DBMS Lab(3K section)

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```
CREATE DATABASE Bank;
USE Bank;
CREATE TABLE Branch (
    branch_name VARCHAR(30) PRIMARY KEY,
    branch_city VARCHAR(30),
    assets REAL
);
CREATE TABLE BankAccount (
    accno INT PRIMARY KEY,
    branch_name VARCHAR(30),
    balance REAL,
    FOREIGN KEY (branch_name) REFERENCES Branch(branch_name)
);
CREATE TABLE BankCustomer (
    customer_name VARCHAR(30) PRIMARY KEY,
    customer_street VARCHAR(50),
    customer_city VARCHAR(30)
);
CREATE TABLE Depositer (
    customer_name VARCHAR(30),
    accno INT,
    PRIMARY KEY (customer_name, accno),
    FOREIGN KEY (customer_name) REFERENCES BankCustomer(customer_name),
    FOREIGN KEY (accno) REFERENCES BankAccount(accno)
);
CREATE TABLE Loan (
    loan_number INT PRIMARY KEY,
    branch_name VARCHAR(30),
    amount REAL,
    FOREIGN KEY (branch_name) REFERENCES Branch(branch_name)
);
INSERT INTO Branch VALUES
('SBI_Chamrajpet', 'Bangalore', 50000),
('SBI_ResidencyRoad', 'Bangalore', 100000),
```

```
('SBI_ShivajiRoad', 'Bombay', 200000),
('SBI_ParlimentRoad', 'Delhi', 10000),
('SBI_Jantarmantar', 'Delhi', 20000);
select * from Branch;
INSERT INTO BankAccount VALUES
(1, 'SBI_Chamrajpet', 2000),
(2, 'SBI_ResidencyRoad', 5000),
(3, 'SBI_ShivajiRoad', 6000),
(4, 'SBI_ParlimentRoad', 9000),
(5, 'SBI_Jantarmantar', 8000),
(6, 'SBI_ShivajiRoad', 4000),
(8, 'SBI_ParlimentRoad', 3000),
(9, 'SBI_ParlimentRoad', 3000),
(10, 'SBI_ResidencyRoad', 5000),
(11, 'SBI_Jantarmantar', 2000);
INSERT INTO BankCustomer VALUES
('Avinash', 'Bull_Temple_Road', 'Bangalore'),
('Dinesh', 'Bannerghatta_Road', 'Bangalore'),
('Mohan', 'NationalCollege_Road', 'Bangalore'),
('Nikhil', 'Akbar_Road', 'Delhi'),
('Ravi', 'Prithviraj_Road', 'Delhi');
INSERT INTO Depositer VALUES
('Avinash', 1),
('Dinesh', 2),
('Nikhil', 4),
('Ravi', 5),
('Avinash', 8),
('Nikhil', 9),
('Dinesh', 10),
('Nikhil', 11);
select * from Depositer;

INSERT INTO Loan VALUES
(1, 'SBI_Chamrajpet', 1000),
```

(2, 'SBI_ResidencyRoad', 2000),

(3, 'SBI_ShivajiRoad', 3000),

(4, 'SBI_ParlimentRoad', 4000),

(5, 'SBI_Jantarmantar', 5000);

-- Display the branch name and assets from all branches in lakhs of rupees and rename the assets column to 'assets in lakhs'.

SELECT branch_name, (assets / 100000) AS "assets in lakhs"

FROM Branch;

branch_name	assets in lakhs
SBI_Chamrajpet	0.5
SBI_Jantarmantar	0.2
SBI_ParlimentRoad	0.1
SBI_ResidencyRoad	1
SBI_ShivajiRoad	2

-- Find all the customers who have at least two accounts at the same branch (ex. SBI_ResidencyRoad).

SELECT

d.customer_name,

b.branch_name,

COUNT(*) AS no_of_accounts

FROM Depositer d

JOIN BankAccount b

ON d.accno = b.accno

GROUP BY d.customer_name, b.branch_name

HAVING COUNT(*) >= 2;

customer_name	branch_name	no_of_accounts
Nikhil	SBI_ParlimentRoad	2
Dinesh	SBI_ResidencyRoad	2

-- CREATE A VIEW WHICH GIVES EACH BRANCH THE SUM OF THE AMOUNT OF ALL THE LOANS AT THE BRANCH.

```
CREATE VIEW BranchLoanSummary AS
SELECT branch_name, SUM(amount) AS total_loan_amount
FROM Loan
GROUP BY branch_name;
SELECT * FROM BranchLoanSummary;
```

branch_name	total_loan_amount
SBI_Chamrajpet	1000
SBI_Jantarmantar	5000
SBI_ParlimentRoad	4000
SBI_ResidencyRoad	2000
SBI_ShivajiRoad	3000

-- ADDITIONAL QUERIES

-- find all customers who have an account at all the branches located in a specific city (ex :delhi)

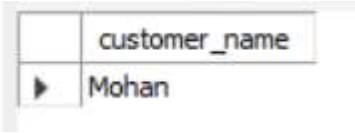
```
select * from Branch
where branch_city = "Delhi";
```

branch_name	branch_city	assets
SBI_Jantarmantar	Delhi	20000
SBI_ParlimentRoad	Delhi	10000
NULL	NULL	NULL

-- find all customers who have a loan at the bank but do not have an account

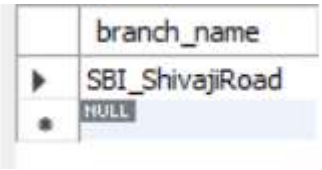
```
CREATE TABLE Borrower (
   customer_name VARCHAR(30),
   loan_number INT,
   PRIMARY KEY (customer_name, loan_number),
   FOREIGN KEY (customer_name) REFERENCES BankCustomer(customer_name),
   FOREIGN KEY (loan_number) REFERENCES Loan(loan_number)
);

INSERT INTO Borrower VALUES
('Avinash', 1),
```

```
('Dinesh', 2),
('Mohan', 3),
('Ravi', 4);
SELECT DISTINCT b.customer_name
FROM Borrower b
WHERE b.customer_name NOT IN (
   SELECT DISTINCT d.customer_name
   FROM Depositer d
);
```



	customer_name
▶	Mohan

```
-- find the names of all branches that have greater assets than all branches located in banglore
SELECT branch_name
FROM Branch
WHERE assets > ALL (
   SELECT assets
   FROM Branch
   WHERE branch_city = 'Bangalore'
);
```



	branch_name
▶	SBI_ShivajiRoad
*	NULL

```
-- demostrate how you delete all  account tuples at every branch located in a specific city(ex:bombay)
DELETE FROM BankAccount
WHERE branch_name IN (
   SELECT branch_name
   FROM Branch
   WHERE branch_city = 'Bombay'
);
```

```
-- update the balance of all acoounts by 5%
SET SQL_SAFE_UPDATES = 0;
UPDATE BankAccount
SET balance = balance * 1.05
WHERE 1;
```