

Medha Madhusudhan
IBM19CS230
CSE-4A

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)

Depositer(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;  
use banking;
```

```
create table Branch(  
    branch_name varchar(20) not null,  
    branch_city varchar(20) not null,  
    assets int not null,  
    primary key(branch_name)  
);  
  
create table BankAccount(  
    accno int not null,  
    branch_name varchar(20) not null,  
    balance int not null,  
    primary key(accno),  
    foreign key(branch_name) references Branch(branch_name)  
);  
  
create table Customer(  
    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 Customer(customer_name),
    foreign key(accno) references BankAccount(accno)
);

create table Loan(
    loan_number int not null,
    branch_name varchar(20) not null,
    amount int not null,
    primary key(loan_number),
    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_Jantarmanatar','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_Jantarmanatar',8000),
      (6,'SBI_ShivajiRoad',4000),
      (8,'SBI_ResidencyRoad',4000),
      (9,'SBI_ParliamentRoad',3000),
      (10,'SBI_ResidencyRoad',5000),
      (11,'SBI_Jantarmanatar',2000);

insert into Customer(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(loan_number,branch_name,amount)
values(1,'SBI_Chamrajpet',1000),
      (2,'SBI_ResidencyRoad',2000),
      (3,'SBI_ShivajiRoad',3000),
      (4,'SBI_ParliamentRoad',4000),
      (5,'SBI_Jantarmentar',5000);

```

-- Find all the customers who have at least two accounts at SBI_ResidencyRoad

```

select d.customer_name ,count(b.accno)
      from Depositor d,BankAccount b
      where d.accno = b.accno and b.branch_name = 'SBI_ResidencyRoad' group by
d.customer_name having count(b.accno) >= 2;

```

	customer_name	count(b.accno)
▶	Dinesh	2

-- Find all the customers who have an account at all the branches located in Delhi

```

select d.customer_name
      from Depositor d
      where d.accno in (select ba.accno from BankAccount ba where branch_name in (select
branch_name from Branch where branch_city = "Delhi"))
      group by d.customer_name having count(distinct d.accno) > (select count(*) from Branch
where branch_city = "Delhi");

```

	customer_name
▶	Nikil

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

```
delete from BankAccount where branch_name = (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_Jantarantar	8000
	8	SBI_ResidencyRoad	4000
	9	SBI_ParliamentRoad	3000
	10	SBI_ResidencyRoad	5000
	11	SBI_Jantarantar	2000
•	NULL	NULL	NULL