

### Assumptions

A loan cannot be made without a reservation.

A reservation can only be used for one loan. To renew, place another reservation.

The library keeps a record of all identifiers associated with a title without necessarily having a book copy pertaining to that particular identifier.

A subject can exist in the database without being associated with a title.

All authors and publishers kept in the database will have at least one corresponding title in the database.

Every title in the database will have at least one book copy in the library system.

A manager will not be hired until he has a branch assignment; that is, every manager in the system will manage at least one branch.

### Comments

I created 2 types of values for borrower status flag; either C for clean or F for flagged. The default value is clean.

I set the title's readability to numeric. Therefore, I can check the constraint values are less than or equal to 30.

I created a surrogate key for reservation called res\_no. This was due to complexity of the original primary key, which was a composite key, consisting of three attributes and 3 different data types (numeric, date and char).

I created a separate entity for book availability status as opposed to an additional attribute with a constraint of fixed values due to the lengthiness and complexity of the values. For example, the appendix form has 'Item in place – Available' as an availability status. I did not create a constraint with one of accepted values being 'Item in place – Available' as it would tedious to match the case and exact nature in which it was typed every time one would have to change a book's status to available. Rather, I created a new entity where called book availability. The data enterer will thus have to either enter in '1', or '2' or '3' for each status, saving time and efforts.

### Other

Please note that for a period I had issues re-opening logical modeled saved on Oracle until this issue was resolved by a tutor (Edwin Mochsin). As a result, the date modified might be different from the actual date I created the logical model.