

LIBRARY MANAGEMENT SYSTEM

10. Draw a use case diagram for Library Management System is an automation system used to manage a library and the different resource management required in it like cataloguing of books, allowing check out and return of books, invoicing, user management, etc. The user can search for books details using few book properties (Book ID, Title, Author, and Publisher). Searching should return details about all the book copies that match the search query.

AIM:

To design a use case diagram for a Library Management System that shows the interactions between various actors and the system for managing library operations such as cataloguing, searching, issuing, returning books, and user management.

Procedure:

Step 1: Identify the main actors

- Librarian
- Library Member
- System (Library Management System)

Step 2: Identify the use cases

- Manage Books (Add, Update, Delete)
- Search Books
- Issue Book
- Return Book
- User Management
- Generate Invoice

Step 3: Establish relationships between actors and use cases

- Librarian: Manage Books, Issue Book, Return Book, Generate Invoice, User Management
- Library Member: Search Books

Step 4: Draw actors and their relationships to the use cases using appropriate symbols.

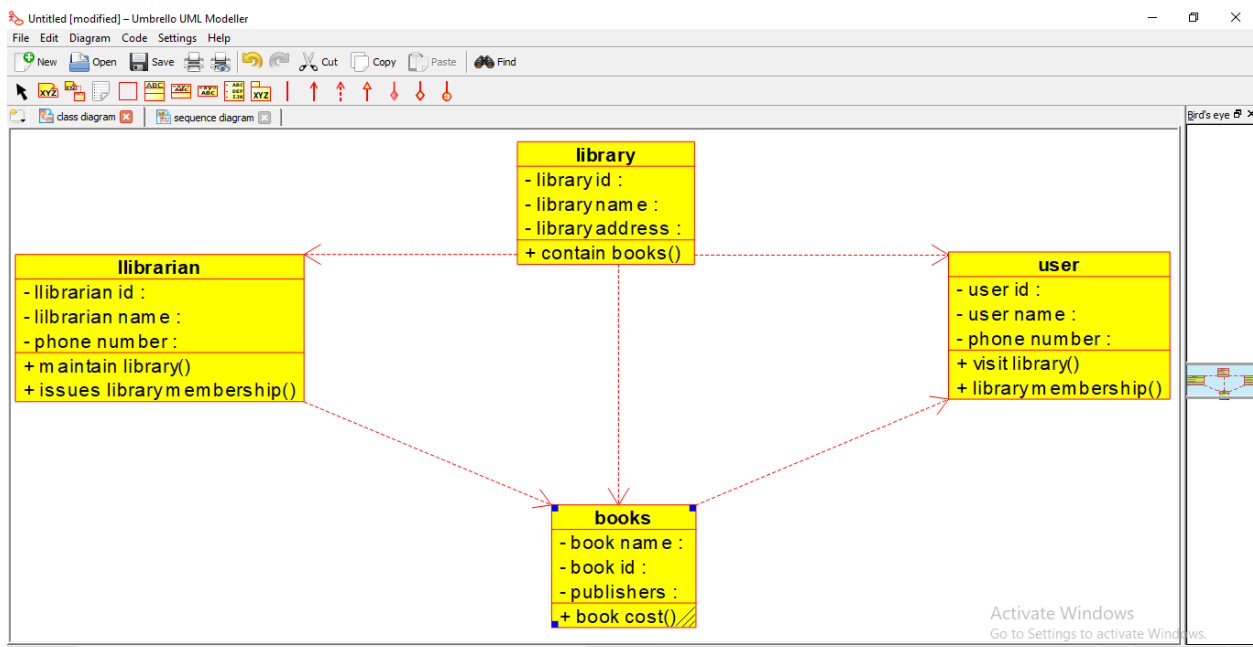
Step 5: Connect actors to related use cases with lines to indicate interaction.

Step 6: Label all components clearly and ensure the diagram is structured logically.

