Banking System ER Diagram by Sahil Kumar
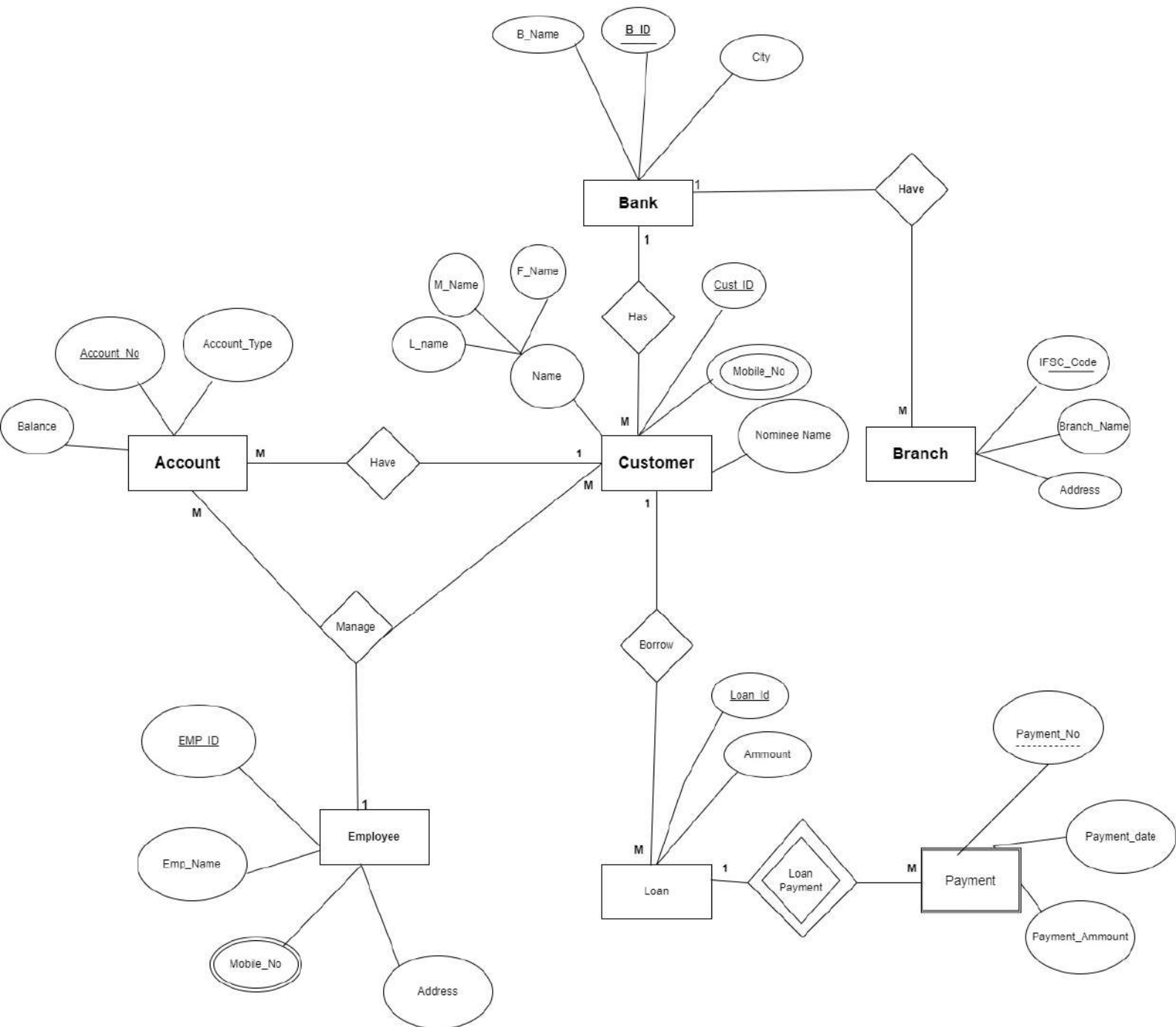
Table Creation Queries

1. Bank Table:

```
CREATE TABLE Bank (
    B_ID INT PRIMARY KEY,
    B_Name VARCHAR(100),
    City VARCHAR(100)
);
```

2. Branch Table

```
CREATE TABLE Branch (
    Branch_Name VARCHAR(100),
    IFSC_Code VARCHAR(20) PRIMARY KEY,
    Address VARCHAR(255),
    B_ID INT,
    FOREIGN KEY (B_ID) REFERENCES Bank(B_ID) ON DELETE CASCADE
);
```

3. Customer Table:

```
CREATE TABLE Customer (
    Cust_ID INT PRIMARY KEY,
    F_Name VARCHAR(50),
    L_Name VARCHAR(50),
    Mobile_No VARCHAR(15),
    Nominee_Name VARCHAR(100),
    B_ID INT,
    FOREIGN KEY (B_ID) REFERENCES Bank(B_ID) ON DELETE CASCADE
);
```

4. Account Table:

```
CREATE TABLE Account (
    Account_No INT PRIMARY KEY,
    Account_Type VARCHAR(50),
    Balance DECIMAL(10, 2),
    Cust_ID INT,
    FOREIGN KEY (Cust_ID) REFERENCES Customer(Cust_ID) ON DELETE CASCADE
);
```

5. Employee Table:

```
CREATE TABLE Employee (
    Emp_ID INT PRIMARY KEY,
    Emp_Name VARCHAR(100),
    Mobile_No VARCHAR(15),
    Address VARCHAR(255)
);
```

