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Assignment No: A3

Assignment Title:

Write at least 10 SQL queries for suitable database application using SQL DML statements.

Note: Instructor will design the queries which demonstrate the use of concepts like all types of Join, Sub-Query and View

Enter password: \*\*\*\*\*

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 9

Server version: 8.0.34 MySQL Community Server - GPL

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
mysql> select * from Account;
```

Acc_no	branch_name	balance
1	WANORIE	100000000
2	KATRAJ	1000000
3	BT_KAWDE	1000
4	DAUND	0
5	SAVEDI	100000000
6	MIDC	1000000
7	SWARGATE	10000000
8	NANDED	10000
9	KP	100000000
10	HADAPSAR	100

10 rows in set (0.01 sec)

```
mysql> select * from Customer;
```

cust_name	cust_street	cust_city
AMAAN	LANE_13	PUNE
ANSHUL	LANE_5	PUNE
AZHAR	LANE_4	PUNE
KSHIPRA	LANE_6	PUNE
MITALEE	LANE_2	PUNE
PARTH	LANE_7	PUNE
RASHMI	LANE_10	PUNE
ROBIN	LANE_3	PUNE
SANIA	LANE_1	PUNE
SHRUTIKA	LANE_9	PUNE

```
+-----+-----+-----+
10 rows in set (0.00 sec)
```

```
mysql> select * from Borrower;
```

```
+-----+-----+
| cust_name | loan_no |
+-----+-----+
| AMAAN     | 100     |
| ANSHUL    | 101     |
| AZHAR     | 102     |
| KSHIPRA   | 103     |
| MITALEE   | 104     |
| PARTH     | 105     |
| RASHMI    | 106     |
| ROBIN     | 107     |
| SANIA     | 108     |
| SHRUTIKA  | 109     |
+-----+-----+
10 rows in set (0.00 sec)
```

```
mysql> select * from Branch;
```

```
+-----+-----+-----+
| branch_name | branch_city | assets |
+-----+-----+-----+
| BT_KAWDE    | PUNE        | EARRING |
| DAUND       | DAUND       | BIKE    |
| HADAPSAR    | PUNE        | CAR     |
| KATRAJ      | PUNE        | TRUCK   |
| KP          | PUNE        | CHAIN   |
| MIDC        | AHMEDNAGAR | BRACELET |
| NANDED      | PUNE        | MOBILE  |
| SAVEDI      | AHMEDNAGAR | WATCH  |
| SWARGATE    | PUNE        | IPAD    |
| WANORIE     | PUNE        | RING    |
+-----+-----+-----+
10 rows in set (0.00 sec)
```

```
mysql> select * from Depositor;
```

```
+-----+-----+
| cust_name | acc_no |
+-----+-----+
| AMAAN     | 1      |
| ANSHUL    | 2      |
| AZHAR     | 3      |
| KSHIPRA   | 4      |
| MITALEE   | 5      |
| PARTH     | 6      |
| RASHMI    | 7      |
| ROBIN     | 8      |
| SANIA     | 9      |
| SHRUTIKA  | 10     |
+-----+-----+
10 rows in set (0.00 sec)
```

```
mysql> select * from Loan;
```

```
+-----+-----+-----+
| loan_no | branch_name | amount |
+-----+-----+-----+
```

100	WANORIE	1000
101	KATRAJ	10000
102	BT_KAWDE	20000
103	DAUND	25000
104	SAVEDI	25000
105	MIDC	45000
106	SWARGATE	55000
107	NANDED	100000
108	KP	500000
109	HADAPSAR	550000

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

PART 1:

Q.1)

```
mysql> CREATE VIEW View1 AS
-> SELECT C.cust_name
-> FROM Customer C
-> JOIN Borrower B ON C.cust_name = B.cust_name
-> JOIN Loan L ON B.loan_no = L.loan_no
-> WHERE L.branch_name = 'Pune_Station'
-> ORDER BY C.cust_name;
Query OK, 0 rows affected (0.01 sec)
```

Q.2)

```
mysql> CREATE VIEW View2 AS
-> SELECT branch_name, branch_city
-> FROM Branch;
Query OK, 0 rows affected (0.01 sec)
```

Q.3)

```
mysql> CREATE VIEW View3 AS
-> SELECT B.cust_name
-> FROM Borrower B
-> UNION
-> SELECT D.cust_name
-> FROM Depositor D;
Query OK, 0 rows affected (0.01 sec)
```

Q.4)

