Each Section Includes the Following:

* Project Title
* Current Business Processes
* Problem Statement
* Proposed Business Processes
* Entities and Attributes

**Project Title 1**

**1. Library Management System**

**The Current Business Processes**

* Library members are registered manually using paper-based records.
* Borrowed and returned books are tracked using physical logbooks.
* Searching for books is time-consuming and requires manually checking shelves.
* Fine payments are handled using paper receipts and manual calculations.
* Staff must manually verify availability before lending any book.

**THE PROBLEM STATEMENT:**

* The manual management of library operations causes inefficiencies such as loss of book records, slow borrowing processes, and challenges in fine tracking. Additionally, book searches consume time and human resources, and reports are difficult to prepare.

**THE PROPOSED BUSINESS PROCESSES:**

* Automated registration of library members.
* Digital recording of borrowing and returning transactions.
* Real-time search of books using title, author, or category.
* Automatic calculation of overdue fines.
* Generation of reports on borrowed, returned, and available books.

**THE ENTITIES AND ATRIBUTES:**

**The following are Entities:**

* BOOKS
* STUDENTS
* BORROW
* STAFF
* PAYMENT

**The following are ATRIBUTES:**

* Book-ID, Title, Author, Publisher, ISBN, Quantity.
* Student-ID, Name, Gender, Address, Phone, Email, Date-joined
* Borrow-ID, Book-ID, Student-ID, Staff-ID, Borrow-Date, Due-Date, Return-Date, Status
* Staff-ID, Name, Role, Phone, Email
* Payment-ID, Student-ID, Amount, payment-Date, purpose



**Project Title 2**

**Hostel Management System**

**The Current Business Processes**

* Hostel room booking is done manually by filling paper forms.
* Room assignments are written in a ledger, which can easily get misplaced.
* Student payment and rent records are tracked manually using receipts.
* Maintenance complaints are reported verbally or via written letters.
* Room vacancy reports take a long time to prepare and verify

**Problem Statement:**

* The existing manual hostel management system causes poor room tracking, frequent allocation conflicts, and lack of transparency in student payment records.
* Maintenance issues are also not easily tracked or resolved in time.

**Proposed Business Processes:**

* Online student registration for room allocation.
* Automatic tracking of available and occupied rooms.
* Electronic management of rent payments and receipts.
* Recording of maintenance issues through a digital interface.
* Instant generation of room occupancy and payment reports**.**

**Entities and Attributes:**

* Resident
* Rooms
* Payment
* Staff

**Attributes Are as follows**

* Resident\_ID, Name, Contact, DateJoined
* Room\_ID, Room Number, Type, Status
* Payment\_ID, Amount, Date, Payment Status
* Staff\_ID, Name, Position, Contact, Shift

