CREATE TABLE Bank (

bk\_code VARCHAR(10) PRIMARY KEY,

bk\_name VARCHAR(50) NOT NULL,

bk\_address VARCHAR(100)

);

CREATE TABLE Branch (

br\_id VARCHAR(10) PRIMARY KEY,

br\_name VARCHAR(50) NOT NULL,

br\_address VARCHAR(100),

bk\_code VARCHAR(10),

FOREIGN KEY (bk\_code) REFERENCES Bank(bk\_code)

);

CREATE TABLE Customer (

cust\_ID INT PRIMARY KEY,

cust\_name VARCHAR(50) NOT NULL,

phone\_no VARCHAR(15) UNIQUE,

address VARCHAR(100)

);

CREATE TABLE Account (

acc\_no INT PRIMARY KEY,

acc\_type VARCHAR(20) CHECK (acc\_type IN ('savings', 'current')),

balance DECIMAL(10,2),

br\_id VARCHAR(10),

FOREIGN KEY (br\_id) REFERENCES Branch(br\_id)

);

CREATE TABLE Customer\_Account (

cust\_ID INT,

acc\_no INT,

PRIMARY KEY (cust\_ID, acc\_no),

FOREIGN KEY (cust\_ID) REFERENCES Customer(cust\_ID),

FOREIGN KEY (acc\_no) REFERENCES Account(acc\_no)

);

CREATE TABLE Loan (

loan\_ID INT PRIMARY KEY,

loan\_type VARCHAR(50),

amount DECIMAL(10,2),

br\_id VARCHAR(10),

FOREIGN KEY (br\_id) REFERENCES Branch(br\_id)

);

CREATE TABLE Customer\_Loan (

cust\_ID INT,

loan\_ID INT,

PRIMARY KEY (cust\_ID, loan\_ID),

FOREIGN KEY (cust\_ID) REFERENCES Customer(cust\_ID),

FOREIGN KEY (loan\_ID) REFERENCES Loan(loan\_ID)

);

2. Insert at least five records in each table

INSERT INTO Bank VALUES

('B001', 'SBI', 'MG Road'),

('B002', 'HDFC', 'Surathkal'),

('B003', 'ICICI', 'NITK'),

('B004', 'Axis', 'Mumbai'),

('B005', 'Canara', 'Delhi');

INSERT INTO Branch VALUES

('BR01', 'SBI Main', 'MG Road', 'B001'),

('BR02', 'HDFC Town', 'Surathkal', 'B002'),

('BR03', 'ICICI Campus', 'NITK', 'B003'),

('BR04', 'Axis South', 'Mumbai', 'B004'),

('BR05', 'Canara Metro', 'Delhi', 'B005');

INSERT INTO Customer VALUES

(101, 'Ravi', '9876543210', 'Bangalore'),

(102, 'Amit', '9876543211', 'Delhi'),

(103, 'Suman', '9876543212', 'Mumbai'),

(104, 'Rahul', '9876543213', 'Surathkal'),

(105, 'Priya', '9876543214', 'NITK');

INSERT INTO Account VALUES

(1001, 'savings', 20000, 'BR01'),

(1002, 'current', 15000, 'BR02'),

(1003, 'savings', 8000, 'BR03'),

(1004, 'current', 500, 'BR04'),

(1005, 'savings', 3000, 'BR05');

INSERT INTO Customer\_Account VALUES

(101, 1001), (102, 1002), (103, 1003), (104, 1004), (105, 1005);

INSERT INTO Loan VALUES

(2001, 'home', 500000, 'BR01'),

(2002, 'vehicle', 200000, 'BR02'),

(2003, 'personal', 100000, 'BR03'),

(2004, 'education', 150000, 'BR04'),

(2005, 'home', 600000, 'BR05');

INSERT INTO Customer\_Loan VALUES

(101, 2001), (102, 2002), (103, 2003), (104, 2004), (105, 2005);

3-31: Queries for Different Tasks

-- 3. List the details of all customers

SELECT \* FROM Customer;

-- 4. Find the cust\_ID and phone number of customer ‘Ravi’

SELECT cust\_ID, phone\_no FROM Customer WHERE cust\_name = 'Ravi';

-- 5. Find the Address of all branches of br\_01

SELECT br\_address FROM Branch WHERE br\_id = 'BR01';

-- 6. Find the details of Customer having ID 103

SELECT \* FROM Customer WHERE cust\_ID = 103;

-- 7. List the account details having balance more than 10000

SELECT \* FROM Account WHERE balance > 10000;

-- 8. List the account details of branch br\_02

SELECT \* FROM Account WHERE br\_id = 'BR02';

-- 9. List the loan details of branch br\_01

SELECT \* FROM Loan WHERE br\_id = 'BR01';

-- 10. List the account details with their branch address

SELECT Account.\*, Branch.br\_address FROM Account JOIN Branch ON Account.br\_id = Branch.br\_id;

