

## Banking management system

Aim:- To design an entity-Relationship Diagram for a Banking management system.

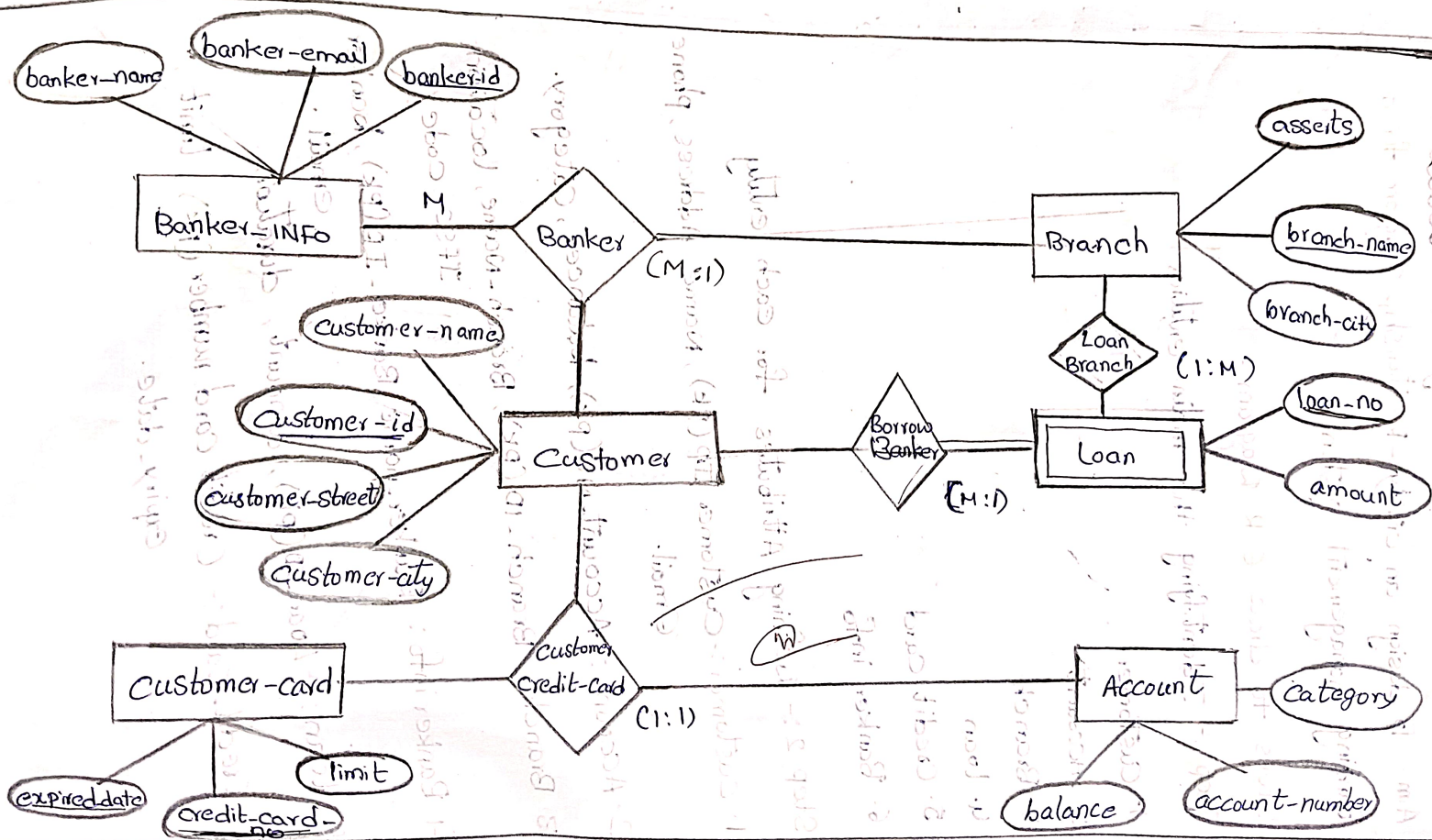
Steps to draw E-R Diagram:-

Step 1:- Identifying the main entities

1. Customer
2. Account
3. Branch
4. Loan
5. Credit card
6. Banker info

Step 2:- Defining Attributes for each entity

1. Customer:- Customer ID (pk), Name, Address, phone, Email.
2. Account:- Account-No (pk), balance, Category.
3. Branch:- Branch-ID (pk), Branch-Name, location, IFSC code.
4. Banker info:- Banker-name, Banker-ID (pk), banker email.
5. Loan:- Loan-ID (pk), amount, duration.
6. Credit-Card:- Credit-Card number (pk), limit, expiry-date.





### Step 3 :- Identifying Relationship Between Entities

A customer can have multiple accounts (1-to-many)

An account is operated in one Branch (many-to-1)

A customer can have multiple loans (1-to-many)

A loan is processed by banker (many-to-1)

A Banker works in one branch (many-to-1)

