***ER DIAGRAM OF A BANKING SYSTEM***

**STEP: 01 DEFINING ENTITY SETS AND THEIR TYPES**

1. Branch
2. Customer
3. Employee
4. Account : 1)Current account 2)Savings account
5. Loan
6. Payment ( Weak entity--total participation depends on strong entity)

**STEP: 02 DEFINING ATTRIBUTES OF EACH ENTITY AND THEIR TYPE**

1. **Branch** : B-name(composite), B-id (primary-key), B-address(composite), B-Asset(single-valued), B-liability(single-valued)
2. **Customer** : C-name (Composite), C-id (primary-key), C-address(composite),

C-contact number (single-valued) ,DOB(single-valued),C- Age(derived)

1. **Employee :** E-name (Composite), E-id (primary-key), E-address(composite),

E-contact number (single-valued), DOB(single-valued),

Age (derived), Department (single-valued),E-Post(single-valued)

**Customer—Employee—Generalize (Person—related—to—bank)**

1. **Savings account** : Account-number (primary-key), Balance(single-valued),interest-rate (single-valued), Daily-withdrawal limit(single-valued)
2. **Current account** : Account-number (primary-key), Balance(single-valued),Pertransaction\_charge(Single-valued),Overdraft-amount(Single-valued) **Savings account-- Current account—Generalize**
3. **Loan :** Loan-ID (Primary-key),loan-amount(single-valued)
4. **Payment (Weak-Entity**) : Payment-Number(Primary-key), amount,date

**STEP: 03 DEFINING RELATIONSHIP, THEIR TYPE AND MAPPING CARDIANILITY**

1. Bank has branches.(1:N)
2. Employee works in branches (N:1).
3. Customer several accounts.(1:N)
4. Customer takes loan(1;N)
5. Loan has payment(1:N)
6. Employee manages employee(1:N)
7. Employee manages customer.(1:N)

**BRANCH**

**RELATED**

**MANAGES**

**IS A**

**CUSTOMER**

**EMPLOYEE**

**PERSON RELATED TO BANK**

HAS

ACCOUNT

TAKES

HAS

**IS A**

**CURRENT-ACCOUNT**

SAVINGS-

ACCOUNT

**PAYMENT**

**LOAN**