WEEK 4(bank db):

CREATED A DATABASE NAMED 1bm21cs057_bankDb:

```
create database 1bm21cs057_bankDb;
use 1bm21cs057_bankDb;
```

CREATED TABLE NAMED branch:

```
create table branch(
branch_name varchar(20),
branch_city varchar(10),
assets real,
PRIMARY KEY(branch_name)
);
```

CREATED TABLE NAMED bankCustomer:

```
create table bankCustomer(
customer_name varchar(20),
customer_street varchar(20),
customer_city varchar(15),
PRIMARY KEY(customer_name)
);
```

CREATED TABLE NAMED loan:

```
create table loan(
loan_no int,
branch_name varchar(20),
amount real,
PRIMARY KEY(loan_no),
FOREIGN KEY(branch_name) REFERENCES branch(branch_name)
ON UPDATE CASCADE ON DELETE CASCADE
);
```

CREATED TABLE NAMED bankAccount:

```
create table bankAccount(
accno int,
branch_name varchar(20),
```

```
balance real,
PRIMARY KEY(accno),
FOREIGN KEY(branch_name) REFERENCES branch(branch_name)
ON UPDATE CASCADE ON DELETE CASCADE
);
```

CREATED TABLE NAMED depositer:

```
create table depositer(
customer_name varchar(20),
accno int,
FOREIGN KEY(customer_name) REFERENCES bankCustomer(customer_name)
ON UPDATE CASCADE ON DELETE CASCADE,
FOREIGN KEY(accno) REFERENCES bankAccount(accno)
ON UPDATE CASCADE ON DELETE CASCADE
);
```

CREATED TABLE NAMED borrower:

```
create table borrower(
customer_name varchar(20),
loan_no int,
FOREIGN KEY(customer_name) REFERENCES bankCustomer(customer_name)
ON UPDATE CASCADE ON DELETE CASCADE,
FOREIGN KEY(loan_no) REFERENCES loan(loan_no)
ON UPDATE CASCADE ON DELETE CASCADE
);
```

INSERTED SIX RECORDS INTO THE TABLE branch:

```
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_parliamentRoad','delhi',10000);
insert into branch values('sbi_jantarMantar','delhi',20000);
insert into branch values('sbi_mantriMarg','delhi',200000);
select * from branch;
```

branch_name	branch_city	assets
sbi_chamrajpet	bangalore	50000
sbi_jantarMantar	delhi	20000
sbi_mantriMarg	delhi	200000
sbi_parliamentRoad	delhi	10000
sbi_residencyRoad	bangalore	10000
sbi_shivajiRoad	bombay	20000
NULL	NULL	NULL

INSERTED ELEVEN RECORDS INTO THE TABLE bankAccount:

```
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_parliamentRoad',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_parliamentRoad',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);
select * from bankAccount;
```

accno	branch_name	balance
1	sbi_chamrajpet	2000
2	sbi_residencyRoad	5000
3	sbi_shivajiRoad	6000
4	sbi_parliamentRoad	9000
5	sbi_jantarMantar	8000
6	sbi_shivajiRoad	4000
8	sbi_residencyRoad	4000
9	sbi_parliamentRoad	3000
10	sbi_residencyRoad	5000
11	sbi_jantarMantar	2000
12	sbi_mantriMarg	2000
NULL	NULL	NULL

INSERTED FIVE RECORDS INTO THE TABLE bankCustomer:

```
insert into bankCustomer values('avinash','bull_temple_road','bangalore');
insert into bankCustomer values('dinesh','bannergatta_road','bangalore');
insert into bankCustomer values('mohan','nationalCollege_road','bangalore');
insert into bankCustomer values('nikil','akbar_road','delhi');
```

insert into bankCustomer values('ravi','prithviraj_road','delhi');

select * from bankCustomer;

customer_name	customer_street	customer_city
avinash	bull_temple_road	bangalore
dinesh	bannergatta_road	bangalore
mohan	nationalCollege_road	bangalore
nikil	akbar_road	delhi
ravi	prithviraj_road	delhi
NULL	NULL	NULL

