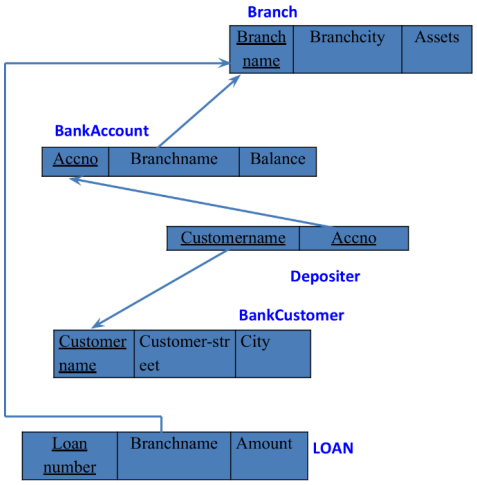
3. Bank Database

PROGRAM 3: Bank Database

Branch (branch-name: String, branch-city: String, assets: real)
BankAccount(accno: int, branch-name: String, balance: real)
BankCustomer (customer-name: String, customer-street: String, customer-city: String)
Depositer(customer-name: String, accno: int)
LOAN (loan-number: int, branch-name: String, amount: real)

i. Create the above tables by properly specifying the primary keys and the foreign keys.
ii. Enter at least five tuples for each relation.
iii. Display the branch name and assets from all branches in lakhs of rupees and rename the assets column to 'assets in lakhs'.
iv. Find all the customers who have at least two accounts at the same branch (ex. SBI_ResidencyRoad).
v. Create A View Which Gives Each Branch the Sum of The Amount of All The Loans At The Branch.

Schema Diagram :



Creating Database and Table:

```
create database bank_141;
use bank_141;

Create table branch(
Branch_name varchar(30),
Branch_city varchar(25),
assets int,
PRIMARY KEY (Branch_name)
);
Create table BankAccount(
Accno int,
Branch_name varchar(30),
Balance int,
PRIMARY KEY(Accno),
foreign key (Branch_name) references branch(Branch_name)
);
Create table BankCustomer(
Customername varchar(20),
Customer_street varchar(30),
CustomerCity varchar (35),
```

```
PRIMARY KEY(Customername)
);
Create table Depositer(
Customername varchar(20),
Accno int,
PRIMARY KEY(Customername,Accno),
foreign key (Accno) references BankAccount(Accno),
foreign key (Customername) references BankCustomer(Customername)
);

Create table Loan(
Loan_number int,
Branch_name varchar(30),
Amount int,
PRIMARY KEY(Loan_number),
foreign key (Branch_name) references branch(Branch_name)
);
```

Inserting Values to the table :

```
insert into branch values("SBI_Chamrajpet","Bangalore",50000);
insert into branch values("SBI_ResidencyRoad","Bangalore",10000);
insert into branch values("SBI_ShivajiRoad","Bombay",20000);
insert into branch values("SBI_ParlimentRoad","Delhi",10000);
insert into branch values("SBI_Jantarmantar","Delhi",20000);
select * from branch;
```

Branch_name	Branch_city	assets
SBI_Chamrajpet	Bangalore	50000
SBI_Jantarmantar	Delhi	20000
SBI_ParlimentRoad	Delhi	10000
SBI_ResidencyRoad	Bangalore	10000
SBI_ShivajiRoad	Bombay	20000
NULL	NULL	NULL

```
insert into BankAccount values(1,"SBI_Chamrajpet",2000);
insert into BankAccount values(2,"SBI_ResidencyRoad",5000);
insert into BankAccount values(3,"SBI_ShivajiRoad",6000);
insert into BankAccount values(4,"SBI_ParlimentRoad",9000);
insert into BankAccount values(5,"SBI_Jantarmantar",8000);
insert into BankAccount values(6,"SBI_ShivajiRoad",4000);
insert into BankAccount values(8,"SBI_ResidencyRoad",4000);
insert into BankAccount values(9,"SBI_ParlimentRoad",3000);
insert into BankAccount values(10,"SBI_ResidencyRoad",5000);
insert into BankAccount values(11,"SBI_Jantarmantar",2000);
select * from BankAccount;
```

Accno	Branch_name	Balance
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_ResidencyRoad	4000
9	SBI_ParlimentRoad	3000
10	SBI_ResidencyRoad	5000
11	SBI_Jantarmantar	2000
NULL	NULL	NULL

```
insert into BankCustomer
values("Avinash","Bull_Temple_Road","Bangalore"); insert into
BankCustomer values("Dinesh","Bannergatta_Road","Bangalore"); insert
BankCustomer values("Mohan","NationalCollege_Road","Bangalore");
into BankCustomer values("Nikil","Akbar_Road","Delhi");
insert into BankCustomer values("Ravi","Prithviraj_Road","Delhi");
select * from BankCustomer;
```

Customername	Customer_street	CustomerCity
Avinash	Bull_Temple_Road	Bangalore
Dinesh	Bannergatta_Road	Bangalore
Mohan	NationalCollege_Road	Bangalore
Nikil	Akbar_Road	Delhi
Ravi	Prithviraj_Road	Delhi
NULL	NULL	NULL

into insert

```
insert into Depositer values("Avinash",1);
insert into Depositer values("Dinesh",2);
insert into Depositer values("Nikil",4);
insert into Depositer values("Ravi",5);
insert into Depositer values("Avinash",8);
insert into Depositer values("Nikil",9);
```

Customername	Accno
Avinash	1
Dinesh	2
Nikil	4
Ravi	5
Avinash	8
Nikil	9
Dinesh	10
Nikil	11
NULL	NULL

```
insert into Depositer values("Dinesh",10);
insert into Depositer values("Nikil",11);
select * from Depositer;
```

```
insert into Loan values(1,"SBI_Chamrajpet",1000);
insert into Loan values(2,"SBI_ResidencyRoad",2000);
insert into Loan values(3,"SBI_ShivajiRoad",3000);
insert into Loan values(4,"SBI_ParlimentRoad",4000);
insert into Loan values(5,"SBI_Jantarmantar",5000);
select * from Loan;
```

Loan_number	Branch_name	Amount
1	SBI_Chamrajpet	1000
2	SBI_ResidencyRoad	2000
3	SBI_ShivajiRoad	3000
4	SBI_ParlimentRoad	4000
5	SBI_Jantarmantar	5000
NULL	NULL	NULL

Queries :

iii. 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 as assets_in_lakhs from branch;
```

Branch_name	assets_in_lakhs
SBI_Chamrajpet	0.5000 lakhs
SBI_Jantarmantar	0.2000 lakhs
SBI_ParlimentRoad	0.1000 lakhs
SBI_ResidencyRoad	0.1000 lakhs
SBI_ShivajiRoad	0.2000 lakhs

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

```
select d.Customername from Depositer d, BankAccount b where
b.Branch_name='SBI_ResidencyRoad' and d.Accno=b.Accno group by d.Customername having
count(d.Accno)>=2;
```

Customername
Dinesh

v. Create a view which gives each branch the sum of the amount of all the loans at the branch.

```
create view sum_of_loan
as select Branch_name, SUM(Balance)
from BankAccount
group by Branch_name;
select * from sum_of_loan;
```

Branch_name	SUM(Balance)
SBI_Chamrajpet	2000
SBI_Jantarmantar	10000
SBI_ParlimentRoad	12000
SBI_ResidencyRoad	14000
SBI_ShivajiRoad	10000