6. Manage Table (For Employee managing Accounts):

```
CREATE TABLE Manage (
    Emp_ID INT NOT NULL,
    Account_No INT NOT NULL,
    FOREIGN KEY (Emp_ID) REFERENCES Employee(Emp_ID) ON DELETE CASCADE,
    FOREIGN KEY (Account_No) REFERENCES Account(Account_No) ON DELETE CASCADE,
    PRIMARY KEY (Emp_ID, Account_No)
);
```

7. Loan Table:

```
CREATE TABLE Loan (
    Loan_Id INT PRIMARY KEY,
    Amount DECIMAL(10, 2),
    Cust_ID INT,
    FOREIGN KEY (Cust_ID) REFERENCES Customer(Cust_ID) ON DELETE CASCADE
);
```

8. Payment Table:

```
CREATE TABLE Payment (
    Payment_No INT PRIMARY KEY,
    Payment_Amount DECIMAL(10, 2),
    Payment_Date DATE,
    Loan_Id INT,
    FOREIGN KEY (Loan_Id) REFERENCES Loan(Loan_Id) ON DELETE CASCADE
);
```

Relationships Handled:

1. **Bank-Branch Relationship**: Handled using the foreign key **B_ID** in the **Branch** table.
2. **Customer-Bank Relationship**: Handled using the foreign key **B_ID** in the **Customer** table.

3. **Customer-Account Relationship**: Handled using the foreign key **Cust_ID** in the **Account** table.
4. **Employee-Account Relationship**: Handled through the **Manage** table, which links employees to accounts they manage.
5. **Customer-Loan Relationship**: Handled using the foreign key **Cust_ID** in the **Loan** table.
6. **Loan-Payment Relationship**: Handled using the foreign key **Loan_Id** in the **Payment** table.

Data Insertion Queries

1. Inserting into `Bank` Table:

```
INSERT INTO Bank (B_ID, B_Name, City)
VALUES
(1, 'State Bank of India', 'Mumbai'),
(2, 'HDFC Bank', 'Delhi'),
(3, 'ICICI Bank', 'Bangalore'),
(4, 'Axis Bank', 'Chennai'),
(5, 'Punjab National Bank', 'Kolkata');
```

2. Inserting into `Branch` Table:

```
INSERT INTO Branch (Branch_Name, IFSC_Code, Address, B_ID)
VALUES
('SBI North', 'SBIN0006', 'Chandni Chowk, Delhi', 1),
('HDFC West', 'HDFC0007', 'Andheri West, Mumbai', 2),
('ICICI South', 'ICIC0008', 'MG Road, Hyderabad', 3),
('Axis East', 'AXIS0009', 'Park Street, Kolkata', 4),
('PNB North', 'PNB0010', 'Sector 17, Chandigarh', 5);
```

3. Inserting into `Customer` Table

```
INSERT INTO Customer (Cust_ID, F_Name, L_Name, Mobile_No, Nominee_Name, B_ID)
VALUES
(101, 'Raj', 'Kumar', '9876543210', 'Sita', 1),
(102, 'Amit', 'Sharma', '9876543211', 'Geeta', 2),
(103, 'Anita', 'Verma', '9876543212', 'Meena', 3),
(104, 'Vikas', 'Gupta', '9876543213', 'Reena', 4),
(105, 'Preeti', 'Singh', '9876543214', 'Sunita', 5);
```

4. Inserting into `Account` Table:

```
INSERT INTO Account (Account_No, Account_Type, Balance, Cust_ID)
VALUES
(1001, 'Savings', 25000.00, 101),
(1002, 'Current', 50000.00, 102),
(1003, 'Savings', 30000.00, 103),
(1004, 'Current', 100000.00, 104),
(1005, 'Savings', 15000.00, 105);
```

5. Inserting into `Employee` Table:

```
INSERT INTO Employee (Emp_ID, Emp_Name, Mobile_No, Address)
VALUES
(201, 'Manoj Kumar', '9000000001', 'Mumbai, Maharashtra'),
(202, 'Vivek Sharma', '9000000002', 'Delhi, NCR'),
(203, 'Kiran Reddy', '9000000003', 'Bangalore, Karnataka'),
(204, 'Neha Patel', '9000000004', 'Chennai, Tamil Nadu'),
(205, 'Suresh Gupta', '9000000005', 'Kolkata, West Bengal');
```

6. Inserting into `Manage` Table :

```
INSERT INTO Manage (Emp_ID, Account_No)
VALUES
(201, 1001),
(202, 1002),
(203, 1003),
(204, 1004),
(205, 1005);
```

7. Inserting into `Loan` Table:

```
INSERT INTO Loan (Loan_Id, Amount, Cust_ID)
VALUES
(301, 50000.00, 101),
(302, 100000.00, 102),
(303, 75000.00, 103),
(304, 120000.00, 104),
(305, 60000.00, 105);
```

8. Inserting into `Payment` Table:

```
INSERT INTO Payment (Payment_No, Payment_Amount, Payment_Date, Loan_Id)
VALUES
(401, 10000.00, '2024-01-15', 301),
(402, 20000.00, '2024-02-10', 302),
(403, 15000.00, '2024-03-05', 303),
(404, 25000.00, '2024-04-20', 304),
(405, 12000.00, '2024-05-11', 305);
```