

My personal library, a labor of love!

Database Phase 1

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Summary

Being an avid reader, I have purchased, traded and otherwise amassed a respectable collection of books that I have lugged from residence to residence but also from country to country, across two continents for over 30 years. While the quantity of books is unknown, they number well into the hundreds and some cataloging device is needed to make sense of them. They range in format from graphic novels to dictionaries, paperbacks and hardcovers. I propose to create and implement a database to track the numerous works and allow the various stakeholders of the house to easily access, locate and consult their required reading. This task will take place in two phases: phase 1 will consist of entities and relations being established, regulated by business rules. The database will provide answers to important questions formulated around the significance of the data. Conceptual and logical models of the database provide an overview of the relationships between entities and serve as the overall database design. I will also include a glossary to help identify and explain the various entities and relations.

Business Rules

- 📖 Each book has an ISBN.
- 📖 Each book has one or more author.
- 📖 Each book has a print date.
- 📖 Each book has a original publication date that may be different from the print date.
- 📖 Each book has a country of original print.
- 📖 Each book has a publisher.
- 📖 Each book has a number of pages.
- 📖 Each book has one or more genre.
- 📖 Each book has a print language.
- 📖 Each book has an original language that may be different from the print language (translation).
- 📖 Each book may be part of a collection.
- 📖 Each author has a first name, last name.
- 📖 Each author has a nationality.
- 📖 Each author has a date of birth and, if applicable, a date of death.
- 📖 Each author writes in a specific language.
- 📖 Each author has a country of birth.
- 📖 Each reader has a name.
- 📖 Each reader has an age.
- 📖 Each reader has a gender.

Stakeholders

The books are my personal property and can be found at my private residence, thus limiting the number of potential stakeholders. Among those I would include myself, Garen (44/M) and the other 3 members of my household (wife Ani (45/F) and 2 sons, Alec (12/M) and Greg(15/M), along with possible guests and visitors. All stakeholders would be able to access the database and based on their preference, select a book to read.




















Glossary

- 📖 A book is written/printed literary work.
- 📖 A publisher is a corporation whose business is publishing.
- 📖 An author is the writer of a literary work.
- 📖 A genre is a category of literary composition, characterized by a particular style, content or form.
- 📖 ISBN refers to International Standard Book Number, a unique identifier for each book.
- 📖 Print date refers to the date a book was physically printed.
- 📖 Original publication date refers to the date the book was first published.
- 📖 Print language refers to the language of the book.
- 📖 Original language refers to the language the book was originally written in which could defer from the print language (translated work).
- 📖 Nationality refers to the author's membership to a particular nation.
- 📖 Collection refers to a sub-group within the publisher's organization.