```
mysql> CREATE VIEW UnionView AS
-> SELECT C.cust_name, A.Acc_no, NULL AS loan_no
-> FROM Customer C
-> LEFT JOIN Depositor D ON C.cust_name = D.cust_name
-> LEFT JOIN Account A ON D.acc_no = A.Acc_no
-> UNION
-> SELECT C.cust_name, NULL AS Acc_no, L.loan_no
-> FROM Customer C
-> LEFT JOIN Borrower B ON C.cust_name = B.cust_name
-> LEFT JOIN Loan L ON B.loan_no = L.loan_no;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> select * from unionview;
+-----+-----+-----+
| cust_name | Acc_no | loan_no |
+-----+-----+-----+
| AMAAN    |      1 | NULL    |
```

ANSHUL	2	NULL
AZHAR	3	NULL
KSHIPRA	4	NULL
MITALEE	5	NULL
PARTH	6	NULL
RASHMI	7	NULL
ROBIN	8	NULL
SANIA	9	NULL
SHRUTIKA	10	NULL
AMAAN	NULL	100
ANSHUL	NULL	101
AZHAR	NULL	102
KSHIPRA	NULL	103
MITALEE	NULL	104
PARTH	NULL	105
RASHMI	NULL	106
ROBIN	NULL	107
SANIA	NULL	108
SHRUTIKA	NULL	109

20 rows in set (0.01 sec)

Q.5)

```
mysql> select * from view1;
Empty set (0.01 sec)
```

```
mysql> select * from view2;
+-----+-----+
| branch_name | branch_city |
+-----+-----+
| BT_KAWDE    | PUNE        |
| DAUND       | DAUND       |
| HADAPSAR    | PUNE        |
| KATRAJ      | PUNE        |
| KP          | PUNE        |
| MIDC        | AHMEDNAGAR  |
| NANDED     | PUNE        |
| SAVEDI      | AHMEDNAGAR  |
| SWARGATE    | PUNE        |
| WANORIE     | PUNE        |
+-----+-----+
10 rows in set (0.00 sec)
```

```
mysql> select * from view3;
+-----+
| cust_name |
+-----+
| AMAAN     |
| ANSHUL    |
| AZHAR     |
| KSHIPRA   |
| MITALEE   |
| PARTH     |
| RASHMI    |
| ROBIN     |
| SANIA     |
| SHRUTIKA  |
+-----+
```

10 rows in set (0.00 sec)

Q.6)

```
mysql> CREATE INDEX index_1
-> ON Customer(cust_name);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> CREATE UNIQUE INDEX index_2
-> ON Branch(branch_name);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

Q.7)

```
mysql> SHOW INDEX FROM Customer;
```

```
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| Table      | Non_unique | Key_name      | Seq_in_index | Column_name |
Collation   | Cardinality | Sub_part     | Packed      | Null      | Index_type | Comment
| Index_comment | Visible | Expression |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| customer |          0 | PRIMARY      |          1 | cust_name  | A
|          10 |      NULL | NULL        |          | BTREE      |
| YES      | NULL      |              |          |
| customer |          1 | idx_cust_city |          1 | cust_city  | A
|          1 |      NULL | NULL        |          | BTREE      |
| YES      | NULL      |              |          |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)
```

```
mysql> SHOW INDEX FROM Branch;
```

```
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| Table      | Non_unique | Key_name      | Seq_in_index | Column_name |
Collation   | Cardinality | Sub_part     | Packed      | Null      | Index_type | Comment
| Index_comment | Visible | Expression |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| branch    |          0 | PRIMARY      |          1 | branch_name | A
|          10 |      NULL | NULL        |          | BTREE      |
| YES      | NULL      |              |          |
| branch    |          0 | idx_branch_name |          1 | branch_name | A
|          10 |      NULL | NULL        |          | BTREE      |
| YES      | NULL      |              |          |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)
```

Q.8)

```
mysql> truncate table Customer;
```

ERROR 1701 (42000): Cannot truncate a table referenced in a foreign key constraint (`bank\_system`.`borrower`, CONSTRAINT `Borrower\_ibfk\_1`)

PART 2:

```
mysql> create table orders(comp_id varchar(10), domain varchar(10),
quantity int(10));
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

