

Bank Database

Question: (Week 3&4)

Create the above tables by properly specifying the primary keys and the foreign keys.

Enter at least five tuples for each relation.

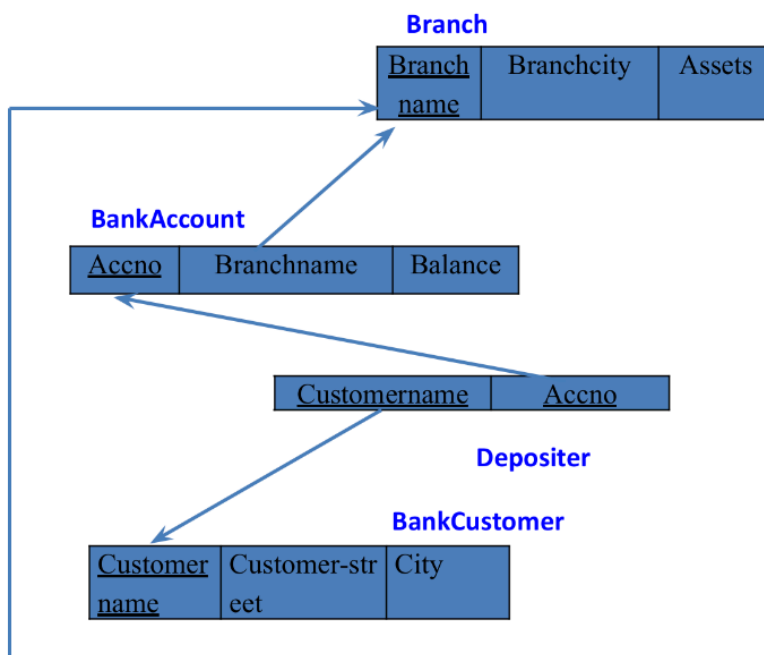
Display the branch name and assets from all branches in lakhs of rupees and rename

The assets column to 'assets in lakhs'.

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

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

Schema Diagram



CREATE DATABASE

```
create database bhoomi_cs065;  
use bhoomi_cs065;
```

CREATE TABLES

```
create table branch (  
branchname varchar(50),  
branchcity varchar(50),  
assests int ,  
primary key (branchname));
```

```
create table bankcustomer(  
customername varchar(50),  
customer_street varchar(50),  
city varchar(50),  
primary key(customername));
```

```
create table bankaccount (  
accno int,  
branchname varchar(50),  
balance int,  
primary key (accno),
```

foreign key (branchname) references branch (branchname));

```
create table depositer(  
  customername varchar(50),  
  accno int,  
  primary key (customername, accno),  
  foreign key (customername) references bankcustomer(customername),  
  foreign key (accno) references bankaccount(accno));
```

```
create table loan(  
  loannumber int,  
  branchname varchar(50),  
  amount int,  
  primary key (loannumber),  
  foreign key (branchname) references branch (branchname));
```

STRUCTURE OF TABLE

desc branch;

Result Grid		Filter Rows:			Export:		Wrap
	Field	Type	Null	Key	Default	Extra	
▶	branchname	varchar(50)	NO	PRI	NULL		
	branchcity	varchar(50)	YES		NULL		
	assects	int	YES		NULL		

desc bankaccount;

Result Grid

Filter Rows:

Export:

Wrap Cell C

	Field	Type	Null	Key	Default	Extra
▶	accno	int	NO	PRI	NULL	
	branchname	varchar(50)	YES	MUL	NULL	
	balance	int	YES		NULL	

desc depositer;

Result Grid

Filter Rows:

Export:

Wrap Cell

	Field	Type	Null	Key	Default	Extra
▶	customername	varchar(50)	NO	PRI	NULL	
	accno	int	NO	PRI	NULL	

desc bankcustomer;

Result Grid Filter Rows: Export: Wrap Cell Content:						
	Field	Type	Null	Key	Default	Extra
▶	customername	varchar(50)	NO	PRI	NULL	
	customer_street	varchar(50)	YES		NULL	
	city	varchar(50)	YES		NULL	

desc loan;