INSERTED NINE RECORDS INTO THE TABLE depositer:

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);

insert into depositer values('dinesh',10);

insert into depositer values('nikil',11);

insert into depositer values('nikil',12);

select * from depositer;

customer_name	accno
avinash	1
dinesh	2
nikil	4
ravi	5
avinash	8
nikil	9
dinesh	10
nikil	11
nikil	12

INSERTED FIVE RECORDS INTO THE TABLE loan:

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_parliamentRoad',4000);

insert into loan values(5,'sbi_jantarMantar',5000);

select * from loan;

	loan_no	branch_name	amount
▶	1	sbi_chamrajpet	1000
	2	sbi_residencyRoad	2000
	3	sbi_shivajiRoad	3000
	4	sbi_parliamentRoad	4000
	5	sbi_jantarMantar	5000
*	NULL	NULL	NULL

INSERTED FIVE RECORDS INTO THE TABLE borrower:

```
insert into borrower values('avinash',1);

insert into borrower values('dinesh',2);

insert into borrower values('mohan',3);

insert into borrower values('nikil',4);

insert into borrower values('ravi',5);

select * from borrower;
```

	customer_name	loan_no
▶	avinash	1
	dinesh	2
	mohan	3
	nikil	4
	ravi	5

TO DO:

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

Query:

```
select d.customer_name

from depositer d

inner join bankAccount a

on d.accno=a.accno

inner join branch b

on a.branch_name=b.branch_name

group by d.customer_name,b.branch_city

having count(distinct b.branch_name) =

( select count(p.branch_name)

 from branch p where

 p.branch_city='delhi');
```

Output:

customer_name
nikil

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

Query:

```
select customer_name from borrower where customer_name not in (
select distinct customer_name from depositer);
```

Output:

customer_name
mohan

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

Query:

```
select distinct d.customer_name
from depositer d
where d.customer_name in(
select distinct b.customer_name
from borrower b, loan l, branch br
where b.loan_no=l.loan_no and l.branch_name=br.branch_name and br.branch_city='bangalore');
```

Output:

customer_name
avinash
dinesh

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

Query:

```
select branch_name
from branch
where assets>all(select assets from branch where branch_city='bangalore');
```

Output:

branch_name
sbi_mantriMarg
NULL

Update the Balance of all accounts by 5%.

Query:

update bankAccount

set balance=balance+0.05*balance;

Output:

accno	branch_name	balance
1	sbi_chamrajpet	2100
2	sbi_residencyRoad	5250
3	sbi_shivajiRoad	6300
4	sbi_parliamentRoad	9450
5	sbi_jantarMantar	8400
6	sbi_shivajiRoad	4200
8	sbi_residencyRoad	4200
9	sbi_parliamentRoad	3150
10	sbi_residencyRoad	5250
11	sbi_jantarMantar	2100
12	sbi_mantriMarg	2100
NULL	NULL	NULL

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

Query:

delete from bankAccount

where branch_name in(select branch_name from branch

where branch_city='bombay');

select * from bankAccount;

Output:

accno	branch_name	balance
1	sbi_chamrajpet	2100
2	sbi_residencyRoad	5250
4	sbi_parliamentRoad	9450
5	sbi_jantarMantar	8400
8	sbi_residencyRoad	4200
9	sbi_parliamentRoad	3150
10	sbi_residencyRoad	5250
11	sbi_jantarMantar	2100
12	sbi_mantriMarg	2100
NULL	NULL	NULL

<u>Extra question:</u>

Delete records of all branches in Bangalore.

Query:

delete from branch where branch_city='bangalore';

Output:

branch_name	branch_city	assets
sbi_jantarMantar	delhi	20000
sbi_mantriMarg	delhi	200000
sbi_parliamentRoad	delhi	10000
sbi_shivajiRoad	bombay	20000
NULL	NULL	NULL