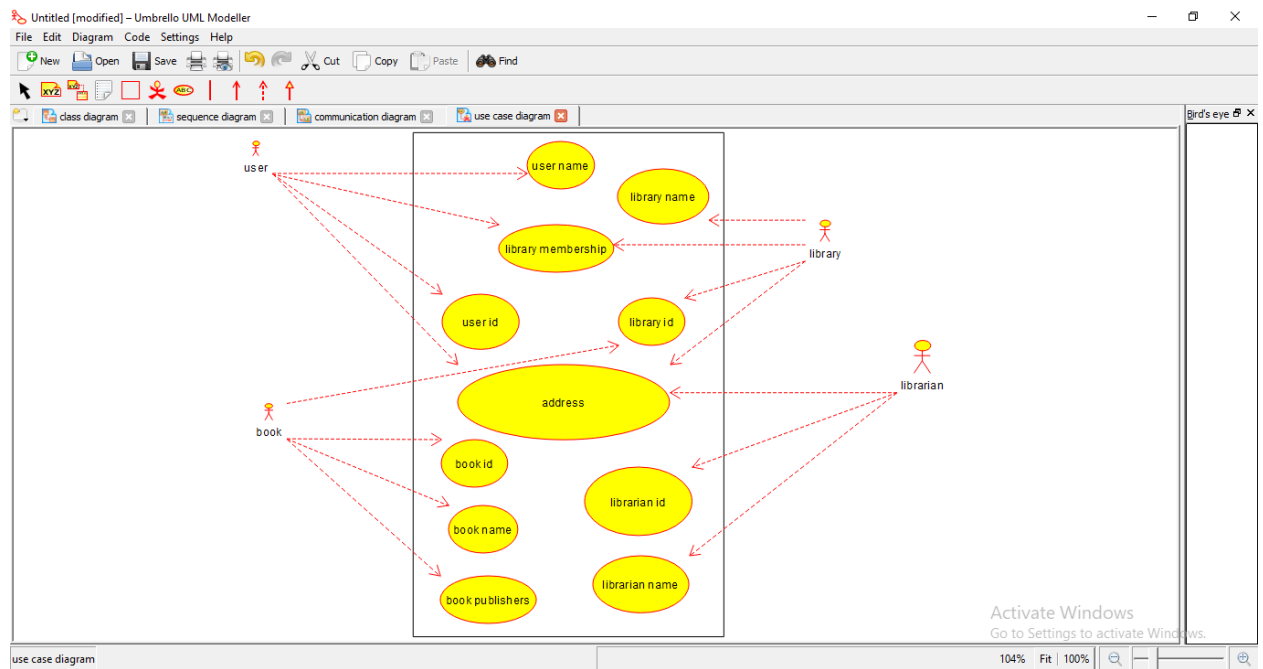
Step 7: Verify the completeness and correctness of the diagram.

OBSERVATION:

