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Subject- DBMS

PROGRAM 2: BANKING ENTERPRISE 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)

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).

INTRODUCTION: This database is developed for supporting banking facilities. Details of the branch along with the accounts and loans handled by them are recorded. Also details of the depositors of the corresponding branches are maintained.

|  |
| --- |
| create database bank; |
|  | use bank; |
|  |  |
|  | create table branch ( |
|  | branch\_name varchar(25), |
|  | branch\_city varchar(15), |
|  | assets int, |
|  | primary key (branch\_name) |
|  | ); |
|  |  |
|  | create table bank\_account ( |
|  | accno int, |
|  | branch\_name varchar(25), |
|  | balance int, |
|  | primary key (accno), |
|  | foreign key (branch\_name) references branch(branch\_name) |
|  | ); |
|  |  |
|  | create table bank\_customer ( |
|  | customer\_name varchar(10), |
|  | customer\_street varchar(25), |
|  | customer\_city varchar(15), |
|  | primary key (customer\_name) |
|  | ); |
|  |  |
|  | create table depositer ( |
|  | customer\_name varchar(10), |
|  | accno int, |
|  | primary key(customer\_name, accno), |
|  | foreign key (customer\_name) references bank\_customer(customer\_name), |
|  | foreign key (accno) references bank\_account(accno) |
|  | ); |
|  |  |
|  | create table loan ( |
|  | loan\_number int, |
|  | branch\_name varchar(25), |
|  | amount int, |
|  | primary key (loan\_number), |
|  | foreign key (branch\_name) references branch(branch\_name) |
|  | ); |
|  |  |
|  | insert into branch values('SBI\_Chamrajpet', 'Bangalore', 50000); |
|  | insert into branch values('SBI\_ResidencyRoad', 'Bangalore', 10000); |
|  | insert into branch values('SBI\_ShivajiRoad', 'Bombay', 20000); |
|  | insert into branch values('SBI\_ParliamentRoad', 'Delhi', 10000); |
|  | insert into branch values('SBI\_Jantarmantar', 'Delhi', 20000); |
|  | commit; |
|  |  |
|  | insert into bank\_account values(1, 'SBI\_Chamrajpet', 2000); |
|  | insert into bank\_account values(2, 'SBI\_ResidencyRoad', 5000); |
|  | insert into bank\_account values(3, 'SBI\_ShivajiRoad', 6000); |
|  | insert into bank\_account values(4, 'SBI\_ParliamentRoad', 9000); |
|  | insert into bank\_account values(5, 'SBI\_Jantarmantar', 8000); |
|  | insert into bank\_account values(6, 'SBI\_ShivajiRoad', 4000); |
|  | insert into bank\_account values(8, 'SBI\_ResidencyRoad', 4000); |
|  | insert into bank\_account values(9, 'SBI\_ParliamentRoad', 3000); |
|  | insert into bank\_account values(10, 'SBI\_ResidencyRoad', 5000); |
|  | insert into bank\_account values(11, 'SBI\_Jantarmantar', 2000); |
|  | commit; |
|  |  |
|  | insert into bank\_customer values ('Avinash', 'Bull\_Temple\_Road', 'Bangalore'); |
|  | insert into bank\_customer values ('Dinesh', 'Bannergatta\_Road', 'Bangalore'); |
|  | insert into bank\_customer values ('Mohan', 'National\_College\_Road', 'Bangalore'); |
|  | insert into bank\_customer values ('Nikhil', 'Akbar\_Road', 'Delhi'); |
|  | insert into bank\_customer values ('Ravi', 'Prithviraj\_Road', 'Delhi'); |
|  | commit; |
|  |  |
|  | insert into depositer values('Avinash', 1); |
|  | insert into depositer values('Dinesh', 2); |
|  | insert into depositer values('Nikhil', 4); |
|  | insert into depositer values('Ravi', 5); |
|  | insert into depositer values('Avinash', 8); |
|  | insert into depositer values('Nikhil', 9); |
|  | insert into depositer values('Dinesh', 10); |
|  | insert into depositer values('Nikhil', 11); |
|  | commit; |
|  |  |
|  | insert into loan values(1, 'SBI\_Chamrajpet', 1000); |
|  | insert into loan values(2, 'SBI\_ResidencyRoad', 2000); |
|  | insert into loan values(3, 'SBI\_ShivajiRoad', 3000); |
|  | insert into loan values(4, 'SBI\_ParliamentRoad', 4000); |
|  | insert into loan values(5, 'SBI\_Jantarmantar', 5000); |
|  | commit; |
|  |  |
|  |  |
|  | select \* from branch; |
|  | select \* from bank\_account; |
|  | select \* from bank\_customer; |
|  | select \* from depositer; |
|  | select \* from loan; |
|  |  |
|  | -- Query 3 |
|  | select distinct c.customer\_name from bank\_customer c,bank\_account b where exists(select d.customer\_name,count(d.customer\_name) from depositer d,bank\_account ba where ba.accno = d.accno and |
|  | c.customer\_name = d.customer\_name and ba.branch\_name = 'SBI\_ResidencyRoad' group by d.customer\_name having count(d.customer\_name)>=2); |
|  |  |
|  | -- Query 4 |
|  | select d.customer\_name from depositer d,branch b,bank\_account a |
|  | where b.branch\_name=a.branch\_name |
|  | AND a.accno=d.accno |
|  | 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'); |
|  |  |
|  | -- Query 5 |
|  | delete from bank\_account where branch\_name in (select branch\_name from branch where branch\_city = 'Bombay'); |
|  | select \* from bank\_account; |

Output-

