DBMS PRACTICAL FILE _2

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(1). Create database 'bank'

SQL: create database if not exists bank;

(2). Create above tables in database 'bank'

SQL:

```
use bank;
create table if not exists account
(
account_number char(5) not null primary key,
branch_name varchar(10),
balance double
);
create table if not exists branch
(
branch_name varchar(10) not null primary key,
branch_city varchar(10),
assets double
);
create table if not exists customer
(
customer_name varchar(20) not null primary key,
customer_street varchar(20),
customer_city varchar(10)
);

create table if not exists loan
(
loan_number varchar(5) not null primary key,
branch_name varchar(10),
```

```
amount double
);
create table if not exists borrower
(
customer_name varchar(20) not null,
loan_number varchar(5) not null,
primary key(customer_name, loan_number)
);

create table if not exists depositor
(
customer_name varchar(20) not null,
account_number char(5) not null,
primary key(customer_name, account_number)
);
create table if not exists employee
(
employee_name varchar(20) not null,
branch_name varchar(10) not null,
salary double,
primary key(employee_name,branch_name)
);
```

OUTPUT:

```
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| account_number | char(5)     | NO   | PRI | NULL    |       |
| branch_name    | varchar(10) | YES  |     | NULL    |       |
| balance        | double      | YES  |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
rows in set (0.00 sec)
```

ACCOUNT

```
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| customer_name | varchar(20) | NO   | PRI | NULL    |       |
| loan_number   | char(5)     | NO   | PRI | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

BORROWER

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| branch_name | varchar(10) | NO   | PRI | NULL    |       |
| branch_city | varchar(10) | YES  |     | NULL    |       |
| asset       | double      | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

BRANCH

```
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| customer_name   | varchar(20) | NO   | PRI | NULL    |       |
| customer_street | varchar(20) | YES  |     | NULL    |       |
| customer_city   | varchar(10) | YES  |     | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

CUSTOMER

```
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| Dno      | int         | NO   | PRI | NULL    |       |
| Dname    | varchar(50) | YES  |     | NULL    |       |
| Location | varchar(50) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

DEPARTMENT

```
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| customer_name  | varchar(20) | NO   | PRI | NULL    |       |
| account_number | char(5)     | NO   | PRI | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

DEPOSITOR

```
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| employee_name | varchar(20) | NO   | PRI | NULL    |       |
| branch_name   | varchar(10) | NO   | PRI | NULL    |       |
| salary        | double      | YES  |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

EMPLOYEE

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| loan_number | varchar(5)  | NO   | PRI | NULL    |       |
| branch_name | varchar(10) | YES  |     | NULL    |       |
| amount      | double      | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

LOAN

3)INSERT DATA INTO THOSE TABLES.

SQL:

```
Use bank;
insert into account values('A-101', 'Downtown', 500);
insert into account values('A-102', 'Perryridge', 400);
insert into account values('A-201', 'Brighton', 900);
insert into account values('A-215', 'Mianus', 700);
insert into account values('A-217', 'Brighton', 750);
insert into account values('A-222', 'Redwood', 700);
insert into account values('A-305', 'Round Hill', 350);
```

OUTPUT:

```
+----------------+-------------+---------+
| account_number | branch_name | balance |
+----------------+-------------+---------+
| A-101          | Downtown    |     500 |
| A-102          | Perryridge  |     400 |
| A-201          | Brighton    |     900 |
| A-215          | Mianus      |     700 |
| A-217          | Brighton    |     750 |
| A-222          | Redwood     |     700 |
| A-305          | Round Hill  |     350 |
+----------------+-------------+---------+
```

```
insert into branch values('Brighton', 'Brooklyn', 7100000);
insert into branch values('Downtown', 'Brooklyn', 9000000);
insert into branch values('Mianus', 'Horseneck', 400000);
insert into branch values('North Town', 'Rye', 3700000);
insert into branch values('Perryridge', 'Horseneck', 1700000);
insert into branch values('Pownal', 'Bennington', 300000);
insert into branch values('Redwood', 'Palo Alto', 2100000);
insert into branch values('Round Hill', 'Horseneck', 8000000);
```

OUTPUT:

branch_name	branch_city	asset
Brighton	Brooklyn	7100000
Downtown	Brooklyn	9000000
Mianus	Horseneck	400000
North Town	Rye	3700000
Perryridge	Horseneck	1700000
Pownal	Bennington	300000
Redwood	Palo Alto	2100000
Round Hill	Horseneck	8000000

8 rows in set (0.00 sec)

insert into customer values('Adams', 'Spring', 'Pittsfield');

insert into customer values('Brooks', 'Senator', 'Brooklyn');

insert into customer values('Curry', 'North', 'Rye');

insert into customer values('Glenn', 'Sand Hill', 'Woodside');

insert into customer values('Green', 'Walnut', 'Stamford');

insert into customer values('Hayes', 'Main', 'Harrison');

insert into customer values('Johnson', 'Alma', 'Palo Alto');

insert into customer values('Jones', 'Main', 'Harrison');

insert into customer values('Lindsay', 'Park', 'Pittsfield');

insert into customer values('Smith', 'North', 'Rye');

insert into customer values('Turner', 'Putnam', 'Stamford');

insert into customer values('Williams', 'Nassau', 'Princeton');

OUTPUT:

customer_name	customer_street	customer_city
Adams	Spring	Pittsfield
Brooks	Senator	Brooklyn
Curry	North	Rye
Glenn	Sand Hill	Woodside
Green	Walnut	Stamford
Hayes	Main	Harrison
Johnson	Alma	Palo Alto
Jones	Main	Harrison
Lindsay	Park	Pittsfield
Smith	North	Rye
Turner	Putnam	Stamford
Williams	Nassau	Princeton

12 rows in set (0.00 sec)

insert into depositor values('Hayes', 'A-102');

insert into depositor values('Johnson', 'A-102');

insert into depositor values('Johnson', 'A-201');

insert into depositor values('Jones', 'A-217');

insert into depositor values('Lindsay', 'A-222');

insert into depositor values('Smith', 'A-215');

insert into depositor values('Turner', 'A-305');

OUTPUT:

