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Assignment No: A2

Assignment Title:

- a. Design and Develop SQL DDL statements which demonstrate the use of SQL objects such as Table, View, Index, Sequence, Synonym, different constraints etc.
- b. Write at least 10 SQL queries on the suitable database application using SQL DML statements.

Note: Instructor will design the queries which demonstrate the use of concepts like Insert, Select, Update, Delete with operators, functions, and set operator etc

Consider following relation and solve the queries: Create different tables given below with appropriate constraints like primary key, foreign key, check constraints, not null etc.

Account (Acc_no, branch_name, balance)
Branch (branch_name, branch_city, assets)
Customer (cust_name, cust_street, cust_city)
Depositor (cust_name, acc_no)
Loan (loan_no, branch_name, amount)
Borrower (cust_name, loan_no)

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> create table Branch(branch_name varchar(20) primary key,
branch_city varchar(20), assets varchar(20));
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

```
mysql> create table Customer(cust_name varchar(20) primary key,
cust_street varchar(20), cust_city varchar(20));
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

```
mysql> create table Account(acc_no int, branch_name varchar(20), balance
int, primary key(Acc_no), foreign key(branch_name) references
Branch(branch_name));
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

```
mysql> create table Depositor(cust_name varchar(20), acc_no int, foreign
key(cust_name) references Customer(cust_name), foreign key(Acc_no)
references Account(Acc_no));
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

```
mysql> create table Loan(loan_no int(10) primary key, branch_name
varchar(20), amount int, foreign key(branch_name) references
Branch(branch_name));
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

```
mysql> create table Borrower(cust_name varchar(20), loan_no int, foreign
key(cust_name) references Customer(cust_name), foreign key(loan_no)
references Loan(loan_no));
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

```
mysql> use bank_system;
```

Database changed

```
mysql> show tables;
```

```
+-----+
| Tables_in_bank_system |
+-----+
| Account                |
| Borrower               |
| Branch                 |
| Customer               |
| Depositor              |
| Loan                   |
+-----+
6 rows in set (0.00 sec)
```

```
mysql> INSERT INTO Branch(branch_name, branch_city, assets) values
-> ('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');
```

Query OK, 10 rows affected (0.01 sec)

Records: 10 Duplicates: 0 Warnings: 0

```
mysql> INSERT INTO Customer(cust_name, cust_street, cust_city) values
-> ('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'),
```

Query OK, 10 rows affected (0.01 sec)

Records: 10 Duplicates: 0 Warnings: 0

```
mysql> INSERT INTO Account(acc_no, branch_name, balance) values
-> (1,'BT_KAWDE',1000),
-> (2,'DAUND',0),
-> (3,'HADAPSAR',100),
-> (4,'KATRAJ',1000000),
-> (5,'KP',100000000),
-> (6,'MIDC',1000000),
-> (7,'NANDED',10000),
-> (8,'SAVEDI',100000000),
-> (9,'SWARGATE',10000000),
-> (10,'WANORIE',100000000);
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> INSERT INTO Depositor(cust_name, acc_no) values
-> ('AMAAN',100),
-> ('ANSHUL',101),
-> ('AZHAR',102),
-> ('KSHIPRA',103),
-> ('MITALEE',104),
-> ('PARTH',105),
-> ('RASHMI',106),
-> ('ROBIN',107),
-> ('SANIA',108),
-> ('SHRUTIKA',109);
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> INSERT INTO Loan(loan_no, branch_name, amount) values
-> (100,'BT_KAWDE',20000),
-> (101,'DAUND',25000),
-> (102,'HADAPSAR',550000),
-> (103,'KATRAJ',10000),
-> (104,'KP',500000),
-> (105,'MIDC',45000),
-> (106,'NANDED',100000),
-> (107,'SAVEDI',25000),
-> (108,'SWARGATE',55000),
-> (109,'WANORIE',1000);
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
mysql> INSERT INTO Borrower(cust_name, loan_no) values
-> ('AMAAN',1),
-> ('ANSHUL',5),
-> ('AZHAR',2),
-> ('KSHIPRA',3),
-> ('MITALEE',4),
-> ('PARTH',6),
-> ('RASHMI',7),
-> ('ROBIN',8),
-> ('SANIA',9),
-> ('SHRUTIKA',10);
Query OK, 10 rows affected (0.01 sec)
Records: 10 Duplicates: 0 Warnings: 0
```

```
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 (0.00 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 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 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)

