

CSE370 : Database Systems Lab

Lab Mid | Spring 2024

Activity List

Task 1

Create and use the database “**LabMid_<YourStudentID>**”.

CREATE DATABASE LabMid_17101000;

USE LabMid_17101000;

Task 2

You have six tables in your database: customer, branch, account, loan, depositor and borrower.. All six tables are created for you and the necessary data has been inserted.

.....

```
create table customer(  
customer_id varchar(10) not null,  
customer_name varchar(20) not null,  
customer_street varchar(30),  
customer_city varchar(30),  
primary key (customer_id);
```

```
create table branch(  
branch_name varchar(15),  
branch_city varchar(30),  
assets int,  
primary key (branch_name),  
check (assets >= 0);
```

```
create table account (  
branch_name varchar(15),  
account_number varchar(10) not null,  
balance int,  
primary key (account_number),  
check (balance >= 0);
```

```
create table loan(  
loan_number varchar(10) not null,  
branch_name varchar(15),  
amount int,  
primary key (loan_number);
```

```
create table depositor(  
customer_id varchar(10) not null,  
account_number varchar(10) not null,  
primary key (customer_id,account_number),  
foreign key (customer_id) references customer(customer_id),  
foreign key (account_number) references account(account_number));
```

```
create table borrower(  
customer_id varchar(10) not null,  
loan_number varchar(10) not null,  
primary key (customer_id, loan_number),  
foreign key (customer_id) references customer(customer_id),  
foreign key (loan_number) references loan(loan_number));
```

.....

Once all your tables have been created, you should insert the data below. The insertion code has been provided for you. After insertion, check that data has been correctly inserted in all tables using the “Select” query.

```
insert into customer values  
( 'C-101','Jones', 'Main', 'Harrison'),  
( 'C-201','Smith', 'North', 'Rye'),  
( 'C-211','Hayes', 'Main', 'Harrison'),  
( 'C-212','Curry', 'North', 'Rye'),  
( 'C-215','Lindsay', 'Park', 'Pittsfield'),  
( 'C-220','Turner', 'Putnam', 'Stamford'),  
( 'C-222','Williams', 'Nassau', 'Princeton'),  
( 'C-225','Adams', 'Spring', 'Pittsfield'),  
( 'C-226','Johnson', 'Alma', 'Palo Alto'),  
( 'C-233','Glenn', 'Sand Hill', 'Woodside'),  
( 'C-234','Brooks', 'Senator', 'Brooklyn'),  
( 'C-255','Green', 'Walnut', 'Stamford');
```

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

insert into account values

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

insert into loan values

```
('L-17', 'Downtown', 1000),  
( 'L-23', 'Redwood', 2000),  
( 'L-15', 'Perryridge', 1500),  
( 'L-14', 'Downtown', 1500),  
( 'L-93', 'Mianus', 500),  
( 'L-11', 'Round Hill', 900),  
( 'L-16', 'Perryridge', 1300);
```

insert into depositor values

```
('C-226', 'A-101'),  
( 'C-201', 'A-215'),  
( 'C-211', 'A-102'),  
( 'C-220', 'A-305'),  
( 'C-226', 'A-201'),  
( 'C-101', 'A-217'),  
( 'C-215', 'A-222');
```

insert into borrower values

```
('C-101', 'L-17'),  
( 'C-201', 'L-23'),  
( 'C-211', 'L-15'),  
( 'C-226', 'L-14'),  
( 'C-212', 'L-93'),  
( 'C-201', 'L-11'),  
( 'C-222', 'L-17'),  
( 'C-225', 'L-16');
```

.....

Please check that all data has been inserted correctly in all six tables.

Task 3

Run appropriate queries to retrieve the requested data below [Use a single query for each question]:

- a. Retrieve the name of the branches if the loan amount is less than 1000.
- b. Retrieve the customer address containing the street and city of the customers whose name ends with "y".
- c. Retrieve the yearly balance of each account holder if there is an interest of 5% per year. Show the yearly balance of each account holder in a column named "Total Balance" along with their account number.
- d. Retrieve the number of customers in each city.
- e. Find the names of branches whose assets are greater than the assets of some branch in Brooklyn.
- f. Find the set of names of customers of each branch, in alphabetical order.
- g. Find the names of branches having at least one account, with average balances greater than or equal 600.
- h. Show the loan number and name of customers with the top 5 highest loan amounts. The data should be sorted by increasing amounts, then decreasing loan numbers in case of the same loan amount.