CSE370: Database Systems

Assignment 03 | Fall 2024

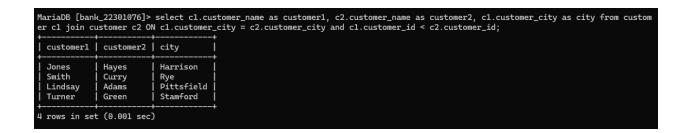
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Question 1: Find the name and loan number of all customers having a loan at the Downtown branch.

Query: select customer_customer_name,loan_number from borrower join loan on borrower.load_number = loan.loan_number and loan.branch_name = 'Downtown' join customer on borrower.customer id = customer.customer id;

Question 2: Find all the possible pairs of customers who are from the same city. show in the format Customer1, Customer2, City

Query: select c1.customer_name as customer1, c2.customer_name as customer2, c1.customer_city as city from customer c1 join customer c2 ON c1.customer_city = c2.customer_city and c1.customer_id < c2.customer_id;



Question 3: If the bank gives out 4% interest to all accounts, show the total interest across each branch. Print Branch name, Total Interest

Query: select account.branch_name as branch_name, sum(account.balance * 0.04) as total_interest from account group by account.branch_name;



Question 4: Find account numbers with the highest balances for each city in the database

Query: select b.branch_city, a.account_number, a.balance from account a inner join branch b on a.branch_name = b.branch_name where a.balance = (select max(a2.balance) from account a2 inner join branch b2 on a2.branch_name = b2.branch_name where b2.branch_city = b.branch_city) order by b.branch_city;



Question 5: Show the loan number, loan amount, 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. [Hint for top 5: Check the "limit" keyword in mysql]

Query: select * from (select loan.loan_number, amount, customer_name from loan inner join borrower on loan.loan_number = borrower.loan_number inner join customer ON customer.customer_id = borrower.customer_id order by amount desc limit 5) as table1 order by amount, loan_number desc;



Question 6: Find the names of customers with an account and also a loan at the Perryridge branch

Query: select distinct c.customer_name from customer c inner join depositor d on c.customer_id = d.customer_id inner join account a on d.account_number = a.account_number inner join borrower b on c.customer_id = b.customer_id inner join loan I ON b.loan_number = I.loan_number and I.branch_name = a.branch_name where a.branch_name = 'Perryridge';

Question 7: Find the total loan amount of all customers having at least 2 loans from the bank. Show in format customer name, total loan

Query: select c.customer_name, count(*) as number_of_loans, sum(l.amount) as total_loan from customer c join borrower b on c.customer_id = b.customer_id join loan I on b.loan_number = I.loan_number where c.customer_id in (select b2.customer_id from borrower b2 group by b2.customer_id having count(*) >= 2) group by c.customer_id order by total_loan desc;

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MariaDB [bank_22301076]> select c.customer_name, count(*) as number_of_loans, sum(l.amount) as total_loan from customer c join borrower b on c.customer_id = b.customer_id -> join loan l on b.loan_number = l.loan_number where c.customer_id in ( select b2.customer_id from borrower b2 group by b2.customer_id -> having count(*) >= 2 ) group by c.customer_id order by total_loan desc;

| customer_name | number_of_loans | total_loan |
| Smith | 2 | 2900 |
| tow in set (0.001 sec)
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