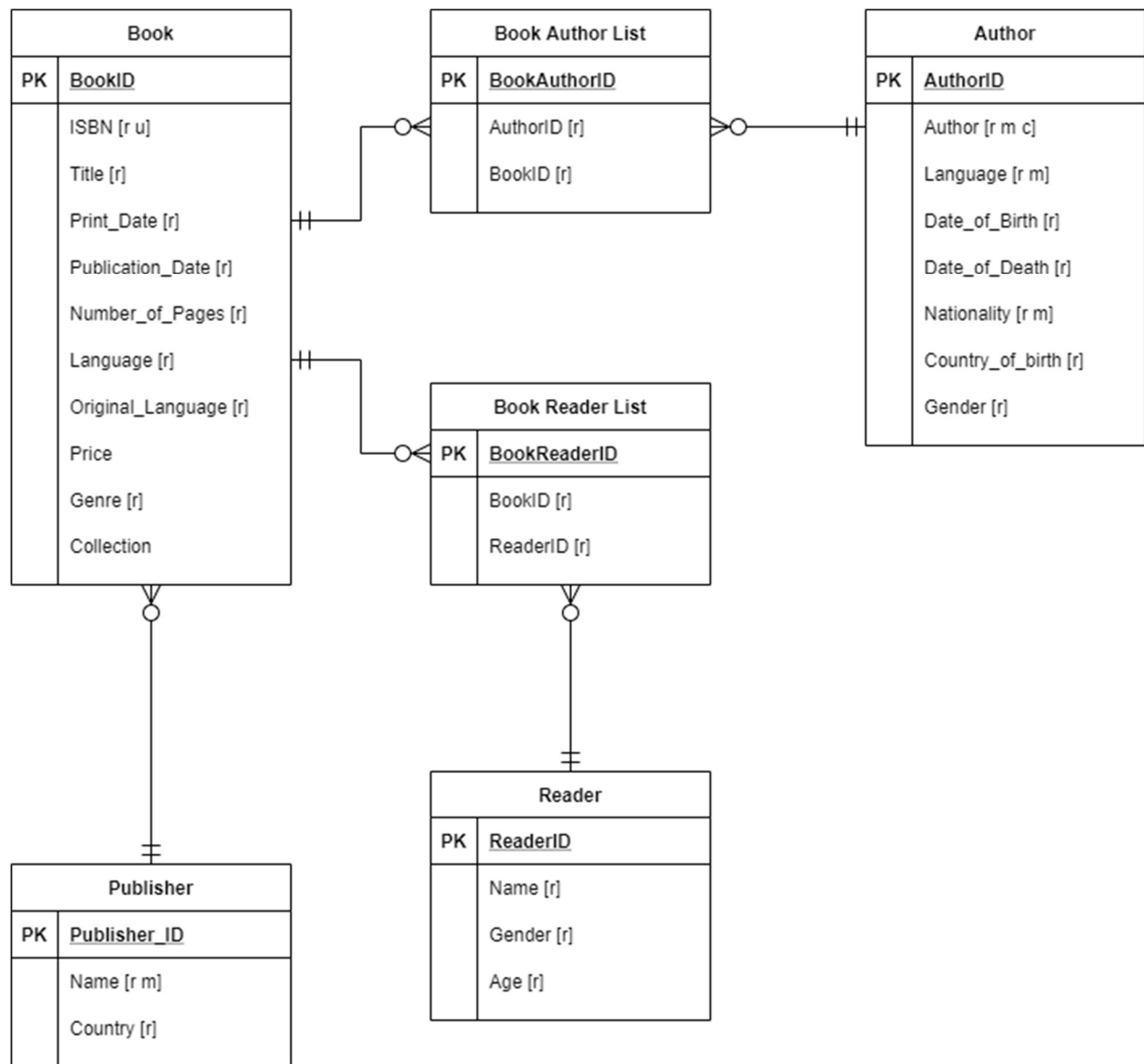
Assumptions

- 📖 For this project, I am interested in my current book collection but given the time constraints, I will only insert a small subset of data (books). I will add to the database as time allows in the future.