-- 11. List the customer details with their account details

SELECT Customer.\*, Account.\* FROM Customer

JOIN Customer\_Account ON Customer.cust\_ID = Customer\_Account.cust\_ID

JOIN Account ON Customer\_Account.acc\_no = Account.acc\_no;

-- 12. List the customer details having account type ‘savings’

SELECT Customer.\* FROM Customer

JOIN Customer\_Account ON Customer.cust\_ID = Customer\_Account.cust\_ID

JOIN Account ON Customer\_Account.acc\_no = Account.acc\_no

WHERE acc\_type = 'savings';

-- 13. List the customer details having vehicle loan

SELECT Customer.\* FROM Customer

JOIN Customer\_Loan ON Customer.cust\_ID = Customer\_Loan.cust\_ID

JOIN Loan ON Customer\_Loan.loan\_ID = Loan.loan\_ID

WHERE loan\_type = 'vehicle';

-- 14. List the branch names of all accounts

SELECT DISTINCT Branch.br\_name FROM Account JOIN Branch ON Account.br\_id = Branch.br\_id;

-- 15. List the customer details going to ‘Surathkal’ branch

SELECT Customer.\* FROM Customer

JOIN Customer\_Account ON Customer.cust\_ID = Customer\_Account.cust\_ID

JOIN Account ON Customer\_Account.acc\_no = Account.acc\_no

JOIN Branch ON Account.br\_id = Branch.br\_id

WHERE br\_name = 'Surathkal';

-- 16. List the customers having loan account in ‘MG Road’ branch

SELECT Customer.\* FROM Customer

JOIN Customer\_Loan ON Customer.cust\_ID = Customer\_Loan.cust\_ID

JOIN Loan ON Customer\_Loan.loan\_ID = Loan.loan\_ID

JOIN Branch ON Loan.br\_id = Branch.br\_id

WHERE br\_address = 'MG Road';

-- 17. Find the customers having balance between 1000 to 10000

SELECT Customer.\* FROM Customer

JOIN Customer\_Account ON Customer.cust\_ID = Customer\_Account.cust\_ID

JOIN Account ON Customer\_Account.acc\_no = Account.acc\_no

WHERE balance BETWEEN 1000 AND 10000;

-- 18. Give a bonus of rupees 100 to customers having more than 10000 balance

UPDATE Account SET balance = balance + 100 WHERE balance > 10000;

-- 19. Deduct 50 rupees from customers having less than 500 balance

UPDATE Account SET balance = balance - 50 WHERE balance < 500;

-- 20. Give the customer details having home loan

SELECT Customer.\* FROM Customer

JOIN Customer\_Loan ON Customer.cust\_ID = Customer\_Loan.cust\_ID

JOIN Loan ON Customer\_Loan.loan\_ID = Loan.loan\_ID

WHERE loan\_type = 'home';

-- 21. Give the customer details having home loan in ‘NITK’ branch

SELECT Customer.\* FROM Customer

JOIN Customer\_Loan ON Customer.cust\_ID = Customer\_Loan.cust\_ID

JOIN Loan ON Customer\_Loan.loan\_ID = Loan.loan\_ID

JOIN Branch ON Loan.br\_id = Branch.br\_id

WHERE loan\_type = 'home' AND br\_address = 'NITK';

-- 22. Add a column NOMINEE to the customer table

ALTER TABLE Customer ADD COLUMN nominee VARCHAR(50);

-- 23. List all the account numbers in ascending order of their balance

SELECT acc\_no FROM Account ORDER BY balance ASC;

-- 24. Count the number of customers having account type savings

SELECT COUNT(\*) FROM Customer\_Account

JOIN Account ON Customer\_Account.acc\_no = Account.acc\_no

WHERE acc\_type = 'savings';

-- 25. Count the number of customers for each account type

SELECT acc\_type, COUNT(\*) FROM Account GROUP BY acc\_type;

-- 26. Find the total balance in Savings account

SELECT SUM(balance) FROM Account WHERE acc\_type = 'savings';

-- 27. Find the average balance of Current account

SELECT AVG(balance) FROM Account WHERE acc\_type = 'current';

-- 28. Find the average balance for each account type

SELECT acc\_type, AVG(balance) FROM Account GROUP BY acc\_type;

-- 29. Find the customer details having maximum balance

SELECT Customer.\* FROM Customer

JOIN Customer\_Account ON Customer.cust\_ID = Customer\_Account.cust\_ID

JOIN Account ON Customer\_Account.acc\_no = Account.acc\_no

ORDER BY balance DESC LIMIT 1;

-- 30. Find the average amount for vehicle loan

SELECT AVG(amount) FROM Loan WHERE loan\_type = 'vehicle';

-- 31. Find the average balance in each branch

SELECT br\_id, AVG(balance) FROM Account GROUP BY br\_id;