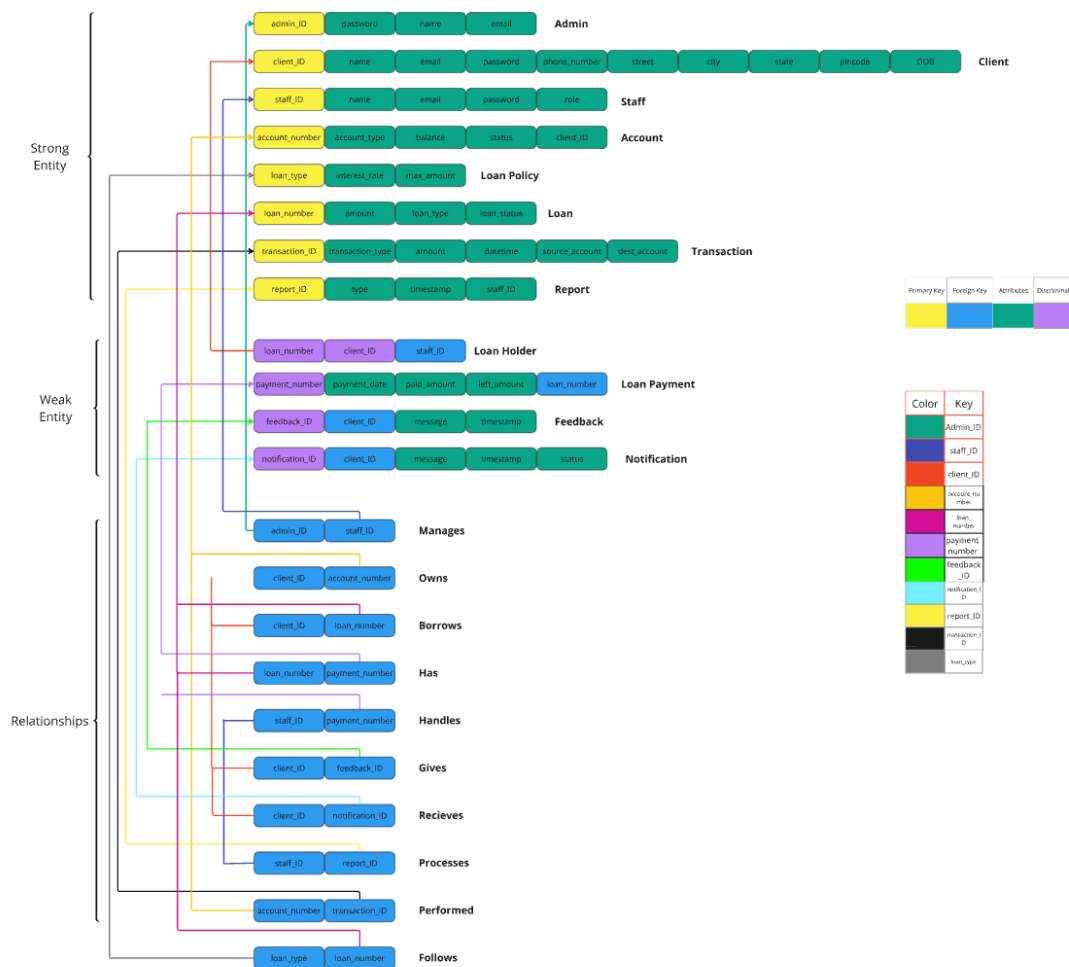


Group Members

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Relational Model



[Link to Relational Model](#)

Entity Sets Classification & Description

Strong Entities

1. Admin

- **Attributes:**
 - admin_ID (PK), password, name, email
- **Description:** Stores information about bank administrators.

2. Client

- **Attributes:**
 - client_ID (PK), name, email, password, phone_number, street, city, state, Pincode, DOB
- **Description:** Represents customers who hold accounts and take loans.

3. Staff

- **Attributes:**
 - staff_ID (PK), name, email, password, role
- **Description:** Represents bank employees managing transactions and client services.

4. Account

- **Attributes:**
 - account_number (PK), account_type, balance, status, client_ID
- **Description:** Stores details about bank accounts belonging to clients.

5. Loan Policy

- **Attributes:**
 - loan_type (PK), interest_rate, max_amount, loan_status
- **Description:** Defines policies and conditions for different loan types.

6. Loan

- **Attributes:**
 - loan_number (PK), amount, loan_type (FK), loan_status
- **Description:** Represents loans taken by clients.

7. Transaction

- **Attributes:**
 - transaction_ID (PK), transaction_type, amount, timeStamp, source_account, dest_account

- **Description:** Stores details of financial transactions between accounts.

8. Report

- **Attributes:**
 - report_ID (PK), type, timestamp, staff_ID
- **Description:** Maintains logs of reports generated by staff.

Weak Entities

1. Loan Holder

- **Attributes:**
 - loan_number (PK, FK), client_ID (PK, FK), staff_ID (FK)
- **Reason for Weakness:** It depends on Loan and Client entities for its existence.
- **Description:** Represents a client holding a loan, managed by staff.

2. Loan Payment

- **Attributes:**
 - payment_number (PK), payment_date, paid_amount, left_amount, loan_number (FK)
- **Reason for Weakness:** Exists only if a loan exists.
- **Description:** Tracks loan repayment details.

3. Feedback

- **Attributes:**
 - feedback_ID (PK), client_ID (FK), message, timestamp
- **Reason for Weakness:** It depends on Client to exist.
- **Description:** Stores customer feedback messages.

4. Notification

- **Attributes:**
 - notification_ID (PK), client_ID (FK), message, timestamp, status
- **Reason for Weakness:** It depends on Client for notifications.
- **Description:** Represents messages sent to clients.

Relationships Among Entities

1. **Manages** → (Admin → Staff)
2. **Owns** → (Client → Account)

3. **Borrows** → (Client → Loan)
4. **Has** → (Loan → Loan Payment)
5. **Handles** → (Staff → Loan Holder)
6. **Gives** → (Client → Feedback)
7. **Receives** → (Client → Notification)
8. **Processes** → (Staff → Report)
9. **Performed** → (Account → Transaction)
10. **Follows** → (Loan Type → Loan)

Contribution

With discussions and meetings, we together made up the relational model from the previously designed ER diagram and, accordingly, the two SQL files to create all the tables and populate the database, ensuring all the integrity and domain constraints.