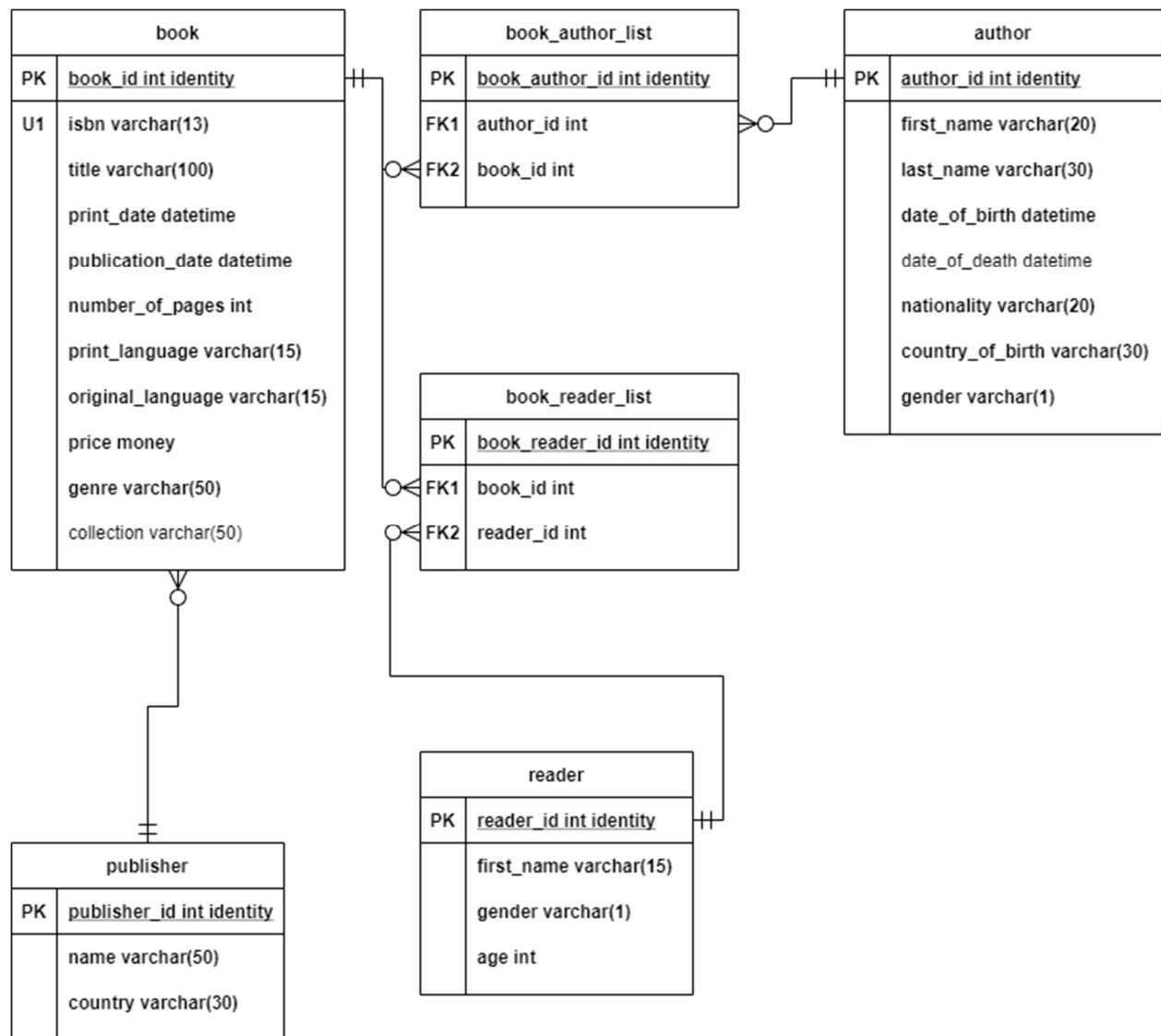
Data questions

-  Which is my oldest published book?
-  Which book has the fewest pages?
-  How many books do I own?
-  How many books do I own in a particular language?
-  How many graphic novels do I own?
-  Do I own the same book in multiple languages?
-  Which language is most represented among my books?
-  What is the most expensive book I own?
-  How many books are in their original language?
-  How many books were printed in a particular country?
-  How many books of a specific genre do I own?
-  How many books belong to a particular collection?
-  How many books were authored in a specific century?
-  How many books have authors born at a specific time?
-  What books were authored by people born in a specific country?
-  What books were written by female authors?
-  How many books are published in a specific country?
-  Who publishes most of my books?
-  Which reader reads the most graphic novels?

Conceptual Model:



Logical Model:



Logical Model Updated:

I realized that each book had one publisher and decided to simply incorporate a 'publisher' column in my 'book' table. I dropped the idea of listing the publisher's country and therefore did not have the need for a 'publisher' table.

Here is the resulting logical model:

