Consider the following database for a banking enterprise

BRANCH(branch-name:string, branch-city:string, assets:real)

ACCOUNT(accno:int, branch-name:string, balance:real)

DEPOSITOR(customer-name:string, accno:int)

CUSTOMER(customer-name:string, customer-street:string, customer-city:string)

LOAN(loan-number:int, branch-name:string, amount:real)

BORROWER(customer-name:string, loan-number:int)

**Queries**

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.

iv. Find all the customers who have an account at all the branches located in a specific city.

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

-- Creating Branch table

CREATE TABLE Branch (

branchname VARCHAR(30),

branchcity VARCHAR(30),

assets REAL,

PRIMARY KEY (branchname)

);

DESC Branch;

-- Creating BankAccount table

CREATE TABLE BankAccount (

accno INT,

branchname VARCHAR(30),

balance REAL,

PRIMARY KEY (accno),

FOREIGN KEY (branchname) REFERENCES Branch (branchname)

);

DESC BankAccount;

-- Creating BankCustomer table

CREATE TABLE BankCustomer (

customername VARCHAR(30),

customerstreet VARCHAR(30),

customercity VARCHAR(30),

PRIMARY KEY (customername)

);

DESC BankCustomer;

-- Creating Depositer table

CREATE TABLE Depositer (

customername VARCHAR(30),

accno INT,

PRIMARY KEY (customername, accno),

FOREIGN KEY (customername) REFERENCES BankCustomer (customername),

FOREIGN KEY (accno) REFERENCES BankAccount (accno)

);

DESC Depositer;

-- Creating Loan table

CREATE TABLE Loan (

loannumber INT,

branchname VARCHAR(30),

amount REAL,

PRIMARY KEY (loannumber),

FOREIGN KEY (branchname) REFERENCES Branch (branchname)

);

DESC Loan;

-- Creating Borrower table

CREATE TABLE Borrower (

customername VARCHAR(30),

loannumber INT,

PRIMARY KEY (customername, loannumber),

FOREIGN KEY (customername) REFERENCES BankCustomer (customername),

FOREIGN KEY (loannumber) REFERENCES Loan (loannumber)

);

DESC Borrower;

-- Filling Branch table with values

INSERT INTO Branch VALUES

('CHAMRAJPET', 'BANGALORE', 50000),

('RESIDENCY ROAD', 'BANGALORE', 10000),

('M G ROAD', 'BOMBAY', 100000),

('CP', 'DELHI', 100000),

('JANTARMANTAR', 'DELHI', 100000)

;

SELECT \* FROM Branch;

-- Filling BankAccount table with values

INSERT INTO BankAccount VALUES

(1, 'CHAMRAJPET', 2000),

(2, 'RESIDENCY ROAD', 5000),

(3, 'M G ROAD', 6000),

(4, 'CP', 9999),

(5, 'JANTARMANTAR', 999),

(6, 'M G ROAD', 999),

(8, 'RESIDENCY ROAD', 999),

(9, 'CP', 10000),

(10, 'RESIDENCY ROAD', 5000),

(11, 'JANTARMANTAR', 9999)

;

SELECT \* FROM BankAccount;

-- Filling BankCustomer table with values

INSERT INTO BankCustomer VALUES

('ANNE', 'BULL TEMPLE ROAD', 'BANGALORE'),

('DANNY', 'BANNERGATTA ROAD', 'BANGALORE'),

('TOM', 'J C ROAD', 'BANGALORE'),

('NICK', 'CP', 'DELHI'),

('ROVER', 'JANTARMANTAR', 'DELHI')

;

SELECT \* FROM BankCustomer;

-- Filling Depositer table with values

INSERT INTO Depositer VALUES

('ANNE', 1),

('DANNY', 2),

('NICK', 4),

('ROVER', 5),

('ANNE', 8),

('NICK', 9),

('DANNY', 10),

('NICK', 11)

;

SELECT \* FROM Depositer;

-- Filling Loan table with values

INSERT INTO Loan VALUES

(1, 'CHAMRAJPET', 1000),

(2, 'RESIDENCY ROAD', 2000),

(3, 'M G ROAD', 3000),

(4, 'CP', 4000),

(5, 'JANTARMANTAR', 5000)

;

SELECT \* FROM Loan;

-- Filling Borrower table with values

INSERT INTO Borrower VALUES

('ANNE', 1),

('ANNE', 2),

('TOM', 3),

('NICK', 4),

('ROVER', 5)

;

SELECT \* FROM Borrower;

**Queries**

**-- Find all the customers who have at least two accounts at the Main branch.**

SELECT \*

FROM BankCustomer C

WHERE EXISTS (

SELECT D.customername, COUNT(D.customername)

FROM Depositer D, BankAccount BA

WHERE

D.accno = BA.accno AND

C.customername = D.customername AND

BA.branchname = 'RESIDENCY ROAD'

GROUP BY D.customername

HAVING COUNT(D.customername) >= 2

);

**OR**

Select customer\_name from Depositor Where acc\_no in (Select acc\_no from Account branch\_name = ‘Residency Road ) Group by acc\_no having count(accno)>2 ;

**-- Find all the customers who have an account at all the branches located in a specific city.**

SELECT \*

FROM BankCustomer BC

WHERE NOT EXISTS (

SELECT branchname

FROM Branch

WHERE

branchcity = 'DELHI' AND

(branchname) NOT IN (

SELECT BA.branchname

FROM Depositer D, BankAccount BA

WHERE

D.accno = BA.accno AND

BC.customername = D.customername ));

OR

Select Customer\_Name from Customer Where acc\_no in( Select acc\_no from Account where branch\_name in( Select Branch\_name from Branch where Branch\_city like ‘Delhi));

**-- Demonstrate how you delete all account tuples at every branch located in a specific city.**

DELETE FROM BankAccount

WHERE Branchname IN (

SELECT Branchname

FROM Branch

WHERE branchcity = 'BOMBAY');

OR

Delete Acc\_no from Account where Branch\_name in( Select branch\_name , branch\_city from Branch Where branch\_city like ‘Bangalore’ Group by Branch \_city);

(vi)Generation of of suitable reports Report: List customer names and address who have taken loan in Bangalore Branches. Select Ba.Cname, C.Cstreet,C.City From Customer As C,Loan As L,Borrower As Ba,Branch As B Where Ba.Loanno=L.Loanno And Ba.Cname=C.Cname And B.Bname=L.Bname And B.Bcity="Bangalore";