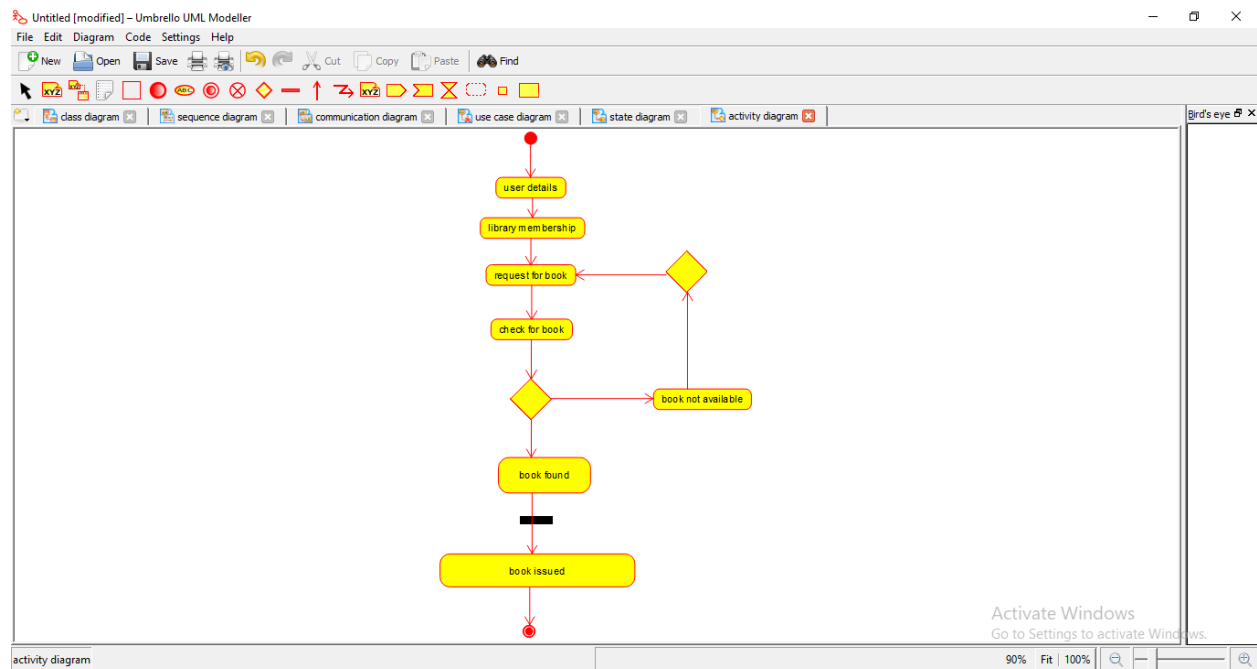
➤ CLASS DIAGRAM



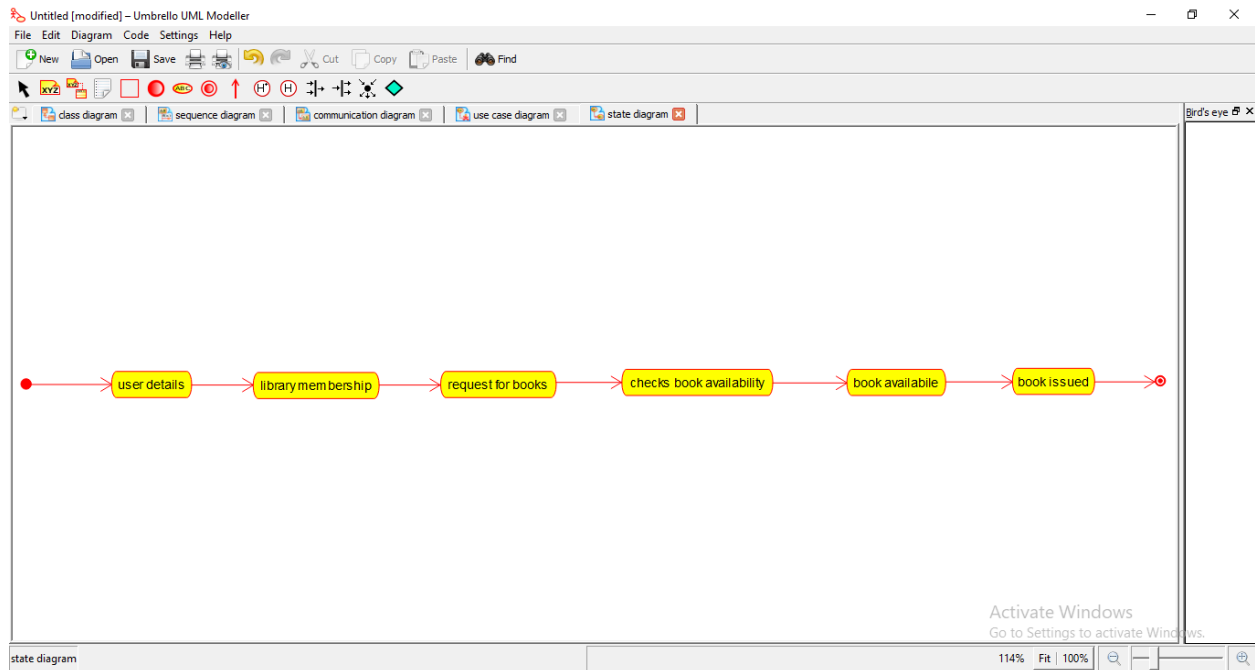
➤ USE CASE DIAGRAM



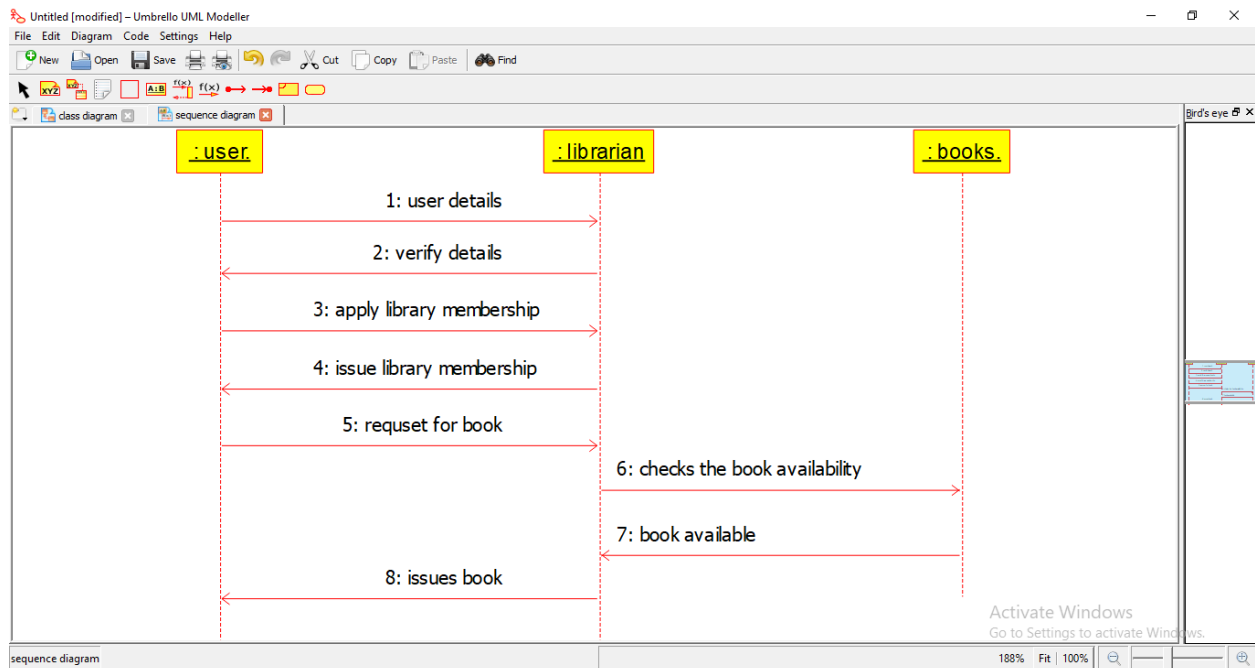
➤ ACTIVITY DIAGRAM



