DBMS LAB 4: BANK DATABASE

1. DB AND TABLE CREATION

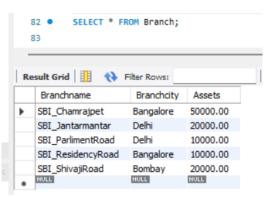
```
1 •
       CREATE DATABASE bank;
 2 •
     USE bank;
 3
4 ● ⊝ CREATE TABLE Branch (
          Branchname VARCHAR(50) PRIMARY KEY,
          Branchcity VARCHAR(50) NOT NULL,
 7
          Assets DECIMAL(15,2) NOT NULL
   );
10 ● ○ CREATE TABLE BankCustomer (
          Customername VARCHAR(50) PRIMARY KEY,
          Customerstreet VARCHAR(100) NOT NULL,
          City VARCHAR(50) NOT NULL
   ٠);
14
16 • ⊖ CREATE TABLE BankAccount (
          Accno INT PRIMARY KEY,
17
          Branchname VARCHAR(50) NOT NULL,
18
          Balance DECIMAL(15,2) NOT NULL,
          FOREIGN KEY (Branchname) REFERENCES Branch(Branchname)
    ٠);
21
22
     23 • GREATE TABLE Depositer (
                Customername VARCHAR(50),
     25
                Accno INT,
                PRIMARY KEY (Customername, Accno),
                FOREIGN KEY (Customername) REFERENCES BankCustomer(Customername),
     27
                FOREIGN KEY (Accno) REFERENCES BankAccount(Accno)
     28
          );
     29
     31 • G CREATE TABLE Loan (
     32
                Loannumber INT PRIMARY KEY,
                Branchname VARCHAR(50) NOT NULL,
     33
     34
                Amount DECIMAL(15,2) NOT NULL,
                FOREIGN KEY (Branchname) REFERENCES Branch(Branchname)
         );
     36
```

2. INSERTING VALUES

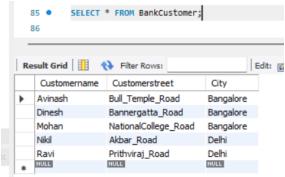
```
38 •
        INSERT INTO Branch (Branchname, Branchcity, Assets) VALUES
         ('SBI_Chamrajpet', 'Bangalore', 50000),
39
        ('SBI_ResidencyRoad', 'Bangalore', 10000),
40
         ('SBI_ShivajiRoad', 'Bombay', 20000),
         ('SBI_ParlimentRoad', 'Delhi', 10000),
42
        ('SBI_Jantarmantar', 'Delhi', 20000);
43
45
        INSERT INTO BankCustomer (Customername, Customerstreet, City) VALUES
46
        ('Avinash', 'Bull_Temple_Road', 'Bangalore'),
        ('Dinesh', 'Bannergatta_Road', 'Bangalore'),
47
        ('Mohan', 'NationalCollege_Road', 'Bangalore'),
48
        ('Nikil', 'Akbar_Road', 'Delhi'),
49
        ('Ravi', 'Prithviraj_Road', 'Delhi');
50
51
52 • INSERT INTO BankAccount (Accno, Branchname, Balance) VALUES
        (1, 'SBI_Chamrajpet', 2000),
        (2, 'SBI_ResidencyRoad', 5000),
54
        (3, 'SBI_ShivajiRoad', 6000),
        (4, 'SBI_ParlimentRoad', 9000),
56
        (5, 'SBI_Jantarmantar', 8000),
57
        (6, 'SBI_ShivajiRoad', 4000),
58
        (8, 'SBI_ResidencyRoad', 4000),
59
        (9 'CRT ParlimentRoad' 3000)
60
64 •
        INSERT INTO Depositer (Customername, Accno) VALUES
        ('Avinash', 1),
65
        ('Dinesh', 2),
66
        ('Nikil', 4),
67
68
        ('Ravi', 5),
        ('Avinash', 8),
69
70
        ('Nikil', 9),
        ('Dinesh', 10),
71
        ('Nikil', 11);
72
73
74 •
        INSERT INTO Loan (Loannumber, Branchname, Amount) VALUES
75
        (1, 'SBI_Chamrajpet', 1000),
        (2, 'SBI_ResidencyRoad', 2000),
76
77
        (3, 'SBI_ShivajiRoad', 3000),
       (4, 'SBI_ParlimentRoad', 4000),
78
       (5, 'SBI_Jantarmantar', 5000);
79
```

