**PROGRAM 2. BANKING ENTERPRISE DATABASE**

Consider the following database for a banking enterprise.

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

ACCOUNTS (accno: int, branch-name: String, balance: real)

DEPOSITOR (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)

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

**ii. Enter at least five tuples for each relation.**

CREATE TABLE branch(branch\_name VARCHAR(30),branch\_city VARCHAR(20),assets REAL,PRIMARY KEY(branch\_name));

DESC branch

INSERT INTO branch VALUES('SBI-chamarajpet','banglore',50000);

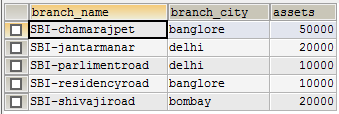
INSERT INTO branch VALUES('SBI-residencyroad','banglore',10000);

INSERT INTO branch VALUES('SBI-shivajiroad','bombay',20000);

INSERT INTO branch VALUES('SBI-parlimentroad','delhi',10000);

INSERT INTO branch VALUES('SBI-jantarmanar','delhi',20000);

SELECT \*FROM branch;



CREATE TABLE accounts(acctno INT,branch\_name VARCHAR(20),balance REAL,PRIMARY KEY(acctno),FOREIGN KEY(branch\_name)REFERENCES branch(branch\_name));

INSERT INTO accounts VALUES(1,'SBI-chamarajpet',2000);

INSERT INTO accounts VALUES(2,'SBI-residencyroad',5000);

INSERT INTO accounts VALUES(3,'SBI-shivajiroad',6000);

INSERT INTO accounts VALUES(4,'SBI-parlimentroad',9000);

INSERT INTO accounts VALUES(5,'SBI-jantarmanar',8000);

INSERT INTO accounts VALUES(6,'SBI-shivajiroad',4000);

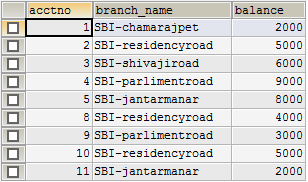
INSERT INTO accounts VALUES(8,'SBI-residencyroad',4000);

INSERT INTO accounts VALUES(9,'SBI-parlimentroad',3000);

INSERT INTO accounts VALUES(10,'SBI-residencyroad',5000);

INSERT INTO accounts VALUES(11,'SBI-jantarmanar',2000);

SELECT \*FROM accounts;



CREATE TABLE depositor(customer\_name VARCHAR(20),customer\_street VARCHAR(20),customer\_city VARCHAR(20),PRIMARY KEY(customer\_name));

INSERT INTO depositor VALUES('avinash','gs road','banglore');

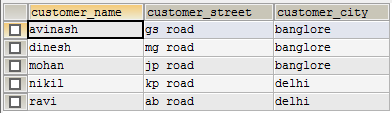
INSERT INTO depositor VALUES('dinesh','mg road','banglore');

INSERT INTO depositor VALUES('mohan','jp road','banglore');

INSERT INTO depositor VALUES('nikil','kp road','delhi');

INSERT INTO depositor VALUES('ravi','ab road','delhi');

SELECT \*FROM depositor;



CREATE TABLE borrower(customer\_name VARCHAR(30),acctno INT,PRIMARY KEY(customer\_name,acctno),FOREIGN KEY(customer\_name)REFERENCES depositor(customer\_name),FOREIGN KEY(acctno)REFERENCES accounts(acctno));

INSERT INTO borrower VALUES('avinash',1);

INSERT INTO borrower VALUES('dinesh',2);

INSERT INTO borrower VALUES('nikil',4);

INSERT INTO borrower VALUES('ravi',5);

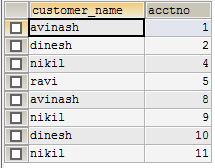
INSERT INTO borrower VALUES('avinash',8);

INSERT INTO borrower VALUES('nikil',9);

INSERT INTO borrower VALUES('dinesh',10);

INSERT INTO borrower VALUES('nikil',11);

SELECT \*FROM borrower;



CREATE TABLE loans(loan\_number INT,branch\_name VARCHAR(30),amount REAL,PRIMARY KEY(loan\_number),FOREIGN KEY(branch\_name)REFERENCES branch(branch\_name));

INSERT INTO loans VALUES(1,'SBI-chamarajpet',1000);

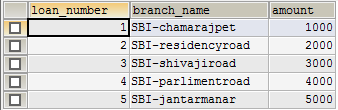
INSERT INTO loans VALUES(2,'SBI-residencyroad',2000);

INSERT INTO loans VALUES(3,'SBI-shivajiroad',3000);

INSERT INTO loans VALUES(4,'SBI-parlimentroad',4000);

INSERT INTO loans VALUES(5,'SBI-jantarmantar',5000);

SELECT \*FROM loans;



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

SELECT c.customer\_name FROM depositor c WHERE EXISTS(SELECT d.customer\_name,COUNT(d.customer\_name) FROM borrower d,accounts a WHERE d.acctno=a.acctno AND c.customer\_name=d.customer\_name AND a.branch\_name='SBI-residencyroad' GROUP BY d.customer\_name HAVING COUNT(d.customer\_name)>=2);



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

SELECT d.customer\_name FROM borrower d,branch b,accounts a WHERE b.branch\_name=a.branch\_name AND a.acctno=d.acctno AND branch\_city='delhi' GROUP BY d.customer\_name HAVING COUNT(DISTINCT b.branch\_name)=(SELECT COUNT(branch\_name)FROM branch WHERE branch\_city='delhi');



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

DELETE FROM accounts WHERE branch\_name IN(SELECT branch\_name FROM branch WHERE branch\_city='bombay');

SELECT \*FROM accounts;