```
+---------------+----------------+
| customer_name | account_number |
+---------------+----------------+
| Hayes         | A-102          |
| Johnson       | A-102          |
| Johnson       | A-201          |
| Jones         | A-217          |
| Lindsay       | A-222          |
| Smith         | A-215          |
| Turner        | A-305          |
+---------------+----------------+
7 rows in set (0.00 sec)
```

insert into loan values('L-11', 'Round Hill', 900);

insert into loan values('L-14', 'Downtown', 1500);

insert into loan values('L-15', 'Perryridge', 1500);

insert into loan values('L-16', 'Perryridge', 1300);

insert into loan values('L-17', 'Downtown', 1000);

insert into loan values('L-23', 'Redwood', 2000);

insert into loan values('l-93', 'Mianus', 500);

OUTPUT:

```
+-------------+-------------+--------+
| loan_number | branch_name | amount |
+-------------+-------------+--------+
| L-11        | Round Hill  |    900 |
| L-14        | Downtown    |   1500 |
| L-15        | Perryridge  |   1500 |
| L-16        | Perryridge  |   1300 |
| L-17        | Downtown    |   1000 |
| L-23        | Redwood     |   2000 |
| l-93        | Mianus      |    500 |
+-------------+-------------+--------+
7 rows in set (0.00 sec)
```

```
insert into borrower values('Adams', 'L-16');
insert into borrower values('Curry', 'L-93');
insert into borrower values('Hayes', 'L-15');
insert into borrower values('Jackson', 'L-14');
insert into borrower values('Jones', 'L-17');
insert into borrower values('Smith', 'L-11');
insert into borrower values('Smith', 'L-23');
insert into borrower values('Williams', 'L-17');
```

OUTPUT:

```
+---------------+-------------+
| customer_name | loan_number |
+---------------+-------------+
| Adams         | L-16        |
| Curry         | L-93        |
| Hayes         | L-15        |
| Jackson       | L-14        |
| Jones         | L-17        |
| Smith         | L-11        |
| Smith         | L-23        |
| Williams      | L-17        |
+---------------+-------------+
8 rows in set (0.00 sec)
```

```
insert into employee values('Adams', 'Perryridge', 1500);
insert into employee values('Brown', 'Perryridge', 1300);
insert into employee values('Gopal', 'Perryridge', 5300);
insert into employee values('Johnson', 'Downtown', 1500);
insert into employee values('Loreena', 'Downtown', 1300);
insert into employee values('Peterson', 'Downtown', 2500);
insert into employee values('Rao', 'Austin', 1500);
insert into employee values('Sato', 'Austin', 1600);
```

OUTPUT:

employee_name	branch_name	salary
Adams	Perryridge	1500
Brown	Perryridge	1300
Gopal	Perryridge	5300
Johnson	Downtown	1500
Loreena	Downtown	1300
Peterson	Downtown	2500
Rao	Austin	1500
Sato	Austin	1600

8 rows in set (0.00 sec)

(4). Perform queries on those tables

1. Find all account whose balance is smaller than 500.

Answer: select account_name from account where balance < 500;

OUTPUT:

account_number
A-102
A-305

2 rows in set (0.00 sec)

2. Find all name of customers whose city is in Brooklyn

Answer: select customer_name from customer where customer_city='Brooklyn';

OUTPUT:

customer_name
Brooks

1 row in set (0.00 sec)

3. Find all employees whose salary is greater than 1400 and working branch is not 'Downtown'

Answer: select * from employee where salary>1400 and branch_name<>'Downtown';

OUTPUT:

employee_name	branch_name	salary
Adams	Perryridge	1500
Gopal	Perryridge	5300
Rao	Austin	1500
Sato	Austin	1600

4 rows in set (0.01 sec)

4. Calculate the average salary of all employees and show the average salary as "avg_salary"

Answer: select avg(salary) as avg_salary from employee ;

OUTPUT:

avg_salary
2062.5

1 row in set (0.01 sec)

5. Calculate the number of customer for each account

Answer: select account_number, count(distinct customer_name) from depositor group by account_number;

OUTPUT:

account_number	count(distinct customer_name)
A-102	2
A-201	1
A-215	1
A-217	1
A-222	1
A-305	1

6 rows in set (0.01 sec)

6. Show all account_number, branch_name and corresponding branch_city

Answer: select account_number, branch.branch_name, branch_city from account, branch where account.branch_name=branch.branch_name;

OUTPUT:

```
+----------------+-------------+-------------+
| account_number | branch_name | branch_city |
+----------------+-------------+-------------+
| A-101          | Downtown    | Brooklyn    |
| A-102          | Perryridge  | Horseneck   |
| A-201          | Brighton    | Brooklyn    |
| A-215          | Mianus      | Horseneck   |
| A-217          | Brighton    | Brooklyn    |
| A-222          | Redwood     | Palo Alto   |
| A-305          | Round Hill  | Horseneck   |
+----------------+-------------+-------------+
7 rows in set (0.00 sec)
```