Use the B method to specify a system capable of handling book borrowings for the subscribers of a library. The system has to manage the following entities: library, librarian, book, book status, subscriber, and the borrowing of a book.

Next, there is a brief description of each of them:

• A library is recorded together with its name, address, and unique identifier. A library contains one librarian and many books.

• A librarian recording contains the unique identifier of the library he/she works for, the name, and birthday.

• A book is recorded together with its title, author, year of publication, recommended age, and book status. There can be multiple volumes of the same book, but they will be recognized by a unique identifier.

• A subscriber is recorded in the system together with its name, age, number of active borrowings, and a unique identifier.

• A borrowing contains a unique identifier, the unique identifier of the subscriber, the unique identifier of the book that was borrowed, the unique identifier of the librarian, and the date of the borrowing. One subscriber can have a maximum of three active borrowings. When a customer wants to return a book, the librarian will delete the corresponding instance from the borrowings set, and decrease the number of borrowed books for that subscriber.

The system should provide a number of operations for creating, modifying, and destroying a *library*, *librarian*, *book*, *subscriber*, and *borrowing*, and, finally, for extending the deadline of a borrowing.

Next, there are a number of informally stated laws that the system should satisfy:

1. A subscriber cannot have more than three active borrowings at a time.
2. According to the age of the subscriber, there is a range of books available to him.
3. A subscriber's age has to be grater then 7.
4. An already borrowed book cannot be borrowed again until it is returned.
5. The status of a book can only be *available* or *unavailable*.

6. The borrowing of an unavailable book must be rejected.