ER Diagram drawing for a banking system

- Banks have Customer.
- Banks are identified by a name, code, address of main office.
- Banks have branches.
- Branches are identified by a branch_no., branch_name, address.
- Customers are identified by name, cust-id, phone number, address.
- Customer can have one or more accounts.
- Accounts are identified by account_no., acc_type, balance.
- Customer can avail loans.
- Loans are identified by loan_id, loan_type and amount.
- Account and loans are related to bank's branch.

How to Draw ER Diagram?

1. The very first step is Identifying all the Entities, and place them in a Rectangle, and labeling them accordingly.
2. The next step is to identify the relationship between them and pace them accordingly using the Diamond, and make sure that, Relationships are not connected to each other.
3. Attach attributes to the entities properly.
4. Remove redundant entities and relationships.
5. Add proper colors to highlight the data present in the database.

Entities and their **Attributes** are:

- **Bank Entity:** Attributes of Bank Entity are Bank Name, Code and Address.
  Code is Primary Key for Bank Entity.
- **Customer Entity:** Attributes of Customer Entity are Customer_id, Name, Phone Number and Address.
  Customer_id is Primary Key for Customer Entity.
- **Branch Entity:** Attributes of Branch Entity are Branch_id, Name and Address.
  Branch_id is Primary Key for Branch Entity.
- **Account Entity:** Attributes of Account Entity are Account_number, Account_Type and Balance.
  Account_number is Primary Key for Account Entity.
- **Loan Entity:** Attributes of Loan Entity are Loan_id, Loan_Type and Amount.
  Loan_id is Primary Key for Loan Entity.

Relationships are:

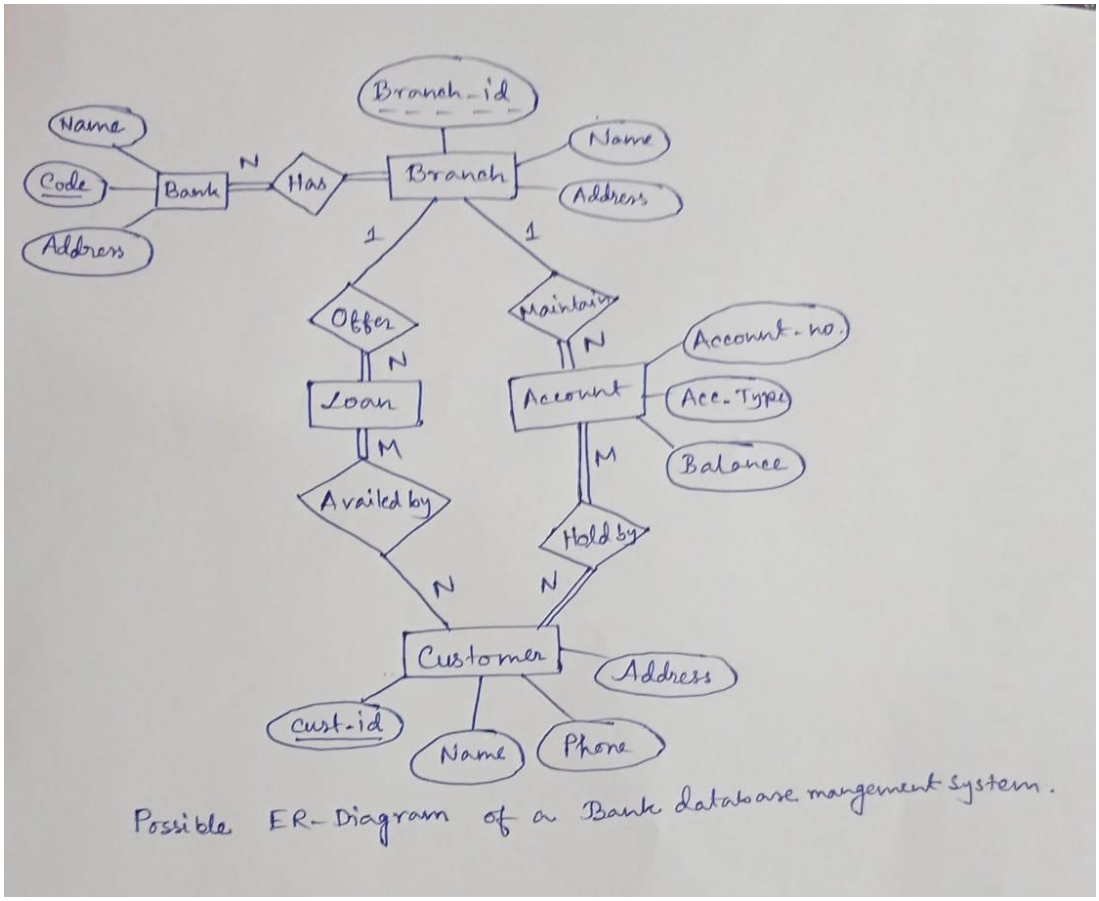
- **Bank has Branches => 1 : N**
  One Bank can have many Branches but one Branch cannot belong to many Banks, so the relationship between Bank and Branch is one to many relationship.

- **Branch maintain Accounts => 1 : N**
  One Branch can have many Accounts but one Account cannot belong to many Branches, so the relationship between Branch and Account is one to many relationship.

- **Branch offer Loans => 1 : N**
  One Branch can have many Loans but one Loan cannot belong to many Branches, so the relationship between Branch and Loan is one to many relationship.

- **Account held by Customers => M : N**
  One Customer can have more than one Accounts and also One Account can be held by one or more Customers, so the relationship between Account and Customers is many to many relationship.

- **Loan availed by Customer => M : N**
  (Assume loan can be jointly held by many Customers).
  One Customer can have more than one Loan and also One Loan can be availed by one or more Customers, so the relationship between Loan and Customers is many to many relationships.



Possible ER-Diagram of a Bank database mangement system.