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Task 4.2C: Mini-project Part 1

Task 1: Camberwell Library

1. The organization name

Camberwell Library

2. Website:

<https://www.boroondara.vic.gov.au/services/libraries>

3. The business activities:

Camberwell Library provides community library services, including:

- **Book Lending:** Members can borrow books and research materials.
- **Online Services:** Allows borrowing books, materials online, and research services.
- **Event Organization:** The library organizes book clubs, seminars, and other community activities.
- **Learning Resources:** The library provides learning materials for students and research groups.

4. The company's business processes:

- **Book Borrowing Process:** Members register to borrow books through the library's management system. After borrowing, they need to return the books on time.
- **Membership Registration Process:** Users register to become library members by filling in personal information and creating an account.
- **Event Organization Process:** Events like book clubs or seminars are organized and announced for the community to participate.

Task 2:

Based on the library's processes and activities, we will identify the main entities and their attributes:

Member

- **MemberID (PK):** Member ID (Primary Key)
- **Name:** Member's Name
- **Email:** Member's Email
- **Phone:** Member's Phone Number
- **Address:** Member's Address
- **JoinDate:** Date of Joining
- **MembershipType:** Type of Membership (e.g., Student, Adult, Senior)

Book

- **BookID (PK):** Book ID (Primary Key)
- **Title:** Book Title

- **Author:** Book Author
- **Genre:** Book Genre
- **Publisher:** Publisher
- **PublicationYear:** Year of Publication
- **ISBN:** ISBN Number
- **AvailabilityStatus:** Availability Status (e.g., Available, Borrowed)

Loan

- **LoanID (PK):** Loan ID (Primary Key)
- **MemberID (FK):** Member ID (Foreign Key referencing Member)
- **BookID (FK):** Book ID (Foreign Key referencing Book)
- **LoanDate:** Date of Loan
- **ReturnDate:** Date of Return
- **Status:** Status (e.g., Returned, Borrowed)

Event

- **EventID (PK):** Event ID (Primary Key)
- **EventName:** Event Name
- **EventDate:** Event Date
- **Time:** Event Time
- **Location:** Event Location
- **Organizer:** Event Organizer
- **Description:** Event Description

Staff

- **StaffID (PK):** Staff ID (Primary Key)
- **StaffName:** Staff Name
- **Role:** Role (e.g., Librarian, Event Manager, Support Staff)
- **StaffEmail:** Staff Email
- **StaffPhone:** Staff Phone Number

Task 3:

Member Entity

- **1NF:** Achieved 1NF because all attributes have atomic values, with no repeating groups.
- **2NF:** Achieved 2NF because all non-key attributes fully depend on **MemberID** (the primary key), with no partial dependency.
- **3NF:** Achieved 3NF because there are no transitive dependencies, and all attributes depend only on **MemberID**.

Book Entity

- **1NF:** Achieved 1NF because all attributes have atomic values, with no repeating groups.
- **2NF:** Achieved 2NF because all non-key attributes fully depend on **BookID** (the primary key), with no partial dependency.

- **3NF**: Achieved 3NF because there are no transitive dependencies, and all attributes depend only on **BookID**.

Loan Entity

- **1NF**: Achieved 1NF because all attributes have atomic values, with no repeating groups.
- **2NF**: Achieved 2NF because all non-key attributes fully depend on **LoanID** (the primary key), and **MemberID**, **BookID** are foreign keys that do not cause partial dependencies.
- **3NF**: Achieved 3NF because there are no transitive dependencies, and all attributes depend directly on **LoanID**.

Event Entity

- **1NF**: Achieved 1NF because all attributes have atomic values, with no repeating groups.
- **2NF**: Achieved 2NF because all non-key attributes fully depend on **EventID** (the primary key), with no partial dependency.
- **3NF**: Achieved 3NF because there are no transitive dependencies, and all attributes depend only on **EventID**.

Staff Entity

- **1NF**: Achieved 1NF because all attributes have atomic values, with no repeating groups.
- **2NF**: Achieved 2NF because all non-key attributes fully depend on **StaffID** (the primary key), with no partial dependency.
- **3NF**: Achieved 3NF because there are no transitive dependencies, and all attributes depend only on **StaffID**.

Task 4: ERD

