

**TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
PULCHOWK CAMPUS**



DBMS

Assignment Submission

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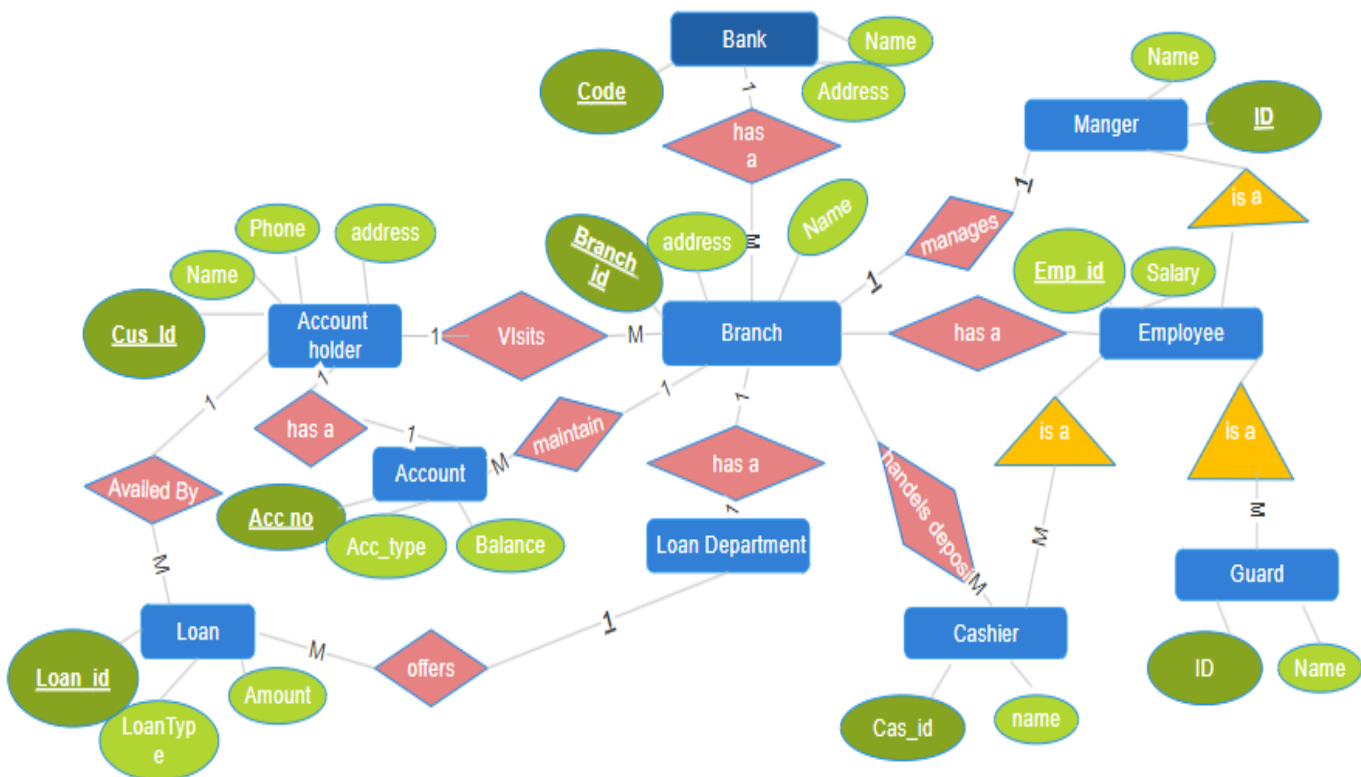
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TITLE: E-R Diagram For Bank Management System

ER diagram of Bank has the following description :

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

ER Diagram of Bank Management System:



This bank ER diagram illustrates key information about bank, including entities such as branches, account holders, accounts, emplu and loans. It allows us to understand the relationships between entities.

Entities and their **Attributes** are :

- **Bank Entity** : Attributes of Bank Entity are Bank Name, Code and Address.
Code is Primary Key for Bank Entity.
- **Account holderEntity** : Attributes of account holder Entity are Cus_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.
- **Manager** : Attributes of Manager Entity are ID, Name.
- **Employee**: Attributes of Employee Entity are salary,Emp_id,etc.

Relationship are :

- **Bank has Branches => 1 : N**
One Bank can have many Branches but one Branch can not 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 can not

belong to many Branches, so the relationship between Branch and Account is one to many relationship.

- **Loan Department offer Loans => 1 : N**

One Loan Department can have many Loans but one Loan can not belong to many Branches, so the relationship between Loan Department and Loan is one to many relationship.

- **Account held by Account holder => M : N**

One Customer can have more than one Accounts and also One Account can be held by one or more holders, so the relationship between Account and Holders is many to many relationship.

- **Loan availed by Holder => M : N**

(Assume loan can be jointly held by many Customers).

One Customer can have more than one Loans and also One Loan can be availed by one or more Customers, so the relationship between Loan and Customers is many to many relationship.