

## Group A: Lab Assignment No. 4

**Title : Design at least 10 SQL queries for suitable database application using SQL DML statements: all types of Join, Sub-Query and View**

**mysql> show databases;**

```
+-----+
| Database
|
+-----+
| information_schema |
| A |
| Abhi |
| COMPUTER |
| H |
| PVG |
| RENUKA |
| mysql |
| nishant |
| nishantl |
| performance_schema |
| renuka |
| sys |
| time |
+-----+
14 rows in set (0.21 sec)
```

**mysql> use Abhi;**

Reading table information for completion of table and column names  
You can turn off this feature to get a quicker startup with -ADatabase changed

**mysql> show tables;**

```
+-----+
| Tables_in_Abhi |
+-----+
| Employee |
```

```
| TE |  
| auto |  
| c_master |  
| product_master |  
+-----+  
5 rows in set (0.00 sec)
```

```
mysql> create table _master(product_no int,description varchar(20),profit_per  
float,unit_measure varchar(10),quantity int,reorder int,sell_price  
float,cost_price float,primary key(product_no));
```

Query OK, 0 rows affected (0.55 sec)

```
mysql> create table customer(cust_no int,cust_name varchar(20),cust_add  
varchar(20),phone_no int,primary key(cust_no));
```

Query OK, 0 rows affected (0.28 sec)

```
mysql> create table capital(cap_no int,cap_name varchar(20),state_no  
int,primary key(cap_no));
```

Query OK, 0 rows affected (0.27 sec)

```
mysql> create table state(state_no int,state_name varchar(20),state_code  
int,capital varchar(20),primary key(state_no));
```

Query OK, 0 rows affected (0.28 sec)

```
mysql> insert into capital values('01','MH','01');
```

Query OK, 1 row affected (0.12 sec)

```
mysql> insert into capital values('02','RAJ','02');
```

Query OK, 1 row affected (0.04 sec)

```
mysql> insert into capital values('03','GOA','03');
```

Query OK, 1 row affected (0.05 sec)

```
mysql> insert into capital values('04','GUJ','04');
```

Query OK, 1 row affected (0.05 sec)

```
mysql> insert into capital values('05','KAR','05');
```

Query OK, 1 row affected (0.04 sec)

```
mysql> insert into state values('01','MH','01','MUM');
```

Query OK, 1 row affected (0.03 sec)

```
mysql> insert into state values('02','RAJ','02','JAI');
```

Query OK, 1 row affected (0.03 sec)

```
mysql> insert into state values('03','GOA','03','PAN');
```

Query OK, 1 row affected (0.04 sec)

```
mysql> insert into state values('04','GUJ','04','SUR');
```

Query OK, 1 row affected (0.04 sec)

```
mysql> insert into state values('05','KAR','05','BAN');
```

Query OK, 1 row affected (0.03 sec)

```
mysql> select * from capital;
```

```
+-----+-----+-----+
| cap_no | cap_name | state_no |
+-----+-----+-----+| 1 | MH | 1 |
| 2 | RAJ | 2 |
| 3 | GOA | 3 |
| 4 | GUJ | 4 |
| 5 | KAR | 5 |
+-----+-----+-----+
```

5 rows in set (0.01 sec)

```
mysql> select * from state;
```

```
+-----+-----+-----+-----+
| state_no | state_name | state_code | capital |
+-----+-----+-----+-----+
| 1 | MH | 1 | MUM |
| 2 | RAJ | 2 | JAI |
| 3 | GOA | 3 | PAN |
| 4 | GUJ | 4 | SUR |
| 5 | KAR | 5 | BAN |
```

+-----+-----+-----+-----+  
5 rows in set (0.00 sec)

**mysql> select capital.cap\_no, state.state\_no from capital inner join state on capital.cap\_no=state.state\_no;**

+-----+-----+  
| cap\_no | state\_no |  
+-----+-----+  
1	1
2	2
3	3
4	4
5	5
+-----+-----+  
5 rows in set (0.06 sec)

**mysql> UPDATE state SET state\_no="78" where state\_no='1';**

Query OK, 1 row affected (0.04 sec)  
Rows matched: 1  
Changed: 1  
Warnings: 0

**mysql> UPDATE state SET state\_no="58" where state\_no='2';**

Query OK, 1 row affected (0.04 sec)  
Rows matched: 1  
Changed: 1  
Warnings: 0

**mysql> UPDATE state SET state\_no="46" where state\_no='3';**

Query OK, 1 row affected (0.03 sec)  
Rows matched: 1  
Changed: 1  
Warnings: 0

**mysql> UPDATE state SET state\_no="489" where state\_no='4';**

Query OK, 1 row affected (0.05 sec)  
Rows matched: 1  
Changed: 1  
Warnings: 0

**mysql> UPDATE state SET state\_no="458" where state\_no='5';**

Query OK, 1 row affected (0.03 sec)

