**CRC cards for Library Management System**

**Book**

1. storeBookDetails (title, author, ISBN, availability status)
2. updateAvailabilityStatus (mark as available or borrowed)

**Explanation:** Represents a book in the library, storing details and tracking availability for borrowing.

**Collaborators:**

* **Member** (to borrow and return books)
* **Librarian** (to add or remove books from the collection)
* **LibrarySystem** (to track book status)

**Member**

1. borrowBook **Book, LibrarySystem**
2. returnBook **Book, LibrarySystem**
3. viewBorrowedBooks **LibrarySystem**

**Explanation:** Represents a library member who can borrow up to 3 books at a time and return them.

**Collaborators:**

* **Book** (to check availability and update status)
* **LibrarySystem** (to enforce borrowing limits and track loans)
* **Librarian** (for viewing checked-out books)

**Librarian**

1. addBookToCollection **Book, LibrarySystem**
2. removeBookFromCollection **Book, LibrarySystem**
3. viewCheckedOutBooks **LibrarySystem**
4. viewAvailableBooks **LibrarySystem**

**Explanation:** Responsible for managing the library collection, adding and removing books, and tracking availability.

**Collaborators:**

* **Book** (to add and remove books from collection)
* **LibrarySystem** (to track borrowed and available books)

**LibrarySystem**

1. manageBookCollection **Book, Librarian**
2. trackBookAvailability **Book**
3. enforceBorrowingLimits **Member**
4. trackCheckedOutBooks **Member, Librarian**
5. viewAvailableBooks **Librarian**

**Explanation:** Oversees library operations, ensuring book availability, member compliance, and book tracking.

**Collaborators:**

* **Book** (to manage book availability)
* **Member** (to enforce borrowing limits and track loans)
* **Librarian** (to assist with book management and tracking availability)

**Key Abstractions:**

* **Book** represents an individual entity in the library collection.
* **Member** represents a user who borrows books.
* **Librarian** represents an admin role for managing books.
* **LibrarySystem** abstracts the overall library operations, ensuring compliance with rules and book tracking.

References:

* Feedback from the assignment
* Assignment 3
* Solution presented at Lecture