Q.1)

```
mysql> select branch_name from Loan;
```

branch_name
BT_KAWDE
DAUND
HADAPSAR
KATRAJ
KP
MIDC
NANDED
SAVEDI
SWARGATE
WANORIE

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

Q.2)

```
mysql> select loan_no from Loan where branch_name = 'KATRAJ' and amount >
12000;
Empty set (0.01 sec)
```

Q.3)

```
mysql> select Borrower.cust_name, Borrower.loan_no, Loan.amount from
Borrower join Loan on Borrower.loan_no=Loan.loan_no;
```

```
+-----+-----+-----+
| cust_name | loan_no | amount |
+-----+-----+-----+
| AMAAN     | 100     | 1000   |
| ANSHUL    | 101     | 10000  |
| AZHAR     | 102     | 20000  |
| KSHIPRA   | 103     | 25000  |
| MITALEE   | 104     | 25000  |
| PARTH     | 105     | 45000  |
| RASHMI    | 106     | 55000  |
| ROBIN     | 107     | 100000 |
| SANIA     | 108     | 500000 |
| SHRUTIKA  | 109     | 550000 |
+-----+-----+-----+
```

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

Q.4)

```
mysql> select cust_name from Borrower join Loan on Loan.loan_no =
Borrower.loan_no where branch_name='KATRAJ';
```

```
+-----+
| cust_name |
+-----+
| ANSHUL    |
+-----+
```

```
1 row in set (0.00 sec)
```

Q.5)

```
mysql> select cust_name from Customer union select cust_name from
Borrower;
```

```
+-----+
| cust_name |
+-----+
| AMAAN     |
| ANSHUL    |
| AZHAR     |
| KSHIPRA   |
| MITALEE   |
| PARTH     |
| RASHMI    |
| ROBIN     |
| SANIA     |
| SHRUTIKA  |
+-----+
```

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

Q.6)

```
mysql> select cust_name from Borrower join Loan on Loan.loan_no =  
Borrower.loan_no where branch_name='KATRAJ' order by cust_name asc;
```

```
+-----+  
| cust_name |  
+-----+  
| ANSHUL    |  
+-----+
```

1 row in set (0.00 sec)

Q.7)

```
mysql> select cust_name from Customer intersect select cust_name from  
Borrower;
```

```
+-----+  
| cust_name |  
+-----+  
| AMAAN     |  
| ANSHUL     |  
| AZHAR     |  
| KSHIPRA   |  
| MITALEE   |  
| PARTH     |  
| RASHMI    |  
| ROBIN     |  
| SANIA     |  
| SHRUTIKA  |  
+-----+
```

10 rows in set (0.01 sec)

Q.8)

```
mysql> select cust_name from Customer except select cust_name from  
Borrower;
```

Empty set (0.00 sec)

Q.9)

```
mysql> select avg(balance) from Account group by branch_name;
```

```
+-----+  
| avg(balance) |  
+-----+  
| 1000.0000    |  
| 0.0000       |  
| 100.0000     |  
| 1000000.0000 |  
| 100000000.0000 |  
| 1000000.0000 |  
| 10000.0000   |  
| 100000000.0000 |  
| 10000000.0000 |  
| 100000000.0000 |  
+-----+
```

10 rows in set (0.01 sec)

Q.10)

```
mysql> select cust_name,cust_city from Customer where cust_name like  
'P%';
```

```
+-----+-----+
```

cust_name	cust_city
PARTH	PUNE

1 row in set (0.00 sec)

Q.11)

```
mysql> select distinct branch_city from Branch;
```

branch_city
PUNE
DAUND
AHMEDNAGAR

3 rows in set (0.00 sec)

Q.12)

```
mysql> select branch_name from Account group by branch_name having
avg(balance) > 12000;
```

branch_name
KATRAJ
KP
MIDC
SAVEDI
SWARGATE
WANORIE

6 rows in set (0.00 sec)

Q.13)

```
mysql> select count(*) from Customer;
```

count(*)
10

1 row in set (0.00 sec)

Q.14)

```
mysql> select sum(amount) from Loan;
```

sum(amount)
1331000

1 row in set (0.00 sec)

Q.15)

```
mysql> delete from Loan WHERE amount >=1300 and amount <=1500;
Query OK, 0 rows affected (0.00 sec)
```

Q.16)

```
mysql> delete from Branch where branch_city='Nigdi';
Query OK, 0 rows affected (0.01 sec)
```