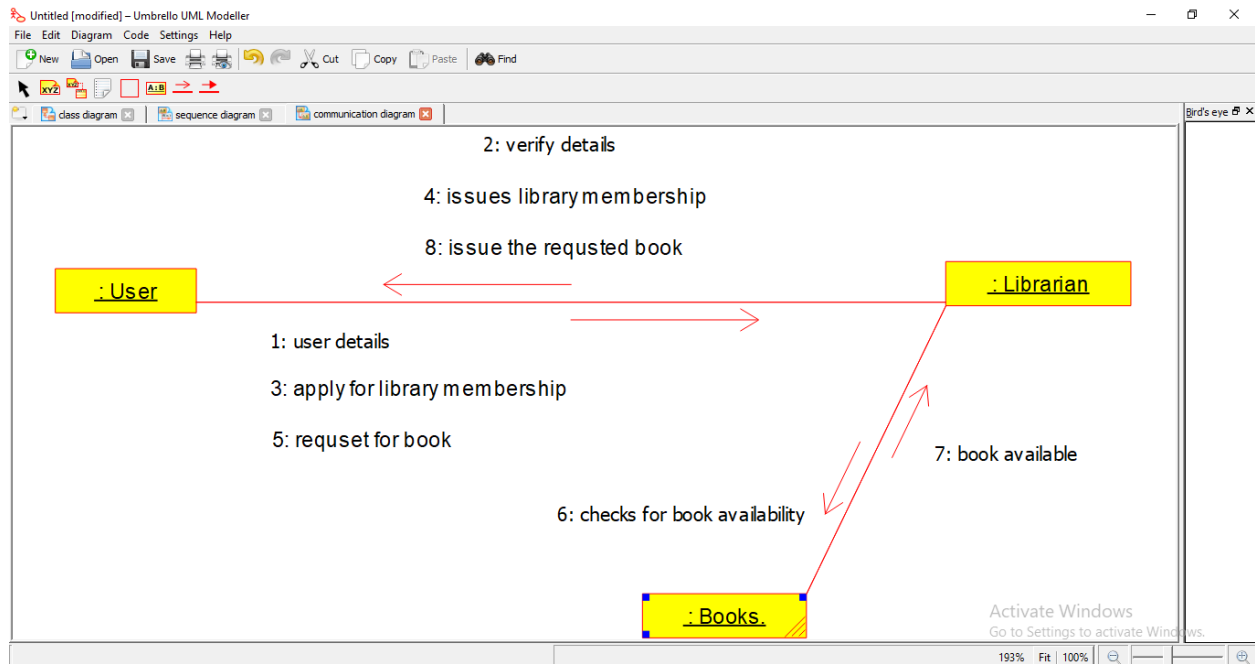
➤ STATE CHART DIAGRAM



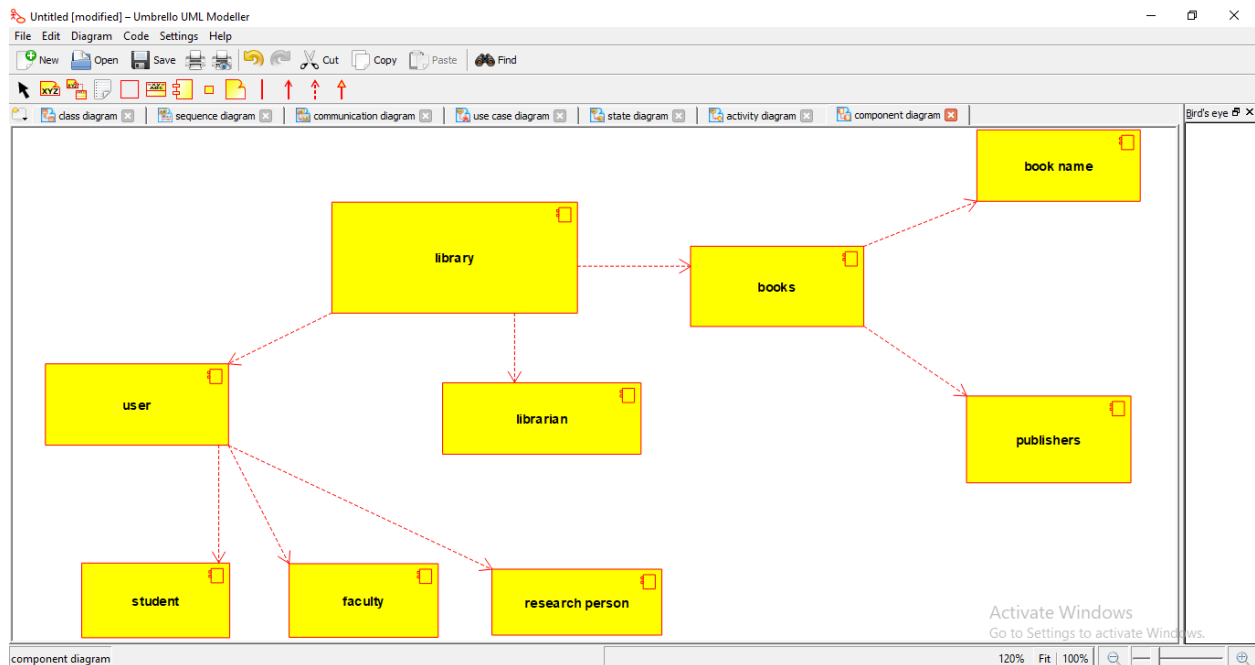
➤ SEQUENCE DIAGRAM



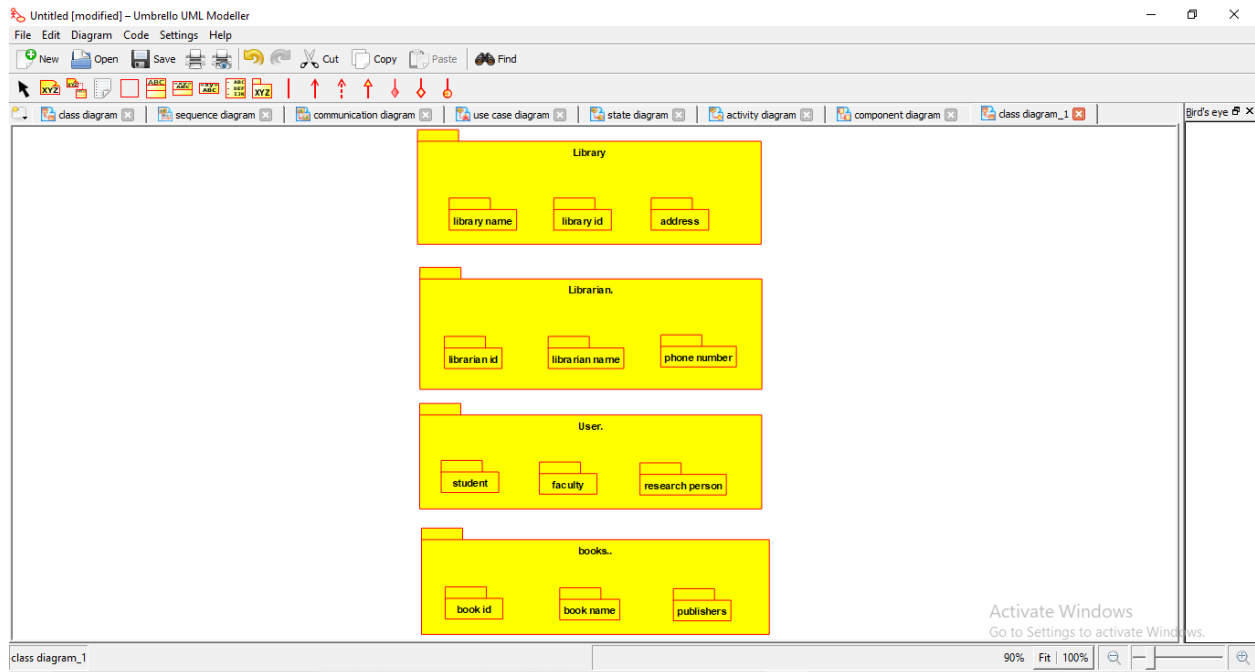
