**Hexaware Banking System Assignment**

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**Task 1:**

1. create database HMBank;
2. create table Customer

(Customer\_id int primary key,

First\_name varchar(20),

Last\_name varchar(20),

Date\_of\_Birth date,

email varchar(50),

Phone\_number int unique key,

adress varchar(100)

);

create table Accounts

(Account\_id int primary key,

Customer\_id int,

foreign key(Customer\_id) references Customers(Customer\_id),

Account\_Type varchar(20),

Balance decimal(9,2)

);

create table transactions

( transaction\_id int primary key,

account\_id int,

foreign key(account\_id) references Accounts(account\_id),

transaction\_type varchar(20),

amount decimal(9,2),

transaction\_date date

);

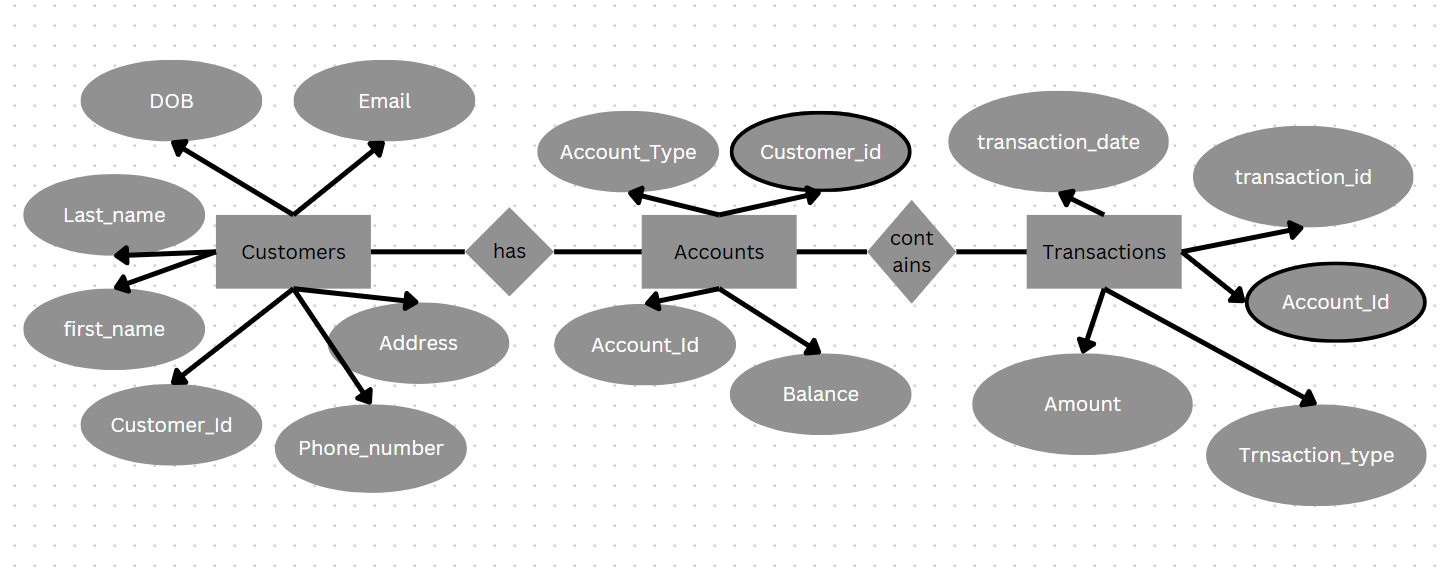
1. 

Fig: 1.3. ER Diagrram

**Task 2:**

1 Question:

insert into Customer

values(101, 'Samhita','Rao','2000-07-11','samhita0720rao@gmail.com',987654324,'Gandhi Nagar'),

(102,'Karthik','Vemula','2002-03-23','karthikavemulakv@gmail.com',1234567899,'krishna Street'),

(103,'Harini','Gopal','2005-01-04','harinigopal@gmail.com',876543456,'Lakshmi Colony'),

(104,'Rohan','Chitturi','2001-09-30','rohan2001@gmail.com',876542340,'Ramnagar Colony'),

(105,'Anany','Devulapalli','2004-05-01','anaydevulapalli@gmail.com',987656789,'Srinvasa Apartments'),

(106,'Vijayalakshmi','Punyala','2004-01-23','vijayalaskhmi@gmail.com',765438965,'Sai Residency'),

(107,'Deepak','Cherukuri','2003-05-25','deepakcherukuri@gmail.com',876433398,'Nehru Road'),

(108,'Sunil','Kumar','2004-09-25','sunilkumar@gamil.com',87654329,'Film Nagar'),

(109,'Priya','Rao','2004-12-12','priyaabc@gmail.com',98765432,'Pairs bazar'),

(110,'Sandeep','Varama','2005-03-14','sandeep1234sv@gmail.com',78965436,'Lakshmi Puram');

