

## Problem Statement 2 - Account and Loan Operations (MySQL)

-- Step 1: Create Database

```
CREATE DATABASE bank2;
```

```
USE bank2;
```

-- Step 2: Create Tables

```
CREATE TABLE branch(  
    branch_name VARCHAR(30) PRIMARY KEY,  
    branch_city VARCHAR(30) NOT NULL,  
    assets INT CHECK(assets >= 0)  
);
```

```
CREATE TABLE Account(  
    Acc_no INT PRIMARY KEY,  
    branch_name VARCHAR(30),  
    balance INT CHECK(balance >= 0),  
    FOREIGN KEY(branch_name) REFERENCES branch(branch_name)  
);
```

```
CREATE TABLE customer(  
    cust_name VARCHAR(30) PRIMARY KEY,  
    cust_street VARCHAR(30),  
    cust_city VARCHAR(30)  
);
```

```
CREATE TABLE Depositor(  
    cust_name VARCHAR(30),  
    acc_no INT,  
    PRIMARY KEY(cust_name, acc_no),  
    FOREIGN KEY(cust_name) REFERENCES customer(cust_name),  
    FOREIGN KEY(acc_no) REFERENCES Account(acc_no)  
);
```

```
CREATE TABLE Loan(  
    loan_no INT PRIMARY KEY,  
    branch_name VARCHAR(30),  
    amount INT CHECK(amount > 0),  
    FOREIGN KEY(branch_name) REFERENCES branch(branch_name)  
);
```

```
CREATE TABLE Borrower(  
    cust_name VARCHAR(30),  
    loan_no INT,  
    PRIMARY KEY(cust_name, loan_no),  
    FOREIGN KEY(cust_name) REFERENCES customer(cust_name),  
    FOREIGN KEY(loan_no) REFERENCES Loan(loan_no)  
);
```

-- Step 3: Insert Sample Data

```
INSERT INTO branch VALUES
```

```
('Akurdi','Pune',500000),
```

```
('Shivaji Nagar','Pune',650000),
```

```
('Kothrud','Pune',450000);
```

```
INSERT INTO customer VALUES
```

```
('Suyash','MG Road','Pune'),
```

```
('Rahul','Karve Road','Pune'),
```

```
('Amit','Akurdi Gaon','Pune');
```

```
INSERT INTO Account VALUES
```

```
(101,'Akurdi',20000),
```

```
(102,'Shivaji Nagar',15000),
```

```
(103,'Kothrud',30000);
```

```
INSERT INTO Depositor VALUES
```

```
('Suyash',101),
```

```
('Rahul',102),
```

```
('Amit',103);
```

```
INSERT INTO Loan VALUES
```

```
(201,'Akurdi',12000),
```

```
(202,'Shivaji Nagar',25000),
```

```
(203,'Kothrud',18000);
```

```
INSERT INTO Borrower VALUES
```

```
('Suyash',201),
```

```
('Rahul',202),
```

```
('Amit',203);
```

```
-- Step 4: Queries
```

```
-- 1) Customers who have either an account or a loan
```

```
SELECT cust_name FROM Depositor
```

```
UNION
```

```
SELECT cust_name FROM Borrower;
```

```
-- 2) Customers who have both account and loan
```

```
SELECT Depositor.cust_name
```

```
FROM Depositor
```

```
INNER JOIN Borrower
```

```
ON Depositor.cust_name = Borrower.cust_name;
```

```
-- 3) Customers who have account but no loan
```

```
SELECT Depositor.cust_name
```

```
FROM Depositor
```

```
LEFT JOIN Borrower
```

```
ON Depositor.cust_name = Borrower.cust_name
```

```
WHERE Borrower.cust_name IS NULL;
```

```
-- 4) Average account balance in Akurdi branch
```

```
SELECT AVG(balance) AS avg_balance_akurdi
```

```
FROM Account
```

```
WHERE branch_name = 'Akurdi';
```