Rows matched: 1

Changed: 1

Warnings: 0

**mysql> insert into state values('05','MP','05','BHO');**

Query OK, 1 row affected (0.03 sec)

**mysql> select capital.cap\_no, state.state\_no from capital inner join state on capital.cap\_no=state.state\_no;**

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

| cap\_no | state\_no |

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

|

5 |

5 |

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

1 row in set (0.00 sec)

**mysql> select capital.cap\_no, state.state\_no from capital left join state on capital.cap\_no=state.state\_no;**

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

| cap\_no | state\_no |

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

| 1 | NULL |

| 2 | NULL |

| 3 | NULL |

| 4 | NULL |

| 5 | 5 |

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

5 rows in set (0.00 sec)

**mysql> select capital.cap\_no, state.state\_no from capital left join state on capital.cap\_no=state.state\_name;**

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

| cap\_no | state\_no |

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

| 1 | NULL |

| 2 | NULL |

| 3 | NULL |

| 4 | NULL |

| 5 | NULL |

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

5 rows in set, 20 warnings (0.00 sec)

```
mysql> select capital.cap_no, state.state_no from capital right join state on capital.cap_no=state.state_no;
```

```
+-----+-----+
| cap_no | state_no |
+-----+-----+
|
5 |
5 || NULL | 46 |
| NULL | 58 |
| NULL | 78 |
| NULL | 458 |
| NULL | 489 |
+-----+-----+
```

6 rows in set (0.00 sec)

```
mysql> select * from capital;
```

```
+-----+-----+-----+
| cap_no | cap_name | state_no |
+-----+-----+-----+
| 1 | MH | 1 |
| 2 | RAJ | 2 |
| 3 | GOA | 3 |
| 4 | GUJ | 4 |
| 5 | KAR | 5 |
+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> select * from state;
```

```
+-----+-----+-----+-----+
| state_no | state_name | state_code | capital |
+-----+-----+-----+-----+
| 5 | MP | 5 | BHO |
| 46 | GOA | 3 | PAN |
| 58 | RAJ | 2 | JAI |
| 78 | MH | 1 | MUM |
| 458 | KAR | 5 | BAN |
| 489 | GUJ | 4 | SUR |
+-----+-----+-----+-----+
```

6 rows in set (0.00 sec)

```
mysql> select * from capital;
```

```
+-----+-----+-----+
| cap_no | cap_name | state_no |
+-----+-----+-----+
| 1 | MH | 1 |
| 2 | RAJ | 2 |
| 3 | GOA | 3 |
```

```
| 4 | GUJ | 4 |
| 5 | KAR | 5 |
+-----+-----+-----+
```

5 rows in set (0.00 sec)

**mysql> select capital.cap\_no, state.state\_no from capital inner join state on capital.cap\_no=state.state\_no;**

```
+-----+-----+
| cap_no | state_no |
+-----+-----+
```

```
|
5 |
5 |
+-----+-----+
```

1 row in set (0.00 sec)

**mysql> select capital.cap\_no,capital.cap\_name,state.capital,state.state\_no from capital inner join state on capital.cap\_no=state.state\_no;**

```
+-----+-----+-----+-----+
| cap_no | cap_name | capital | state_no |
+-----+-----+-----+-----+
```

```
|
5 | KAR
| BHO
|
5 |
+-----+-----+-----+-----+
```

1 row in set (0.00 sec)

**mysql> select capital.cap\_no,capital.cap\_name,state.capital,state.state\_no from capital left join state on capital.cap\_no=state.state\_no;**

```
+-----+-----+-----+-----+
| cap_no | cap_name | capital | state_no |
+-----+-----+-----+-----+
```

```
| 1 | MH | NULL | NULL |
| 2 | RAJ | NULL | NULL |
| 3 | GOA | NULL | NULL |
| 4 | GUJ | NULL | NULL |
| 5 | KAR | BHO | 5 |
+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)

**mysql> select capital.cap\_no,capital.cap\_name,state.capital,state.state\_no from capital right join state on capital.cap\_no=state.state\_no;**

```
+-----+-----+-----+-----+
| cap_no | cap_name | capital | state_no |
+-----+-----+-----+-----+
```

```
|
```

```

5 | KAR
| BHO | 5 | | |
| NULL | NULL | PAN | 46 |
| NULL | NULL | JAI | 58 |
| NULL | NULL | MUM | 78 |
| NULL | NULL | BAN | 458 |
| NULL | NULL | SUR | 489 |
+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```

```

mysql> select capital.cap_no, capital.cap_name, state.capital, state.state_no from
capital left join state on capital.cap_no=state.state_no union
select capital.cap_no, capital.cap_name, state.capital, state.state_no from capital
right join state on capital.cap_no=state.state_no;

