TASK-1

A Bank Management system is a comprehensive software solution designed to manage and stream line banking operations. It covers various aspects of banking, including customer account management, transaction processing, loan and mortage management and more.

Aim:- To draw conceptual design through FTR using drawio tool.

Procedure:-

Step 1(a): Identifying the Entities

Entities represent the major objects in the banking systems.

Sample output:- ⊛Customer
⊛Account
⊛Transaction
⊛Loan
⊛Branch
⊛Employee

Step 1(b): Identifying the Attributes

For each entity, list out the attributes(primary key is underlined)

Sample output:- ①Customer → customer_ID (PK)
→ Name
→ Address
→ Phone
→ Email

②Account → Account_Number (PK)
→ Account_Type
→ Balance
→ Date_Opened

③Transaction → Transaction_ID (PK)
→ Transaction_Type
→ Amount
→ Date_time.

④ Loan → Loan_ID (PK)
→ Loan_TYPE
→ Loan_amount
→ Interest_rate
→ Start-date

⑤ Branch → Branch_ID (PK)
→ Name
→ Position
→ Contact_No

Step 1(c): Identification of Relationships, Cardinality and type

① Customer_Account
* A customer has one or more accounts
* cardinality : one to Many
* TYPE : strong relationship

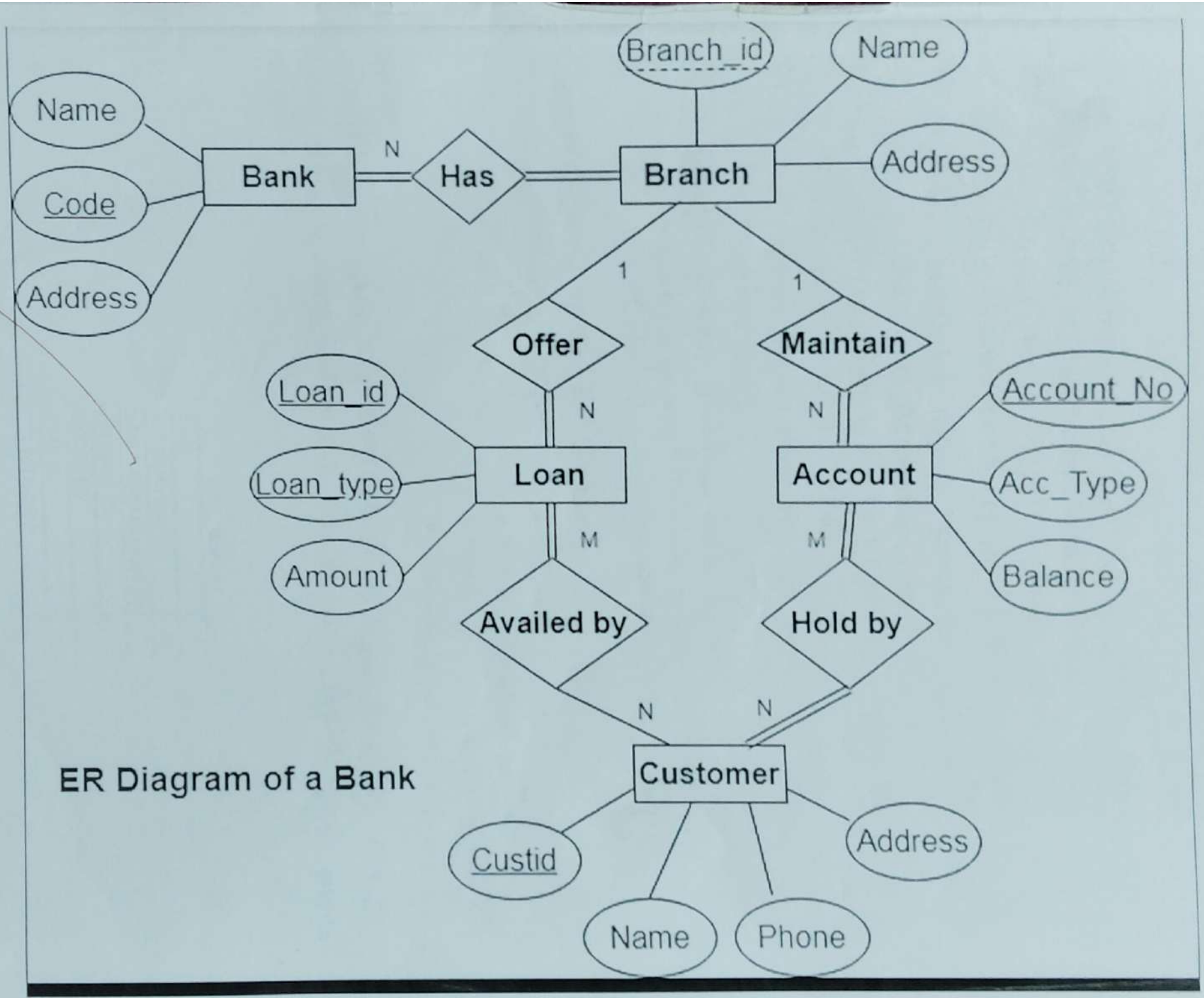
② Account_Transaction
* An account performs many transactions
* Cardinality : one to Many (1:m)
* TYPE : strong relationship.

③ Customer_Loan.
* A customer takes zero or many loans
* cardinality : one to many (1:m)
* Type : Strong relationship

④ Branch_Employee
* A Branch employee mang employees
* Cardinality : One to many

⑤ Branch_Account
* A Branch manages many accounts.
* cardinality : one to Many (1:m)

Sample output :-
- Customer(1) ... (m) Account
- Account(1) ... (m) transaction
- customer(1) .... (m) Loan
- Branch(1) .... (m) Employee
- Branch(1) ..... (m) Account



ER Diagram of a Bank

Step 1(d): Reframing the Relationships with key and constraints.
Convert the conceptual model into Relations (Tables) with keys.
Sample output:

① Customer (Customer_ID[PK], Name, Address, Phone, Email)
② Branch (Branch_ID[PK], Branch_Name, location)
③ Account (Account_Number[PK], Account_Type, Balance,
Date_opened, Customer_ID[PK], Branch_ID[PK])
④ Transaction (Transaction_ID[PK], Transaction_Type, amount,
Date_time, Account_number[FK])
⑤ Loan (Loan_ID[PK], Loan_type, Loan_amount, Interest_Rate,
Start_date, Customer_ID[PK])
⑥ Employee (Employee_ID[PK], Name, Position, contact_NO,
Branch_ID[PK])

Constraints: PK → unique identifiers for each table
FK → Foreign keys maintain referential integrity
1-M → Enforced using foreign key relationships

Step 1(e): Develop an ER Diagram.
By using draw.io to represent:
- Entities as rectangles
- Attributes as ovals
- Relationships as diamonds
- Indicate cardinalities (1,m).

Result:- Thus drawing conceptual design through FTR using draw.io was executed successfully for Bank management.

VEL TECH	
NO.	1
ERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
TOTAL (20)	20
GN WITH DATE	

14/8/24