Insert into accounts

values

(4321, 101, 'Savings Account', 50000.00),

(4322, 102, 'Current Account', 75890.56),

(4323, 103, 'Current Account', 5678.90),

(4324, 104, 'Savings Account', 34000.90),

(4325, 105, 'Savings Account', 60000.00),

(4326, 105, 'Current Account', 6000.78),

(4327, 106, 'Current Account', 7005.56),

(4328, 107, 'Current Account', 8976.76),

(4329, 102, 'Savings Account', 80700.00),

(4330, 103, 'Savings Account', 75000.00),

(4331, 104, 'Current Account', 3000.00),

(4332, 106, 'Savings Account', 200000.00),

(4333, 107, 'Zero\_balance', 0.00),

(4334, 102, 'Zero\_balance', 0.00),

(4335, 108, 'Savings Account', 80000.00),

(4336, 109, 'Zero\_balance', 0.00),

(4337, 110, 'Current Account', 40000),

(4338, 108, 'Current Account', 6000),

(4339, 103, 'Savings Account', 70000);

Insert into transactions

values

(9001, 4331, 'Withdrawal', 100.00, '2022-01-23'),

(9002, 4325, 'Deposit', 1000.00, '2022-02-09'),

(9003, 4322, 'Transfer', 20000.00, '2022-09-21'),

(9004, 4331, 'Withdrawal', 250.00, '2023-04-14'),

(9005, 4324, 'Deposit', 2000.00, '2023-05-25'),

(9006, 4331, 'Transfer', 500.00, '2023-06-22'),

(9007, 4330, 'Withdrawal', 10000.00, '2023-07-01'),

(9008, 4334, 'Transfer', 2000.00, '2023-07-02'),

(9009, 4329, 'Withdrawal', 35000.00, '2023-07-15'),

(9010, 4329, 'Transfer', 10000.00, '2023-08-20'),

(9011, 4323, 'Deposit', 3000.00, '2023-09-30'),

(9012, 4322, 'Withdrawal', 950.00, '2023-11-13'),

(9013, 4321, 'Transfer', 1000.00, '2023-11-20'),

(9014, 4326, 'Transfer', 2000.00, '2024-01-20'),

(9015, 4327, 'Deposit', 3000.00, '2024-01-22'),

(9016, 4327, 'Withdrawal', 1000.00, '2024-01-23'),

(9017, 4338, 'Withdrawal', 300.00, '2024-02-02'),

(9018, 4337, 'Deposit', 6000.00, '2024-02-22'),

(9019, 4336, 'Deposit', 90.00, '2023-02-24'),

(9020, 4325, 'Withdrawal', 8000.00, '2024-03-12');

2 Question:

1. select concat(c.first\_name," ",c.last\_name) as name,

a.account\_type,

c.email from customers c

join accounts a on c.customer\_id = a.customer\_id;

2. select c.customer\_id,

a.account\_id,

t.transaction\_id,

t.transaction\_type,

t.amount,

t.transaction\_date from transactions t

inner join accounts a on a.account\_id = t.account\_id

join customers c on c.customer\_id = a.customer\_id;

3. select balance\*2 from Accounts where account\_id = 4332;

4. select concat(First\_name," ",Last\_name) as full\_name from Customers;

5. DELETE FROM transactions WHERE account\_id IN

(SELECT account\_id FROM accounts WHERE account\_type = "zero\_balance");

DELETE FROM accounts WHERE account\_type = "zero\_balance";

6. select \* from customers where adress="Lakshmi Colony";

7. select balance from accounts where account\_id = 4324;

8. select \* from accounts where account\_type = "current Account" and balance > 1000.00;

9. select \* from transactions where account\_id = 4331;

10.select (balance\*3.5/100) as Interest from accounts where account\_type = "Savings Account";

11.values(4440,102,"Current Account",-500.98),

(4441,105,"Current Account",-2000.90),

(4442,106,"Current Account",-5000.00),

(4443,110,"Current Account",-1.90);

select \* from accounts where balance < 0;

12.select \* from Customers where adress <> "Lakshmi Colony";

**Task 3:**

1. select avg(balance) from accounts;

2. select \* from accounts order by balance desc limit 10;

3. select sum(amount) from transactions where transaction\_type="Deposit" and transaction\_date between "2022-02-09" and "2023-09-30";

4. (select \* FROM Customers order by Date\_of\_birth asc limit 1)

union all

(select \* from Customers order by Date\_of\_birth desc limit 1);

5. select t.transaction\_id,

t.account\_id,

a.account\_type,

t.transaction\_type,

t.amount,

t.transaction\_date from transactions t

join accounts a on a.account\_id = t.account\_id;

