Medha Madhusudhan

1BM19CS230

CSE-4A

Program 2 - Banking Database

Consider the following database for a banking enterprise.

Branch (branch-name: String, branch-city: String, assets: real)
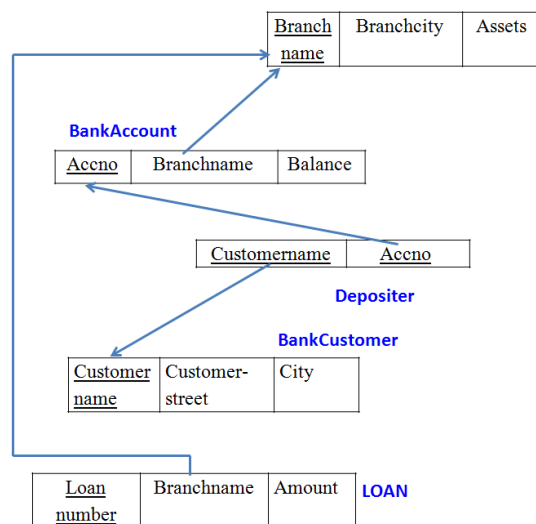
BankAccount(accno: int, branch-name: String, balance: real)

BankCustomer (customer-name: String, customer-street: String, customer-city: String)

Depositor(customer-name: String, accno: int)

Loan (loan-number: int, branch-name: String, amount: real)

i. Create the above tables by properly specifying the primary keys and the foreign keys.

ii. Enter at least five tuples for each relation.

iii. Find all the customers who have at least two accounts at the *Main* branch (ex. SBI_ResidencyRoad).

iv. Find all the customers who have an account at *all* the branches located in a specific city (Ex. Delhi).

v. Demonstrate how you delete all account tuples at every branch located in a specific city (Ex. Bombay).

create database banking;

```sql
use banking;

create table Branch(
        branch_name varchar(20) not null,
        branch_city varchar(20) not null,
        assets real not null,
        primary key(branch_name)
);

create table BankAccount(
        accno int not null,
        branch_name varchar(20) not null,
        balance real not null,
        primary key(accno),
        foreign key(branch_name) references Branch(branch_name)
);

create table BankCustomer(
        customer_name varchar(20) not null,
        customer_street varchar(20) not null,
        customer_city varchar(20) not null,
        primary key(customer_name)
);

create table Depositor(
        customer_name varchar(20) not null,
        accno int not null,
        primary key(customer_name,accno),
        foreign key(customer_name) references BankCustomer(customer_name),
        foreign key(accno) references BankAccount(accno)
);

create table Loan(
```

```sql
        loanno int not null,
        branch_name varchar(20) not null,
        amount real not null,
        primary key(loanno),
        foreign key(branch_name) references Branch(branch_name)
);

insert into Branch(branch_name,branch_city,assets)
        values ('SBI_Chamrajpet','Bangalore',50000),
                ('SBI_ResidencyRoad','Bangalore',10000),
                ('SBI_ShivajiRoad','Bombay',20000),
                ('SBI_ParliamentRoad','Delhi',10000),
                ('SBI_Jantarmantar','Delhi',20000);

insert into BankAccount(accno,branch_name,balance)
        values (1,'SBI_Chamrajpet',2000),
                (2,'SBI_ResidencyRoad',5000),
                (3,'SBI_ShivajiRoad',6000),
                (4,'SBI_ParliamentRoad',9000),
                (5,'SBI_Jantarmantar',8000),
                (6,'SBI_ShivajiRoad',4000),
                (8,'SBI_ResidencyRoad',4000),
                (9,'SBI_ParliamentRoad',3000),
                (10,'SBI_ResidencyRoad',5000),
                (11,'SBI_Jantarmantar',2000);

insert into BankCustomer(customer_name,customer_street,customer_city)
        values ('Avinash','Bull_Temple_Road','Bangalore'),
                ('Dinesh','Bannerghatta_Road','Bangalore'),
                ('Mohan','NationalCollege_Road','Bangalore'),
                ('Nikil','Akbar_Road','Delhi'),
                ('Ravi','Prithviraj_Road','Delhi');
```

insert into Depositor(customer_name,accno)

        values ('Avinash',1),

            ('Dinesh',2),

            ('Nikil',4),

            ('Ravi',5),

            ('Avinash',8),

            ('Nikil',9),

            ('Dinesh',10),

            ('Nikil',11);

insert into Loan(loanno,branch_name,amount)

        values (1,'SBI_Chamrajpet',1000),

            (2,'SBI_ResidencyRoad',2000),

            (3,'SBI_ShivajiRoad',3000),

            (4,'SBI_ParliamentRoad',4000),

            (5,'SBI_Jantarmantar',5000);

-- **Branch,BankAccount,BankCustomer,Depositor,Loan**

-- **find all the customers who have atleast two accounts at the 'SBI_ResidencyRoad'**

select distinct d.customer_name from Depositor d,BankAccount ba,Branch b

where d.accno = ba.accno and ba.branch_name = b.branch_name and ba.branch_name =
'SBI_ResidencyRoad'

and 2 <= (select count(accno) from Depositor where customer_name =
d.customer_name);

customer_name
Dinesh
Avinash

-- **find all the customers who have an account at all branches in Delhi**

select d.customer_name from Depositor d,BankAccount ba,Branch b

where d.accno = ba.accno and b.branch_name = ba.branch_name and b.branch_city =
'Delhi'

group by d.customer_name

having count(d.accno) >= (select count(branch_name) from Branch where branch_city = 'Delhi');

	customer_name
▶	Nikil

-- demonstrate how you delete all account tuples at every branch located at Bombay

delete from BankAccount

where branch_name in (select branch_name from Branch where branch_city = 'Bombay');

select * from BankAccount;

	accno	branch_name	balance
▶	1	SBI_Chamrajpet	2000
	2	SBI_ResidencyRoad	5000
	4	SBI_ParliamentRoad	9000
	5	SBI_Jantarmantar	8000
	8	SBI_ResidencyRoad	4000
	9	SBI_ParliamentRoad	3000
	10	SBI_ResidencyRoad	5000
	11	SBI_Jantarmantar	2000