### Step 4 :- Set Cardinalities

using (1:1), (1:N) or (M:N) to indicate how many instances are involved

### Step 5 :- Draw the ER diagram

open draw.io website

Draw diagram using  
Rectangles for entities  
ellipse for attributes

Diamonds for relationship

Lines to connect them

underline the primary keys

Input:-

Banker management system

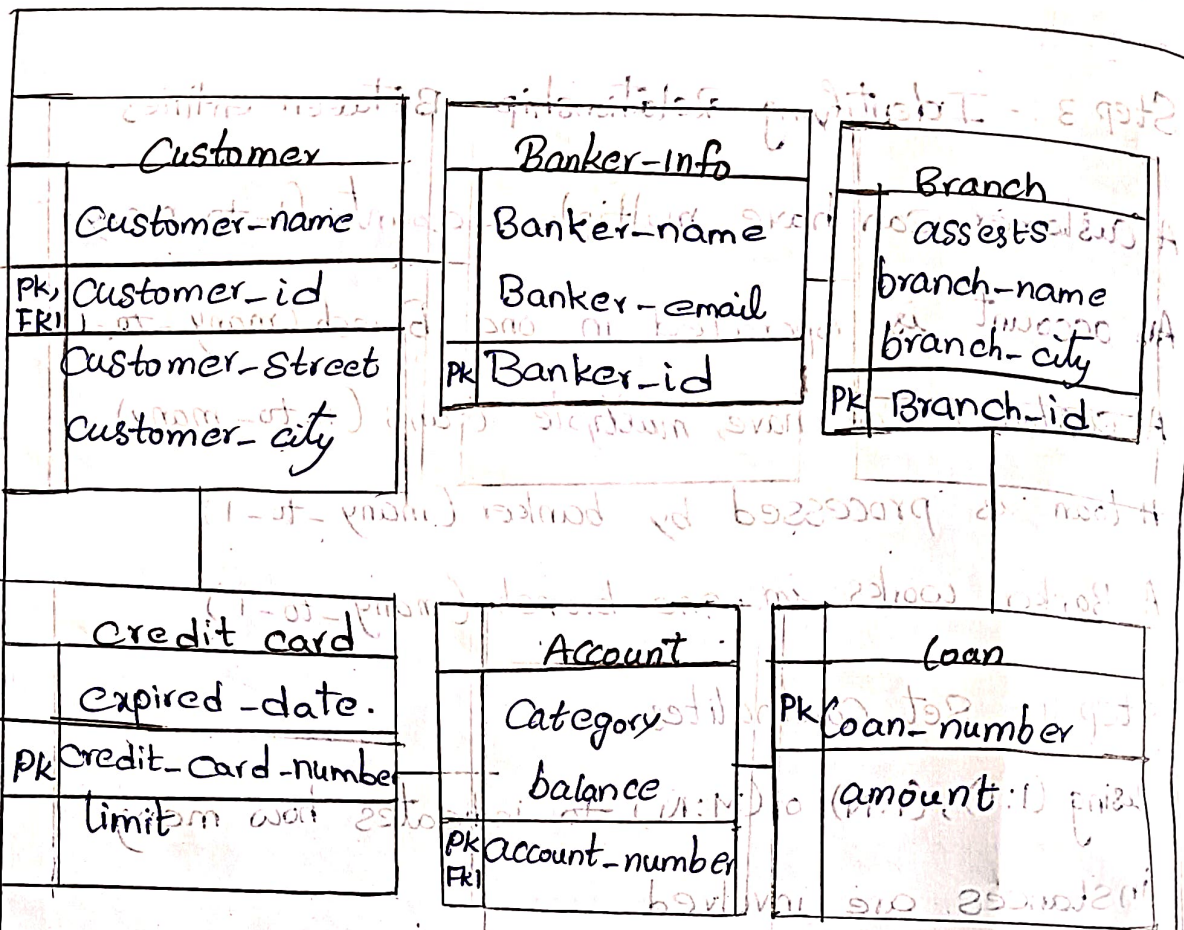
output:-

Entity Relationship diagram that clearly shows all identified entities with attributes All relationship with appropriate Cardinalities foreign keys and keys marked appropriately.

Result:- Hence, the entity-Relationship diagram of Banking management system was successfully draw using draw.io

VEL TECH	
EX NO.	11
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	3
VIVA VOCE (5)	5
RECORD (5)	1
TOTAL (20)	15
SIGN WITH DATE	





DATE	TIME	NAME	STATUS
10/10/2018	10:10	John Doe	Active
10/10/2018	10:15	Jane Smith	Inactive
10/10/2018	10:20	Mike Johnson	Active
10/10/2018	10:25	Sarah Lee	Inactive
10/10/2018	10:30	David Kim	Active
10/10/2018	10:35	Emily White	Inactive
10/10/2018	10:40	Chris Brown	Active
10/10/2018	10:45	Alex Green	Inactive
10/10/2018	10:50	Olivia Black	Active
10/10/2018	10:55	Noah Gray	Inactive

Hand-drawn ER diagram showing six entities: Customer, Banker-Info, Branch, Credit card, Account, and Loan. Each entity is represented as a table with its attributes. Primary keys are indicated by 'PK' and foreign keys by 'FK'.

Relationships are indicated by lines connecting the entities. The diagram shows the following relationships:

- Customer (PK Customer-id) to Branch (FK Branch-id)
- Customer (PK Customer-id) to Credit card (FK Credit-card-number)
