RCL Assumptions

- We assume each branch can only have zero or one book copy of a catalogue entry
    - From the instructions, 'There may also be other copies of the same catalogue entry that are available for normal loan.'
    - We assume that the other copies mean book copies from a different branch
        - If book copy 101 is flagged in branch 4, book copy 101 is not flagged in branch 6

- We assume that a book copy from a branch keeps its loan records
    - We assume it shows the previous borrowers who borrowed the book and retains those records
        - If Person A borrows book copy 101 from branch 4 and returns it on the same day, when Person B borrows book copy 101 from branch 4, records of Person A and Person B's loans are stored in the system

- We assume that a person can borrow multiple books in one loan date time.
    - We assume that Person A can borrow book copies 101, 105 and 110 at the same date time and return them at different date times.

- We assume an LGA can be recorded before it opens their first branch

- We assume since a manager must manage at least one branch, that branch will be their home branch

- We assume that a borrower status can be represented with P and B for Permitted and Banned

- We assume that the system wants to store all book copies, even stolen, lost and damaged book copies. The system will have an updated check list for book flag

where a book flag can be On Loan, On Counter Reserve, Available for Borrowing, Stolen, Damaged, Lost.

- We assume stolen, lost and damaged book copies will be replaced by the branch manager which will allow the status to change to On Loan, On Counter Reserve and Available for Borrowing when it is replaced.

- We assume that any borrower class can borrow no more than 99 books

- We assume that any borrower class cannot borrow books for more than 99 days

- We assume that datetime attributes should not be broken down to simple attributes to retain its uniqueness

- We assume that a borrower may want to reserve a book copy again at different dates.
    - Eg: Bookcopy 101 was reserved by borrower 990 today. They received a call and got the bookcopy tomorrow and returned it on the same day.
    - Two weeks from now, borrower 990 reserved bookcopy 101 again from the same branch.

- We assume that the number of pages for a catalogue entry does not exceed 9999 pages

- We assume that all the authors in the system written a catalogue entry

- We assume that all the subjects in the system have been labelled before in the catalogue entry.

- We assume that the system may not have all borrower class type labelled by the borrowers themselves. For instance, the system might only include adult borrowers.

- We assume that no additional borrower class type will have the same first letter as the existing borrower class type

    - So, we use first letter of a borrower class to represent (A – Adult, C – Child, O - Organisation)

- We assume that an author can be added into the system without having any books written yet

- We used a surrogate key in the LOAN entity as LOAN entity originally used a composite primary key consisting of 3 attributes (bookcopy_id, branch_code, loan_datetime)
    - Surrogate key (loan_id) uses all 3 attributes where all 3 attributes must be unique identifiers
- We used a surrogate key in SUBJECT_CALL entity as SUBJECT_CALL entity originally used a composite primary key consisting of 2 attributes (cata_call_no, subject_id)
    - Surrogate key(sc_no) is shorter and more efficient than using natural keys like a combination of cata_call_no and subject_id
    - Since cata_call_no is varchar and subject_id is numeric so we have added a surrogate key
- We used a surrogate key in AUTHOR_CALL entity as AUTHOR_CALL entity originally used a composite primary key consisting of 2 attributes (cata_call_no, author_id)
    - Surrogate key(ac_no) is shorter and more efficient than using natural keys like a combination of cata_call_no and subject_id
    - Since cata_call_no is varchar and author_id is numeric so we have added a surrogate key

- We used a surrogate key in RESERVE entity as RESERVE entity originally used a composite primary key consisting of 2 attributes (reserve_datetime, reserve_phone_no)
    - Surrogate key(reserve_no) is shorter and more efficient than using natural keys like a combination of reserve_datetime and reserve_phone_no
    - Since reserve_datetime is date and reserve_phone_no is numeric so we have added a surrogate key.