       |
| d_contact | varchar(25)  | YES  |     | NULL    |       |
+-----+
4 rows in set (0.048 sec)

MariaDB [lab3]> desc users;
+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+
| u_buildno | int(11)      | NO   | PRI | NULL    |       |
| u_name   | varchar(25)  | YES  |     | NULL    |       |
| u_area   | varchar(25)  | YES  |     | NULL    |       |
+-----+
3 rows in set (0.001 sec)

Select XAMPP for Windows - mysql -u root
MariaDB [lab3]> desc sold_by;
+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+
| d_TIN | int(11)        | NO   | PRI | NULL    |       |
| PV     | varchar(25)   | NO   | PRI | NULL    |       |
+-----+
2 rows in set (0.049 sec)

MariaDB [lab3]> desc purchased_by;
+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+
| u_buildno | int(11)      | NO   | PRI | NULL    |       |
| PV         | varchar(25)  | NO   | PRI | NULL    |       |
+-----+
2 rows in set (0.049 sec)

MariaDB [lab3]> desc installation;
+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+
| PV     | varchar(25)   | NO   | PRI | NULL    |       |
| u_buildno | int(11)      | NO   | PRI | NULL    |       |
| d_TIN | int(11)        | NO   | PRI | NULL    |       |
| ins_charge | int(11)     | YES  |     | NULL    |       |
| ins_type | varchar(25)   | YES  |     | NULL    |       |
| ins_date | date         | YES  |     | NULL    |       |
+-----+
6 rows in set (0.047 sec)

MariaDB [lab3]> desc solar_panel;
+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+
| PV     | varchar(25)   | NO   | PRI | NULL    |       |
| capacity | int(11)       | YES  |     | NULL    |       |
| price  | int(11)       | YES  |     | NULL    |       |
| warranty | int(11)       | YES  |     | NULL    |       |
| type   | varchar(25)   | YES  |     | NULL    |       |
+-----+
5 rows in set (0.072 sec)

MariaDB [lab3]> desc distributor;
```

```
Select XAMPP for Windows - mysql -u root
MariaDB [lab3]> desc distributor;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| d_TIN | int(11) | NO | PRI | NULL | |
| d_name | varchar(25) | YES | | NULL | |
| d_addr | varchar(50) | YES | | NULL | |
| d_contact | varchar(25) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.043 sec)

MariaDB [lab3]> desc users;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| u_buildno | int(11) | NO | PRI | NULL | |
| u_name | varchar(25) | YES | | NULL | |
| u_area | varchar(25) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.050 sec)

MariaDB [lab3]> desc sold_by;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| d_TIN | int(11) | NO | PRI | NULL | |
| PV | varchar(25) | NO | PRI | NULL | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.046 sec)

MariaDB [lab3]> desc purchased_by;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| u_buildno | int(11) | NO | PRI | NULL | |
| PV | varchar(25) | NO | PRI | NULL | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.043 sec)

MariaDB [lab3]> desc installation;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| PV | varchar(25) | NO | PRI | NULL | |
+-----+-----+-----+-----+-----+-----+
1 rows in set (0.043 sec)
```

```
Select XAMPP for Windows - mysql -u root
MariaDB [lab3]> desc installation;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| PV | varchar(25) | NO | PRI | NULL | |
| u_buildno | int(11) | NO | PRI | NULL | |
| d_TIN | int(11) | NO | PRI | NULL | |
| ins_charge | int(11) | YES | | NULL | |
| ins_type | varchar(25) | YES | | NULL | |
| ins_date | date | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.046 sec)

MariaDB [lab3]> select * from distributor;
+-----+-----+-----+-----+
| d_TIN | d_name | d_addr | d_contact |
+-----+-----+-----+-----+
| 101 | Prince | bangalore | prince@gmail.com |
| 102 | Durgesh | Patna | dk@gmail.com |
| 103 | sonu | Delhi | sonu@gmail.com |
| 104 | Ravi | Mumbai | ravi@gmail.com |
| 105 | Amit | UP | amit@gmail.com |
+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [lab3]> select * from installation;
+-----+-----+-----+-----+-----+-----+
| PV | u_buildno | d_TIN | ins_charge | ins_type | ins_date |
+-----+-----+-----+-----+-----+-----+
| pv_1 | 11 | 101 | 40000 | commercial | 2020-10-01 |
| pv_2 | 12 | 102 | 50000 | commercial | 2020-06-02 |
| pv_3 | 13 | 103 | 20000 | non-commercial | 2021-01-02 |
| pv_4 | 14 | 104 | 60000 | non-commercial | 2021-01-22 |
| pv_5 | 15 | 105 | 70000 | commercial | 2019-12-07 |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [lab3]> select * from purchased_by
-> ;
+-----+-----+
| u_buildno | PV |
+-----+-----+
| 11 | pv_1 |
+-----+-----+
1 rows in set (0.001 sec)
```

```
Select XAMPP for Windows - mysql -u root
MariaDB [lab3]> select * from purchased_by;
--> ;
+-----+-----+
| u_buildno | PV |
+-----+-----+
| 11 | pv_1 |
| 12 | pv_2 |
| 13 | pv_3 |
| 14 | pv_4 |
| 15 | pv_5 |
+-----+-----+
5 rows in set (0.001 sec)

MariaDB [lab3]> select * from solar_panel;
--> ;
+-----+-----+-----+-----+-----+
| PV | capacity | price | warranty | type |
+-----+-----+-----+-----+-----+
| pv_1 | 1 | 3000 | 3 | monocrystalline |
| pv_2 | 2 | 5000 | 4 | monocrystalline |
| pv_3 | 3 | 2000 | 2 | polycrystalline |
| pv_4 | 4 | 9000 | 1 | polycrystalline |
| pv_5 | 5 | 4000 | 7 | polycrystalline |
+-----+-----+-----+-----+-----+
5 rows in set (0.001 sec)

MariaDB [lab3]> select * from sold_by;
--> ;
+-----+-----+
| d_TIN | PV |
+-----+-----+
| 101 | pv_1 |
| 102 | pv_2 |
| 103 | pv_3 |
| 104 | pv_4 |
| 105 | pv_5 |
+-----+-----+
5 rows in set (0.001 sec)

MariaDB [lab3]> select * from users;
--> ;
+-----+-----+-----+
| u_buildno | u_name | u_area |
+-----+-----+-----+
| 11 | user1 | maruthinagar |
| 12 | user2 | jayanagar |
+-----+-----+-----+
2 rows in set (0.001 sec)
```



Type here to search



ENG 18:02 31-08-2021