```
mysql> insert into companies values('C001','ONGC',2000,2010);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into companies values('C002','HPCL',2500,2012);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into companies values('C005','IOCL',1000,2014);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into companies values('C006','BHEL',3000,2015);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from companies;
+-----+-----+-----+-----+
| comp_id | name | cost | year |
+-----+-----+-----+-----+
| C001    | ONGC | 2000 | 2010 |
| C002    | HPCL | 2500 | 2012 |
| C005    | IOCL | 1000 | 2014 |
| C006    | BHEL | 3000 | 2015 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> insert into orders values('C001','oil',109);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into orders values('C002','gas',121);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into orders values('C005','telecom',115);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from orders;
+-----+-----+-----+
| comp_id | domain | quantity |
+-----+-----+-----+
| C001    | oil    | 109      |
| C002    | gas    | 121      |
| C005    | telecom| 115      |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from companies;
+-----+-----+-----+-----+
| comp_id | name | cost | year |
+-----+-----+-----+-----+
| C001    | ONGC | 2000 | 2010 |
| C002    | HPCL | 2500 | 2012 |
```

```

| C005      | IOCL | 1000 | 2014 |
| C006      | BHEL | 3000 | 2015 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

```

```

mysql> select * from orders;
+-----+-----+-----+-----+
| comp_id | domain | quantity |
+-----+-----+-----+-----+
| C001    | oil    |      109 |
| C002    | gas    |      121 |
| C005    | telecom|      115 |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

Q. Find names, costs, domains and quantities for companies using inner join.

```

mysql> select name, cost, domain, quantity from companies inner join
orders on orders.comp_id=companies.comp_id;
+-----+-----+-----+-----+
| name  | cost | domain | quantity |
+-----+-----+-----+-----+
| ONGC  | 2000 | oil    |      109 |
| HPCL  | 2500 | gas    |      121 |
| IOCL  | 1000 | telecom|      115 |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

Q. Find names, costs, domains and quantities for companies using left outer join

```

mysql> select name, cost, domain, quantity from companies left join
orders on orders.comp_id=companies.comp_id;
+-----+-----+-----+-----+
| name  | cost | domain | quantity |
+-----+-----+-----+-----+
| ONGC  | 2000 | oil    |      109 |
| HPCL  | 2500 | gas    |      121 |
| IOCL  | 1000 | telecom|      115 |
| BHEL  | 3000 | NULL   |      NULL |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

```

Q. Find names, costs, domains and quantities for companies using right outer join

```

mysql> select name, cost, domain, quantity from companies right join
orders on orders.comp_id=companies.comp_id;
+-----+-----+-----+-----+
| name  | cost | domain | quantity |
+-----+-----+-----+-----+
| ONGC  | 2000 | oil    |      109 |
| HPCL  | 2500 | gas    |      121 |
| IOCL  | 1000 | telecom|      115 |
+-----+-----+-----+-----+

```

3 rows in set (0.00 sec)

Q. Find names, costs, domains and quantities for companies using Union operator.

```
mysql> select name, cost from companies join orders on
orders.comp_id=companies.comp_id
-> union
-> select domain, quantity from orders join companies on
orders.comp_id=companies.comp_id;
+-----+-----+
| name   | cost |
+-----+-----+
| ONGC   | 2000 |
| HPCL   | 2500 |
| IOCL   | 1000 |
| oil    | 109  |
| gas    | 121  |
| telecom | 115  |
+-----+-----+
6 rows in set (0.00 sec)
```

Q.Create View View1 by selecting both tables to show company name and quantities

```
mysql> create view view1 as select name, quantity from companies, orders
where companies.comp_id=orders.comp_id;
Query OK, 0 rows affected (0.01 sec)
```

Q. Create View2 on branch table by selecting any two columns and perform insert update delete operations

```
mysql> create view view2 as select branch_name, branch_city from branch;
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> insert into view2 values("dwarka","delhi");
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into view2 values("mg road","pune");
Query OK, 1 row affected (0.01 sec)
```

```
mysql> update view2 set branch_city="delhi" where branch_name="mg road";
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> delete from view_2 where branch_name='mg road';
Query OK, 1 row affected (0.01 sec)
```

Q. Display content of View1, View2.

```
mysql> select * from view1;
+-----+-----+
| name | quantity |
+-----+-----+
| ONGC | 109      |
| HPCL | 121      |
```



```
| IOCL |      115 |  
+-----+-----+  
3 rows in set (0.00 sec)
```

```
mysql> select * from view2;  
+-----+-----+  
| branch_name | branch_city |  
+-----+-----+  
| akurdi      | pune        |  
| alandi      | pune        |  
| dwarka      | delhi       |  
| kharadi     | pune        |  
| nigdi       | pune        |  
| palam       | delhi       |  
| vimannagar  | pune        |  
+-----+-----+  
7 rows in set (0.00 sec)
```