3. VIEWING ALL TABLES

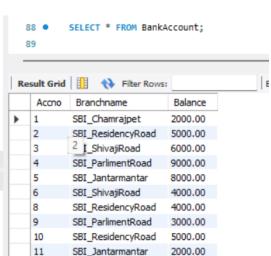
A. BRANCH



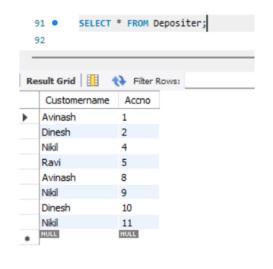
B. BANK CUSTOMER



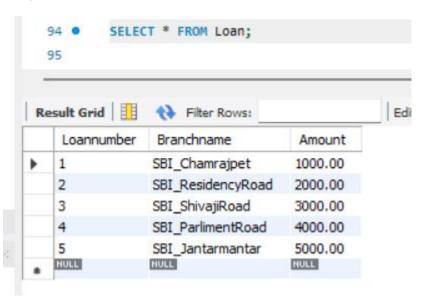
C.BANK ACCOUNT



D. DEPOSITER

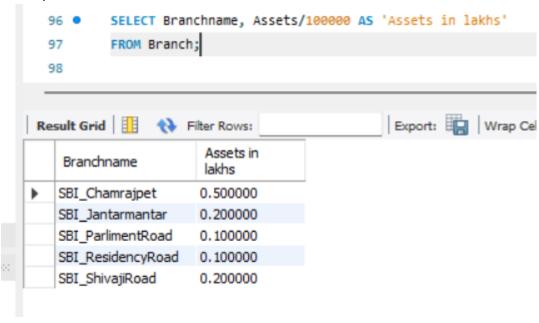


E. LOAN

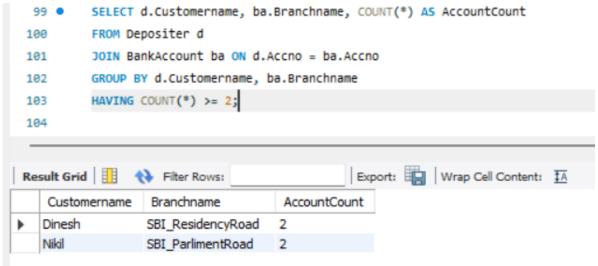


4. EXECUTING QUERIES

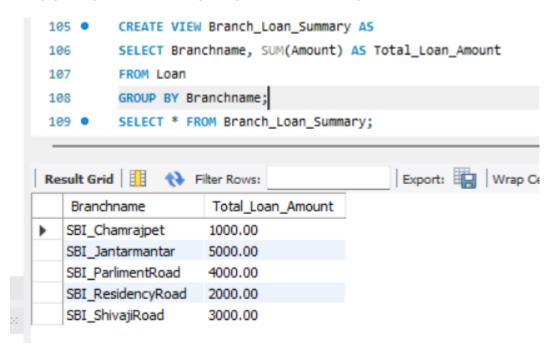
A. Display the branch name and assets from all branches in lakhs of rupees and rename the assets column to 'assets in lakhs'.



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



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



ADDITIONAL QUERIES

 Find all the customers who have an account at all the branches located in a specific city (Ex. Delhi).

```
SELECT DISTINCT d.Customername
112 •
        FROM Depositer d
113
        JOIN BankAccount ba ON d.Accno = ba.Accno
114
        JOIN Branch b ON ba.Branchname = b.Branchname
115
        WHERE b.Branchcity = 'Delhi'
116
        GROUP BY d.Customername
117

→ HAVING COUNT(DISTINCT ba.Branchname) = (
118
            SELECT COUNT(*) FROM Branch WHERE Branchcity = 'Delhi'
119
120
        );
                                        Export: Wrap Cell Content: TA
Result Grid
             Filter Rows:
   Customername
  Nikil
```

2. Find all customers who have a loan at the bank but do not have an account.

```
122 • SELECT DISTINCT bc.Customername
      FROM BankCustomer bc
124
   SELECT DISTINCT Customername FROM Depositer
125
126
    ( ک
127
    SELECT DISTINCT Customername FROM Depositer
128
129
      );
Result Grid
           Filter Rows:
                                Edit: 🚄 🖶 🖶 Exp
  Customername
 NULL
```

3. Find all customers who have both an account and a loan at the Bangalore branch

```
SELECT DISTINCT d.Customername
132
         FROM Depositer d
        JOIN BankAccount ba ON d.Accno = ba.Accno
        JOIN Branch b ON ba.Branchname = b.Branchname
134
135
        WHERE b.Branchcity = 'Bangalore'
136 — AND d.Customername IN (
            SELECT bc.Customername
137
            FROM BankCustomer bc
138
139
            WHERE EXISTS (
                SELECT 1 FROM Loan 1
140
                JOIN Branch b2 ON 1.Branchname = b2.Branchname
141
                WHERE b2.Branchcity = 'Bangalore'
142
143
                                          Export: Wrap Cell Con
Customername
  Avinash
  Dinesh
```

4, Find the names of all branches that have greater assets than all branches located in Bangalore.

5. Demonstrate how you delete all account tuples at every branch located in a specific city (Ex. Bombay).

```
DELETE FROM Depositer

DELETE FROM Depositer
```

6. Update the Balance of all accounts by 5%

