Name: Deeksha S
USN: 1BM21CS048

BANK DATABASE
Week 4

```
create database 1bm21cs048_bank1;
use 1bm21cs048_bank1;

create table branch
(
branchname varchar(20),
branchcity varchar(20),
assets int,
primary key(branchname)
);

create table bankaccount
(
accno int,
branchname varchar(20),
balance int,
primary key(accno),
foreign key (branchname) references branch(branchname) on delete cascade on update
cascade
);

create table bankcustomer
(
customername varchar(30),
customerstreet varchar(20),
customercity varchar(20),
primary key(customername)
);

create table depositer
(
customername varchar(30) ,
accno int,
primary key(customername , accno),
foreign key (customername) references bankcustomer(customername) on delete cascade on
update cascade,
foreign key (accno) references bankaccount(accno) on delete cascade on update cascade
```

```
);

create table loan
(
loannumber int,
branchname varchar(20),
amount int ,
primary key(loannumber) ,
foreign key(branchname) references branch(branchname) on delete cascade on update
cascade
);

create table borrower
(
customername varchar(30) ,
loannumber int,
primary key(customername , loannumber),
foreign key (customername) references bankcustomer(customername) on delete cascade on
update cascade,
foreign key (loannumber) references loan(loannumber) on delete cascade on update cascade
);

insert into branch values ('SBI_Chamrajpet','banglore',50000);
insert into branch values ('SBI_Residencyroad','banglore',10000);
insert into branch values ('SBI_Shivajinagar','bombay',20000);
insert into branch values ('SBI_Parlimentroad','delhi',10000);
insert into branch values ('SBI_Jantarmantar','delhi',20000);
insert into branch values ('SBI_MantriMarg','delhi',200000);

insert into bankcustomer values ('Avinash','BullTempleRoad','banglore');
insert into bankcustomer values ('Dinesh','BannerghattaRoad','banglore');
insert into bankcustomer values ('Mohan','NationalCollegeRoad','banglore');
insert into bankcustomer values ('Nikhil','AkbarRoad','delhi');
insert into bankcustomer values ('Ravi','PrithvirajRoad','delhi');

insert into bankaccount values (1,'SBI_Chamrajpet',2000);
insert into bankaccount values (2,'SBI_Residencyroad',5000);
insert into bankaccount values (3,'SBI_Shivajinagar',6000);
insert into bankaccount values (4,'SBI_Parlimentroad',9000);
insert into bankaccount values (5,'SBI_Jantarmantar',8000);
insert into bankaccount values (6,'SBI_Shivajinagar',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);
```
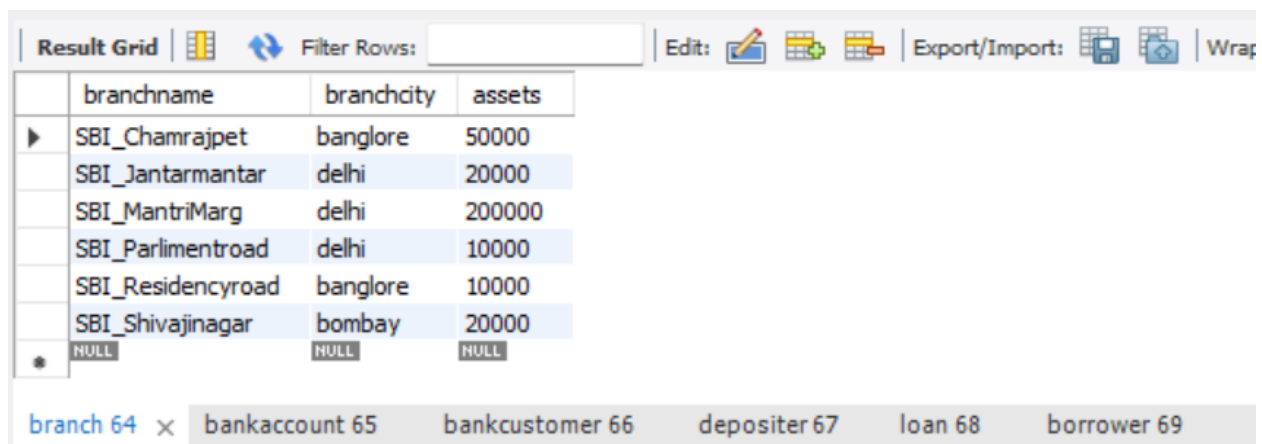
insert into bankaccount values (11,'SBI_Jantarmantar',2000);
insert into bankaccount values (12,'SBI_MantriMarg',2000);

insert into depositer values ('Avinash',1);
insert into depositer values ('Dinesh',2);
insert into depositer values ('Nikhil',4);
insert into depositer values ('Ravi',5);
insert into depositer values ('Avinash',8);
insert into depositer values ('Nikhil',9);
insert into depositer values ('Dinesh',10);
insert into depositer values ('Nikhil',11);
insert into depositer values ('Nikhil',12);

insert into loan values(1,'SBI_Chamrajpet',1000);
insert into loan values(2,'SBI_Residencyroad',2000);
insert into loan values(3,'SBI_Shivajinagar',3000);
insert into loan values(4,'SBI_Parlimentroad',4000);
insert into loan values(5,'SBI_Jantarmantar',5000);