```

```

+-----+-----+-----+-----+
| cap_no | cap_name | capital | state_no |
+-----+-----+-----+-----+
| 1 | MH | NULL | NULL |
| 2 | RAJ | NULL | NULL |
| 3 | GOA | NULL | NULL |
| 4 | GUJ | NULL | NULL |
| 5 | KAR | BHO | 5 |
| NULL | NULL | PAN | 46 |
| NULL | NULL | JAI | 58 |
| NULL | NULL | MUM | 78 |
| NULL | NULL | BAN | 458 |
| NULL | NULL | SUR | 489 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

```

```

mysql> select * from capital c1, state s1 where c1.cap_no=s1.state_no;

```

```

+-----+-----+-----+-----+-----+
+-----+-----+
| cap_no | cap_name | state_no | state_no | state_name |
| state_code | capital |
+-----+-----+-----+-----+-----+
+-----+-----+
|
5 | KAR
5 | BHO
|
|
5 |
5 | MP

```



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

**mysql> select \* from capital c1, state s1 where c1.cap\_no! =s1.state\_no;**

```
+-----+-----+-----+-----+-----
+-----+-----+
| cap_no | cap_name | state_no | state_no | state_name |
state_code | capital |
+-----+-----+-----+-----+-----
+-----+-----+
|
1 | MH
5 | BHO
|| 1 | 5 | MP |
|
2 | RAJ
5 | BHO
|| 2 | 5 | MP |
|
3 | GOA
5 | BHO
|| 3 | 5 | MP |
|
4 | GUJ
5 | BHO
|| 4 | 5 | MP |
|
1 | MH
3 | PAN
|| 1 | 46 | GOA |
|
2 | RAJ
3 | PAN
|| 2 | 46 | GOA |
|
3 | GOA
3 | PAN
|| 3 | 46 | GOA |
|
4 | GUJ
3 | PAN
|| 4 | 46 | GOA |
|
```

5 | KAR  
3 | PAN  
|| 5 | 46 | GOA |  
|  
1 | MH  
2 | JAI  
|| 1 | 58 | RAJ |  
|  
2 | RAJ  
2 | JAI  
|| 2 | 58 | RAJ |  
|  
3 | GOA  
2 | JAI  
|| 3 | 58 | RAJ |  
|  
4 | GUJ  
2 | JAI  
|| 4 | 58 | RAJ |  
|  
5 | KAR  
2 | JAI  
|| 5 | 58 | RAJ |  
|  
1 | MH  
1 | MUM  
|| 1 | 78 | MH |  
|  
2 | RAJ  
1 | MUM  
|| 2 | 78 | MH ||  
3 | GOA  
1 | MUM  
|| 3 | 78 | MH |  
|  
4 | GUJ  
1 | MUM  
|| 4 | 78 | MH |  
|  
5 | KAR  
1 | MUM  
|| 5 | 78 | MH |  
|  
1 | MH  
5 | BAN

```

|| 1 | 458 | KAR |
|
2 | RAJ
5 | BAN
|| 2 | 458 | KAR |
|
3 | GOA
5 | BAN
|| 3 | 458 | KAR |
|
4 | GUJ
5 | BAN
|| 4 | 458 | KAR |
|
5 | KAR
5 | BAN
|| 5 | 458 | KAR |
|
1 | MH
4 | SUR
|| 1 | 489 | GUJ |
|
2 | RAJ
4 | SUR
|| 2 | 489 | GUJ |
|
3 | GOA
4 | SUR
|| 3 | 489 | GUJ |
|
4 | GUJ
4 | SUR
|| 4 | 489 | GUJ |
|
5 | KAR
4 | SUR
|| 5 | 489 | GUJ |
+-----+-----+-----+-----+
+-----+-----+
29 rows in set (0.00 sec)

```

```

mysql> select * from state where state_no=(select state_no from state where
state_name='MH');

```

```

+-----+-----+-----+-----+
| state_no | state_name | state_code | capital |

```

```

+-----+-----+-----+-----+
|
78 | MH
|
1 | MUM
|
+-----+-----+-----+-----+
1 row in set (0.06 sec)

```

**mysql> select \* from state where state\_no=(select state\_no from state where state\_name='GUJ');**

```

+-----+-----+-----+-----+
| state_no | state_name | state_code | capital |
+-----+-----+-----+-----+
|
489 | GUJ
|
4 | SUR
|
+-----+-----+-----+-----+
1 row in set (0.00 sec)

```

**mysql> select \* from state where state\_no=(select capital.state\_no from capital where cap\_name='MH');**

Empty set (0.00 sec)

**mysql> select \* from state where state\_no=(select capital.state\_no from capital where cap\_name='GUJ');**

Empty set (0.00 sec)

**mysql> select \* from state where state\_no=(select capital.state\_no from capital where cap\_name='RAJ');**

Empty set (0.00 sec)

**mysql> select \* from state where state\_no=(select capital.state\_no from capital where cap\_name='KAR');**

```

+-----+-----+-----+-----+
| state_no | state_name | state_code | capital |
+-----+-----+-----+-----+
|
5 | MP
|

```

5 | BHO

|

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

1 row in set (0.00 sec)