6. select c.customer\_id,

concat(c.first\_name," ",c.last\_name) as Full\_Name,

Date\_of\_Birth,

c.email,

c.Phone\_number,

c.adress,

a.account\_id,

a.account\_type,

a.balance from customers c

join accounts a on a.customer\_id = c.customer\_id;

7. t.account\_id,

c.customer\_id,

concat(c.first\_name," ",c.last\_name) as Full\_Name,

Date\_of\_Birth,

c.email,

c.Phone\_number,

c.adress,

t.amount,

t.transaction\_date from transactions t

inner join accounts a on t.account\_id = a.account\_id

join customers c on a.customer\_id = c.customer\_id

where a.account\_id = 4331;

8. SELECT c.customer\_id,

concat(c.first\_name," ",c.last\_name) as f\_name,

COUNT(a.account\_id) AS account\_count

FROM Customers c

JOIN Accounts a ON c.customer\_id = a.customer\_id

GROUP BY c.customer\_id, f\_name

HAVING COUNT(a.account\_id) > 1;

9. SELECT

t.account\_id,

SUM(CASE WHEN t.transaction\_type = 'Deposit' THEN t.amount ELSE 0 END) AS total\_deposits,

SUM(CASE WHEN t.transaction\_type = 'Withdrawal' THEN t.amount ELSE 0 END) AS total\_withdrawals,

SUM(CASE WHEN t.transaction\_type = 'Deposit' THEN t.amount ELSE 0 END) -

SUM(CASE WHEN t.transaction\_type = 'Withdrawal' THEN t.amount ELSE 0 END) AS difference

FROM Transactions t

GROUP BY t.account\_id;

10. select t.account\_id, avg(a.balance) as avg\_bal from accounts a

inner join transactions t on a.account\_id = t.account\_id

where t.transaction\_date between "2022-01-23" and "2023-01-23"

group by t.account\_id;

11. select account\_Type , sum(balance) as total\_balance from accounts group by account\_Type;

12. select \* from accounts order by balance desc;

13. select c.customer\_id, concat(c.first\_name," ",c.last\_name) as Full\_name , c.email , a.account\_id,a.account\_type,a.balance from accounts a

join customers c on a.customer\_id = c.customer\_id

where balance >50000 ;

14. select account\_id, amount, transaction\_date, count(\*) As duplicate\_count

from Transactions

group by account\_id, amount, transaction\_date

having count(\*) > 1;

select \* from transactions;

**Task 4:**

1. select c.customer\_id,concat(c.first\_name," ",c.last\_name) as full\_name,a.account\_id,a.account\_type,a.balance from accounts a

join customers c on a.customer\_id = c.customer\_id

where a.balance = (select max(a.balance) from accounts a)

2. select customer\_id, avg(balance)as avg\_bal from accounts

where customer\_id in(select customer\_id from accounts group by customer\_id having count(account\_id)>1) group by customer\_id;

3. select

a.account\_id,

a.account\_type,

t.transaction\_id,

t.transaction\_type,

t.amount,

t.transaction\_date

from Transactions t

join Accounts a on t.account\_id = a.account\_id

where t.amount > (select avg(amount) from Transactions);

4. select a.customer\_id,a.account\_id,a.account\_type,

t.transaction\_id,t.transaction\_type,t.transaction\_date,t.amount from transactions t

join accounts a on t.account\_id = a.account\_id

where t.transaction\_id in (select transaction\_id from transactions where transaction\_id is null);

5. select sum(a.balance) as total\_balance from accounts a

left join transactions t on a.account\_id = t.account\_id

where t.transaction\_id (select transaction\_id from transactions where transaction\_id is null);

6. select c.customer\_id,concat(first\_name,"",last\_name) as full\_name,a.account\_id,a.account\_type,a.balance from accounts a

join customers c on c.customer\_id = a.customer\_id

where balance in(select min(a.balance) from accounts a);

7. select a.customer\_id,

concat(c.first\_name, ' ', c.last\_name) as full\_name

from accounts a

join customers c on a.customer\_id = c.customer\_id

group by a.customer\_id, c.first\_name, c.last\_name

having count(distinct a.account\_type) > 1;

8.

9. select c.customer\_id,

concat(first\_name," ",last\_name) as full\_name,

a.account\_id,a.account\_type,

t.transaction\_id,t.transaction\_type,t.transaction\_date from transactions t

inner join accounts a on a.account\_id = t.account\_id

inner join customers c on c.customer\_id = a.customer\_id

where c.customer\_id = (select customer\_id from customers where customer\_id=102);

10. select account\_type,

(select sum(balance) from Accounts a2 where a2.account\_type = a1.account\_type) as total\_balance

from Accounts a1

group by account\_type;