insert into borrower values ('Avinash',1);
insert into borrower values ('Dinesh',2);
insert into borrower values ('Mohan',3);
insert into borrower values ('Nikhil',4);
insert into borrower values ('Ravi',5);

select * from branch;

branchname	branchcity	assets
SBI_Chamrajpet	banglore	50000
SBI_Jantarmantar	delhi	20000
SBI_MantriMarg	delhi	200000
SBI_Parlimentroad	delhi	10000
SBI_Residencyroad	banglore	10000
SBI_Shivajinagar	bombay	20000
NULL	NULL	NULL

branch 64   ✕   bankaccount 65   bankcustomer 66   depositer 67   loan 68   borrower 69

select * from bankaccount;

accno	branchname	balance
1	SBI_Chamrajpet	2000
2	SBI_Residencyroad	5000
3	SBI_Shivajinagar	6000
4	SBI_Parlimentroad	9000
5	SBI_Jantarmantar	8000
6	SBI_Shivajinagar	4000
8	SBI_Residencyroad	4000
9	SBI_Parlimentroad	3000
10	SBI_Residencyroad	5000
11	SBI_Jantarmantar	2000
12	SBI_MantriMarg	2000
NULL	NULL	NULL

branch 64   bankaccount 65 ×   bankcustomer 66   depositer 67   loan 68   borrower 69

select * from bankcustomer;

customername	customerstreet	customercity
Avinash	BullTempleRoad	banglore
Dinesh	BannerghattaRoad	banglore
Mohan	NationalCollegeRoad	banglore
Nikhil	AkbarRoad	delhi
Ravi	PrithvirajRoad	delhi
NULL	NULL	NULL

branch 64   bankaccount 65   bankcustomer 66 ×   depositer 67   loan 68   borrower 69

select * from depositer;

customername	accno
Avinash	1
Dinesh	2
Nikhil	4
Ravi	5
Avinash	8
Nikhil	9
Dinesh	10
Nikhil	11
Nikhil	12
NULL	NULL

branch 64   bankaccount 65   bankcustomer 66   depositer 67 ×

select * from loan;

loannumber	branchname	amount
1	SBI_Chamrajpet	1000
2	SBI_Residencyroad	2000
3	SBI_Shivajinagar	3000
4	SBI_Parlimentroad	4000
5	SBI_Jantarmantar	5000
NULL	NULL	NULL

branch 64 bankaccount 65 bankcustomer 66 depositer 67 loan 68 ✕ borrower 69

select * from borrower;

customername	loannumber
Avinash	1
Dinesh	2
Mohan	3
Nikhil	4
Ravi	5
NULL	NULL

branch 64 bankaccount 65 bankcustomer 66 depositer 67 loan 68 borrower 69 ✕

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

select customername, count(distinct ba.branchname)
from depositer d, bankaccount ba, branch b
where d.accno=ba.accno and ba.branchname=b.branchname and b.branchcity='delhi'
group by customername
having count(distinct b.branchname)=
(select count(distinct ba.branchname)
from branch b inner join bankaccount ba
on b.branchname=ba.branchname
where branchcity='delhi');

customername	count(distinct ba.branchname)
Nikhil	3

Result 70 ✕

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

select customername
from borrower
where customername not in(
select customername
from depositer);

customername
Mohan

borrower 71 ×

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

select customername
from borrower
where customername in
(select customername
from depositer
where accno in
(select accno
from bankaccount ba inner join branch b
on ba.branchname=b.branchname
where b.branchcity='banglore'));

customername
Avinash
Dinesh

borrower 72 ×

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

select branchname
from branch
where assets>(select sum(assets)
from branch
where branchcity='banglore');

	branchname
▶	SBI_MantriMarg
＊	NULL

branch 73 ✕

6) Update the Balance of all accounts by 5%

update bankaccount set balance=balance+0.05*balance;
select * from bankaccount;

	accno	branchname	balance
▶	1	SBI_Chamrajpet	2100
	2	SBI_Residencyroad	5250
	3	SBI_Shivajinagar	6300
	4	SBI_Parlimentroad	9450
	5	SBI_Jantarmantar	8400
	6	SBI_Shivajinagar	4200
	8	SBI_Residencyroad	4200
	9	SBI_Parlimentroad	3150
	10	SBI_Residencyroad	5250
	11	SBI_Jantarmantar	2100
	12	SBI_MantriMarg	2100
＊	NULL	NULL	NULL

bankaccount 74 ✕

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

delete from bankaccount
where branchname in(

select branchname
from branch
where branchcity='bombay');
select * from bankaccount;

accno	branchname	balance
1	SBI_Chamrajpet	2100
2	SBI_Residencyroad	5250
4	SBI_Parlimentroad	9450
5	SBI_Jantarmantar	8400
8	SBI_Residencyroad	4200
9	SBI_Parlimentroad	3150
10	SBI_Residencyroad	5250
11	SBI_Jantarmantar	2100
12	SBI_MantriMarg	2100
NULL	NULL	NULL

bankaccount 75 ✕

On Spot Query: Demonstrate how to delete all the branches located in bangalore.

delete from branch
where branchcity='banglore';
select * from branch;

branchname	branchcity	assets
SBI_Jantarmantar	delhi	20000
SBI_MantriMarg	delhi	200000
SBI_Parlimentroad	delhi	10000
SBI_Shivajinagar	bombay	20000
NULL	NULL	NULL

branch 82 ✕