Result Grid Filter Rows: Export: Wrap Cell Content:						
	Field	Type	Null	Key	Default	Extra
▶	loannumber	int	NO	PRI	NULL	
	branchname	varchar(50)	YES	MUL	NULL	
	amount	int	YES		NULL	

INSERTING VALUES INTO THE TABLE

insert into branch

values('SBI-chamrajpet','banglore', 50000),

('SBI-residencyroad','banglore',10000),

('SBI-shivajiroad','bombay',20000),

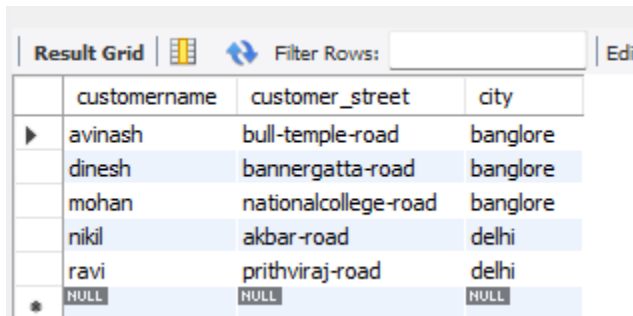
('SBI-parlimentroad','delhi',10000),

('SBI-jantarmantar','delhi',20000);

Result Grid Filter Rows:			
	branchname	branchcity	assests
▶	SBI-chamrajpet	banglore	50000
	SBI-jantarmantar	delhi	20000
	SBI-parlimentroad	delhi	10000
	SBI-residencyroad	banglore	10000
	SBI-shivajiroad	bombay	20000
*	NULL	NULL	NULL

insert into bankcustomer

```
values('avinash','bull-temple-road','banglore'),  
( 'dinesh','bannergatta-road','banglore'),  
( 'mohan','nationalcollege-road','banglore'),  
( 'nikil','akbar-road','delhi'),  
( 'ravi','prithviraj-road','delhi');
```



The screenshot shows a database interface with a 'Result Grid' tab. It contains a table with three columns: 'customername', 'customer_street', and 'city'. There are six rows of data, including a final row with 'NULL' values. The interface also includes a 'Filter Rows' search bar and an 'Edit' button.

	customername	customer_street	city
▶	avinash	bull-temple-road	banglore
	dinesh	bannergatta-road	banglore
	mohan	nationalcollege-road	banglore
	nikil	akbar-road	delhi
	ravi	prithviraj-road	delhi
*	NULL	NULL	NULL

```
insert into bankaccount  
values(1,'SBI-chamrajpet',2000),  
(2,'SBI-residencyroad',5000),  
(3,'SBI-shivajiroad',6000),  
(4,'SBI-parlimentroad',9000),  
(5,'SBI-jantarmanantar',8000),  
(6,'SBI-shivajiroad',4000),  
(8,'SBI-residencyroad',4000),  
(9,'SBI-parlimentroad',3000),  
(10,'SBI-residencyroad',5000),  
(11,'SBI-jantarmanantar',2000);
```

Result Grid			
Filter Rows:			
	accno	branchname	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 depositer

values('avinash',1),

('dinesh',2),

('nikil',4),

('ravi',5),

('avinash',8),

('nikil',9),

('dinesh',10),

('nikil',11);

Result Grid		
Filter Rows:		
	customername	accno
▶	avinash	1
	dinesh	2
	nikil	4
	ravi	5
	avinash	8
	nikil	9
	dinesh	10
	nikil	11
*	NULL	NULL

insert into loan

values(1,'SBI-chamrajpet',1000),

(2,'SBI-residencyroad',2000),
 (3,'SBI-shivajiroad',3000),
 (4,'SBI-parlimentroad',4000),
 (5,'SBI-jantarmantar',5000);

Result Grid			
Filter Rows:			
	loannumber	branchname	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

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

```
select branchname,assets as 'assets in lakhs'
from branch;
```

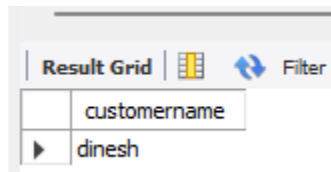
Result Grid		
Filter Rows:		
	branchname	assets in lakhs
▶	SBI-chamrajpet	50000
	SBI-jantarmantar	20000
	SBI-parlimentroad	10000
	SBI-residencyroad	10000
	SBI-shivajiroad	20000
*	NULL	NULL

