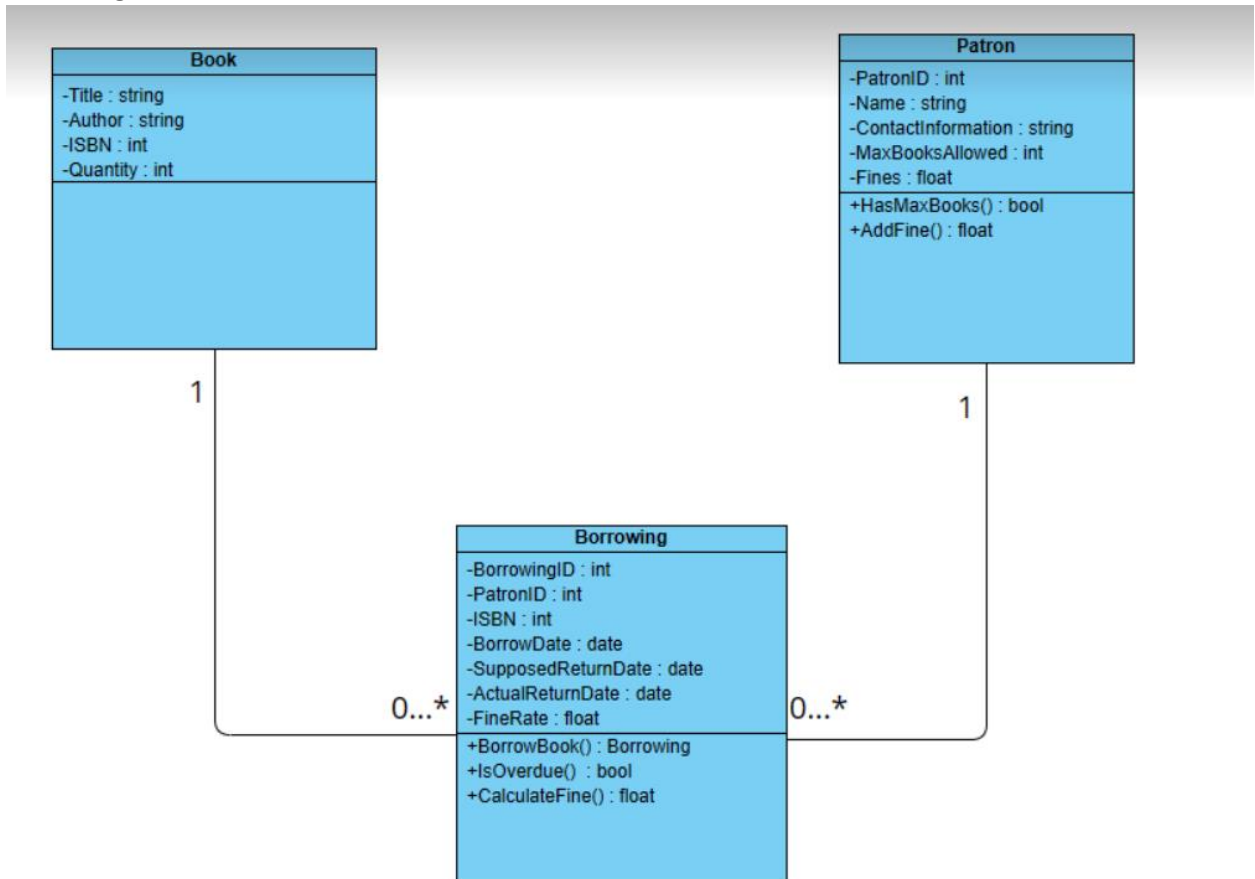


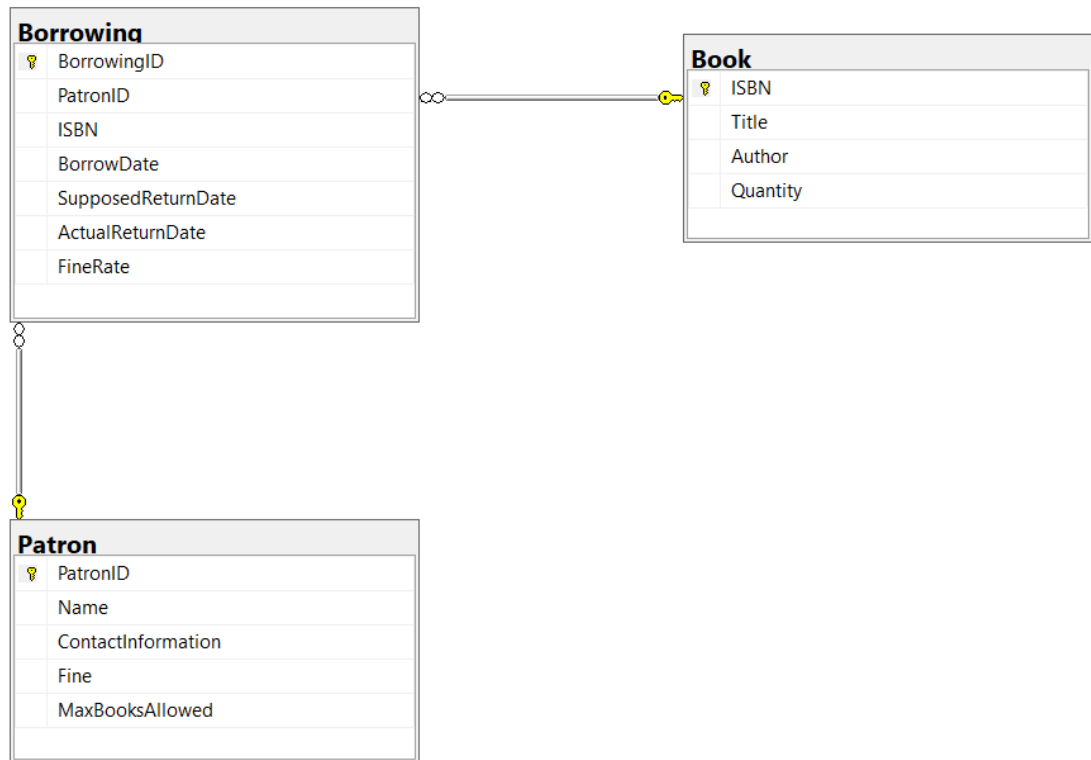
Books

Class Diagram



Database diagram

In table Borrowing, PatronID and ISBN are foreign keys from Patron respectively Book.



QUIZ

1. Logical Design

- The questions will be stored in a database, memorizing their text, their 4 answers, and the correct answer. The user progress will be stored in a variable in the script. It will be incremented with one everytime the user submits a correct answer for the question. The progress (along with the whole quiz) will be restarted if the page is refreshed.
- Logical outline:
 - a. The 50 questions are stored in a database.
 - b. Inside the script there is a list where we hold the already selected IDs from the current session.
 - c. The server script fetches a question from the database using a query that checks for the ID to be unused.

- d. After the question is fetched and before it is returned, we make sure to update the list with the already selected IDs.
- e. After the question is answered by the user, when the latter presses the Submit button, a check is made to see if it was correctly answered. If it was, then a variable that keeps track of the score is incremented. If it was wrongly answered, nothing happens.

2. Algorithm implementation

Here I have the whole project so I will upload the entire file, for it is too inconvenient to copy-paste the code (unreadable in pdf) or to take so many screenshots (too many).

The files have comments so they will be easy to read.

3. Class and database

The questions will be stored in the database like this:

ID
Text
Answer1
Answer2
Answer3
Answer4
CorrectAnswer

The ID would be an integer and the rest would be strings. If it were a class, it would be an object with these attributes. If User were a class, it would have a private attribute that would track the score. The 2 classes wouldn't be directly connected, they would have a middle service between them, that takes the user's answer and the question.

So the flow is as follows: The service takes one question, then it takes the user's answer to that question, compares the answers and then it updates the user's score.