➤ COMMUNICATION DIAGRAM



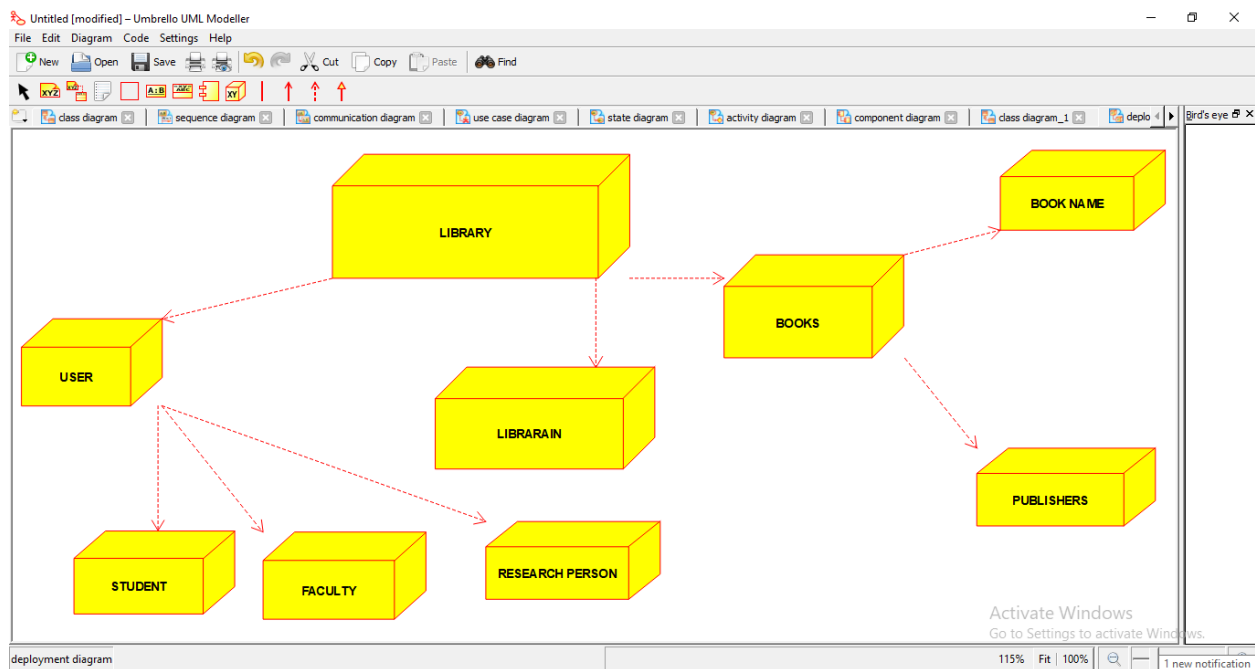
➤ COMPONENT DIAGRAM



➤ PACKAGE DIAGRAM



➤ DEPLYOMENT DIAGRAM



RESULT: The use case diagram provides a visual representation of the Library Management System's functionality, highlighting the interactions between the librarian, library members, and the system for various operations.