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

```
select d.customername
from bankaccount b, depositer d
where b.accno=d.accno and branchname='SBI-residencyroad'
```

group by customername

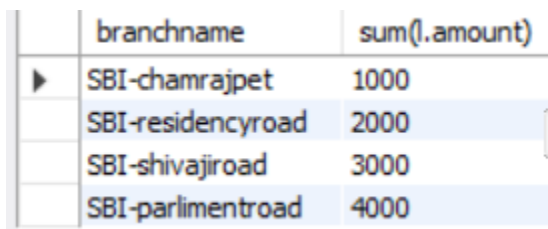
having count(*)>=2;



	customername
▶	dinesh

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

```
create view loan_info as
select b.branchname, sum(l.amount)
from branch b , loan l
where b.branchname=l.branchname
group by l.branchname;
select * from loan_info;
```

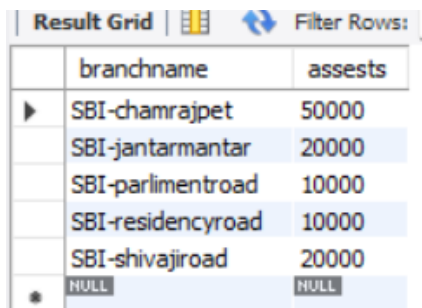


	branchname	sum(l.amount)
▶	SBI-chamrajpet	1000
	SBI-residencyroad	2000
	SBI-shivajiroad	3000
	SBI-parlimentroad	4000

Week - 04 - Additional queries

4. Retrieve all branches and their respective total assets

```
select branchname, assests
from branch;
```



	branchname	assests
▶	SBI-chamrajpet	50000
	SBI-jantarmantar	20000
	SBI-parlimentroad	10000
	SBI-residencyroad	10000
	SBI-shivajiroad	20000
●	NULL	NULL

5. List all customers who live in a particular city

```
select customername  
from bankcustomer  
where city='banglore';
```

	customername
▶	avinash
	dinesh
	mohan
*	NULL

6. List all customers with their account numbers

```
select customername ,accno  
from depositer ;
```

	customername	accno
▶	avinash	1
	dinesh	2
	nikil	4
	ravi	5
	avinash	8
	nikil	9
	dinesh	10
	nikil	11
*	NULL	NULL

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

```
select c.customername  
from bankcustomer c, depositer d, bankaccount a, branch b  
where c.customername=d.customername and d.accno=a.accno and a.branchname=b.branchname  
and b.branchname=all(select b.branchname
```

from branch b
 where b.branchcity='delhi');

Result Grid		Filter Ro
	customername	

8. Find all customers who have accounts with a balance greater than a specified amount (5000)

select c.customername, b.balance
 from bankcustomer c, bankaccount b, depositer d
 where d.accno=b.accno and c.customername=d.customername and b.balance>5000;

Result Grid		Filter Rows
	customername	balance
▶	nikil	9000
	ravi	8000

9. List all branch who have both a loan and an account

select distinct(b.branchname)
 from branch b, bankaccount a, loan l
 where b. branchname=a.branchname and b.branchname=l.branchname;

Result Grid		Filter
	branchname	
▶	SBI-chamrajpet	
	SBI-jantarmantar	
	SBI-parlimentroad	
	SBI-residencyroad	
	SBI-shivajiroad	

10. Get the number of accounts held at each branch

```
select branchname , count(*)  
from bankaccount  
group by branchname;
```

	branchname	count(*)
▶	SBI-chamrajpet	1
	SBI-jantarmantar	2
	SBI-parlimentroad	2
	SBI-residencyroad	3
	SBI-shivajiroad	2



11. Find all branches that have no loans issued

```
select b.branchname  
from branch b  
where b.branchname not in(select branchname  
                           from loan);
```

	branchname
•	NULL

12. Retrieve the branch with the smallest total loan amount

```
select branchname ,min(amount)  
from loan  
group by branchname  
order by min(amount)  
limit 1;
```

Result Grid   Filter Rows: <input type="text"/>		
	branchname	min(amount)
▶	SBI-chamrajpet	1000