- Banker-Info (PK Banker-id) to Account (FK account-number)
- Branch (PK Branch-id) to Loan (FK Loan-number)
- Credit card (PK Credit-card-number) to Account (FK account-number)
- Account (PK FK account-number) to Loan (FK Loan-number)

The diagram is a hand-drawn ER diagram. It shows six entities: Customer, Banker-Info, Branch, Credit card, Account, and Loan. Each entity is represented as a table with its attributes. Primary keys are indicated by 'PK' and foreign keys by 'FK'. Relationships are indicated by lines connecting the entities. The diagram shows the following relationships:

- Customer (PK Customer-id) to Branch (FK Branch-id)
- Customer (PK Customer-id) to Credit card (FK Credit-card-number)
- Banker-Info (PK Banker-id) to Account (FK account-number)
- Branch (PK Branch-id) to Loan (FK Loan-number)
- Credit card (PK Credit-card-number) to Account (FK account-number)
- Account (PK FK account-number) to Loan (FK Loan-number)

Task 10 :-

Date: 29/12/25 ER Diagram to Relational Model

Aim:- Convert ER Diagram of a banking management system into Relational model.

Steps for Converting the ER diagram to the table

- i) Entity type becomes a table
- ii) All single valued attribute becomes a Column for the table.
- iii) A key attribute of the entity type represented by the primary key.
- iv) The multivalued attribute is represented by a separate table.
- v) Composite attribute represented by components
- vi) Derived attributes are not considered in the table.

VEL TECH	
EX NO.	1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	1
TOTAL (20)	15
SIGN WITH DATE	

25/12/25

Result:- Hence, the Conversion of ER-diagram of banking management system into Relational model was successfully drawn.