CSE370 Lab Homework - 04

You will use the Bank database that has been explained in the lab video. You will find the data of the bank database from " Lab Sheet 4" given in bux.

1. Find the names of branches whose assets are less than the assets of all branches in Brooklyn.
   Answer: `SELECT branch_name from branch where assets< all(SELECT (assets) from branch where branch_city="Brooklyn");`
2. Find the names of customers with accounts at a branch where Johnson has an account. Answer: `SELECT customer_name from depositor left join CUSTOMER on depositor.customer_id=CUSTOMER.customer_id inner join account on depositor.account_number=account.account_number where account.branch_name="Downtown" or account.branch_name="Brighton";`
3. Find the average balance of all customers in 'Palo Alto' having at least 2 accounts. Answer: `select avg(account.balance) from customer inner join depositor on CUSTOMER.customer_id = depositor.customer_id inner join account on depositor.account_number=account.account_number and CUSTOMER.customer_city='Palo Alto' and depositor.customer_id in (select customer_id from depositor group by customer_id having count(*)>=2);`
4. Find the names of each branch and the number of customers having at least one account at that branch. Answer: `SELECT branch_name from account left JOIN depositor on account.account_number=depositor.account_number GROUP by account.branch_name HAVING COUNT(*)>=1;`
5. Find the names and account number of customers who have the 2 highest balances in their accounts. Answer: `SELECT CUSTOMER.customer_name,account.account_number from depositor left join CUSTOMER on depositor.customer_id=CUSTOMER.customer_id inner join account on depositor.account_number=account.account_number where account.balance>=any(select balance from account) order by account.balance DESC LIMIT 2;`
6. If the bank gives out 4% interest to all accounts, show the branch name and total interest across each branch. Answer: `select branch_name, sum(0.04*balance) as total_interest from account group by branch_name;`
7. Find the names of customers with an account and also a loan at Perryridge branch. Answer: `SELECT customer_name FROM ((account inner join loan on account.branch_name=loan.branch_name) INNER join borrower on loan.loan_number=borrower.loan_number) inner join CUSTOMER on borrower.customer_id=CUSTOMER.customer_id where account.branch_name="Perryridge" and loan.branch_name="Perryridge";`
8. Find account numbers with highest balances for each city in the database. Answer: `select account.account_number from customer, depositor, account where CUSTOMER.customer_id = depositor.customer_id and`

```
depositor.account_number = account.account_number and not exists
(select*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 where c.customer_city = CUSTOMER.customer_city and
a.balance>account.balance) group by customer_city;
```

9. Find the names of customers with an account but not a loan at Perryridge branch. Answer:
```
SELECT customer_name FROM ((account inner join loan on
account.branch_name=loan.branch_name) INNER join borrower on
loan.loan_number=borrower.loan_number) inner join CUSTOMER on
borrower.customer_id=CUSTOMER.customer_id where
account.branch_name="Perryridge" and loan.branch_name!="Perryridge";
```
10. Find the names of branches whose assets are less than the assets of all branches in Brooklyn. Answer:
```
SELECT branch_name from branch where assets<
all(select assets from branch where branch_city="Brooklyn");
```