Software Engineering Assessment

MySQL DataBase

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- **Create three tables Bank, Account_holder and Loan then link three tables through Primary Key and Foreign Key.**

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CREATE TABLE bank
(
        branch_id int PRIMARY KEY,
        branch_name varchar(20),
        branch_city varchar(20)
)
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1001,"Ravapar","Morbi");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1002,"Para Bazar","Morbi");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1003,"Bhaktinagar","Rajkot");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1004,"Mavdi Road","Rajkot");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1005,"C.G Road","Ahmedabad");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1006,"Ashram Road","Ahmedabad");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1007,"Sattelite","Ahmedabad");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1008,"Science City Road",
"Ahmedabad");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1009,"Gotri Road","Vadodara");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1010,"SamaSavli","Vadodara");
INSERT INTO bank(branch_id,branch_name,branch_city) VALUES(1011,"Air Port Circle","Vadodara");


CREATE TABLE account_holder
(
        acc_holder_id int PRIMARY KEY,
        acc_no varchar(10),
        acc_holder_name varchar (20),
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```
    city varchar(20),
    contact varchar(15),
    acc_create_date date,
    acc_status varchar(20),
    acc_type varchar(20),
    balance int
)
```

```
INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(01,"A00001","Jalpa","Morbi","+91 9898449221","2023-12-27","Active","Saving",50000)


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(02,"A00002","Kush","Gandhinagar","+91 8531432181","2020-12-22", "Terminated",
"Current",750000);


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(03,"A00003","Mansi","Bhavnagar","+91 9852661312","2020-10-19","Active","Saving",60000);


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(04,"A00004","Hiten","Ahmedabad","+91 8538431112","2023-05-
15","Terminated","Current",100000);


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(05,"A00005","Salim","Rajkot","+91 9553317642","2022-05-10","Active","Saving",35000);


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(06,"A00006","Shrey","Ahmedabad","+91 9832151321","2024-01-05","Active","Saving",80000);
```

```
INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_typ  e,balance)
VALUES(07,"A00007","Kamal","Gandhinagar","+91 8547875841","2020-01-15","Active",
"Recuring",75000);


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(08,"A00008","Hemendra","Vadodara","+91 9045782468","2022-11-04","Terminated","Fix
Deposit",20000);


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(09,"A00009","Janvi","Rajkot","+91 98475614873","2024-01-11","Active","Saving",250000);


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(10,"A00010","Manav","Vadodara","+91 9054714865","2023-09-22","Terminated",
"Recurring",45000);


INSERT INTO
account_holder(acc_holder_id,acc_no,acc_holder_name,city,contact,acc_create_date,acc_status,
acc_type,balance)
VALUES(11,"A00011","Muskan","Vadodara","+91 9875614894","2022-06-15","Active","Fix
Deposit",100000);


CREATE TABLE loan

(

   loan_no int PRIMARY KEY,
   branch_id int,
   acc_holder_id int,
   loan_amt int,
   loan_type varchar(20),
   FOREIGN KEY(branch_id) REFERENCES bank(branch_id),
   FOREIGN KEY(acc_holder_id) REFERENCES account_holder(acc_holder_id)
)
```

```
INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(1,1001,01,200000,"Education");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(2,1002,02,500000,"Vehicle");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(3,1001,03,300000,"Education");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(4,1003,04,1000000,"Home");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(5,1005,05,400000,"Personal");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(6,1007,06,1500000,"Mortgage");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(7,1008,08,500000,"Education");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(8,1008,08,800000,"Education");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(9,1010,10,800000,"Vehicle");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(10,1011,11,2500000,"Home");

INSERT INTO loan(loan_no,branch_id,acc_holder_id,loan_amt,loan_type)
VALUES(11,1004,07,120000,"Personal");
```

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----> Consider an example where there's an account holder table where we are doing an intra bank Transfer. i.e. a person holding account A is trying to transfer $100 to account B.
- for this you have to make a transaction in sql which can transfer fund from account A to B
- Make sure after the transaction the account information have to be updated for both the credit account and the debited account

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START TRANSACTION;

UPDATE account_holder SET balance=balance-100 WHERE acc_no="A00001";

UPDATE account_holder SET balance=balance+100 WHERE acc_no="A00002";

COMMIT;
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----> Also fetch the details of the account holder who are related from the same city

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SELECT * FROM account_holder WHERE city="Ahmedabad"

SELECT * FROM account_holder WHERE city="Gandhinagar"

SELECT * FROM account_holder WHERE city="Vadodara"

SELECT * FROM account_holder WHERE city="Rajkot"

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----> Write a query to fetch account number and account holder name, whose accounts were created after 15th of any month

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SELECT acc_no,acc_holder_name FROM account_holder WHERE day(acc_create_date)>15

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----> Write a query to display the city name and count the branches in that city. Give the count of branches an alias name of Count_Branch.

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SELECT COUNT(branch_name) AS Count_Branch,branch_city FROM bank GROUP BY branch_city

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----> Write a query to display the account holder's id, account holder's name,branch id, and loan amount for people who have taken loans. (NOTE : use sql join concept to solve the query)

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SELECT account_holder.acc_holder_id, account_holder.acc_holder_name, bank.branch_id, loan.loan_amt FROM loan

INNER JOIN bank ON loan.branch_id = bank.branch_id

INNER JOIN account_holder ON loan.acc_holder_id = account_holder.acc_holder_id