PROJECT TITLE

Online Book Publishing Database System

Submitted By

Pujitha Navya Sai Mudunuri ,S01

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INTRODUCTION

This project involves the design and implementation of a relational database system for an Online Book Publishing platform. The system provides an organized and scalable way to store and manage information related to publishers, books, genres, authors, customers, orders, reviews, payments, and employees. The database is designed to reflect real-world operations of an online publishing business, enabling users to handle a variety of tasks efficiently.

OBJECTIVES

➔ To design a fully normalized relational database for an online book publishing platform.

➔ To effectively model and represent real-world relationships, such as books belonging to multiple genres and having multiple authors.

➔ To enable customers to manage wishlists, place orders, and write reviews for books.

➔ To ensure data integrity through the use of primary keys, foreign keys, and constraints.

➔ To establish the foundation for advanced features like reporting, analytics, and automation.

# DATABASE SCHEMA OVERVIEW

Entities Created:

1. **Publisher**: Stores publisher details.
2. **Book**: Contains book-related information.
3. **Genre**: Represents different genres of books.
4. **Author**: Information about authors.
5. **Customer**: Customer profiles.
6. **Order**: Details about customer orders.
7. **Review**: Customer reviews for books.
8. **Payment**: Payment details related to orders.
9. **Employee**: Employees managing operations.

Relationships:

→ **One-to-Many:** Publisher to Books.
→ **Many-to-Many:** Book to Genre, Book to Author, Customer to Wishlist.
→ **One-to-Many:** Customer to Orders to Order Items to Payments.
→ **One-to-Many:** Customer to Reviews.

Entity Relationship Diagram (ERD)

This diagram helps understand the flow of data and connectivity between tables.
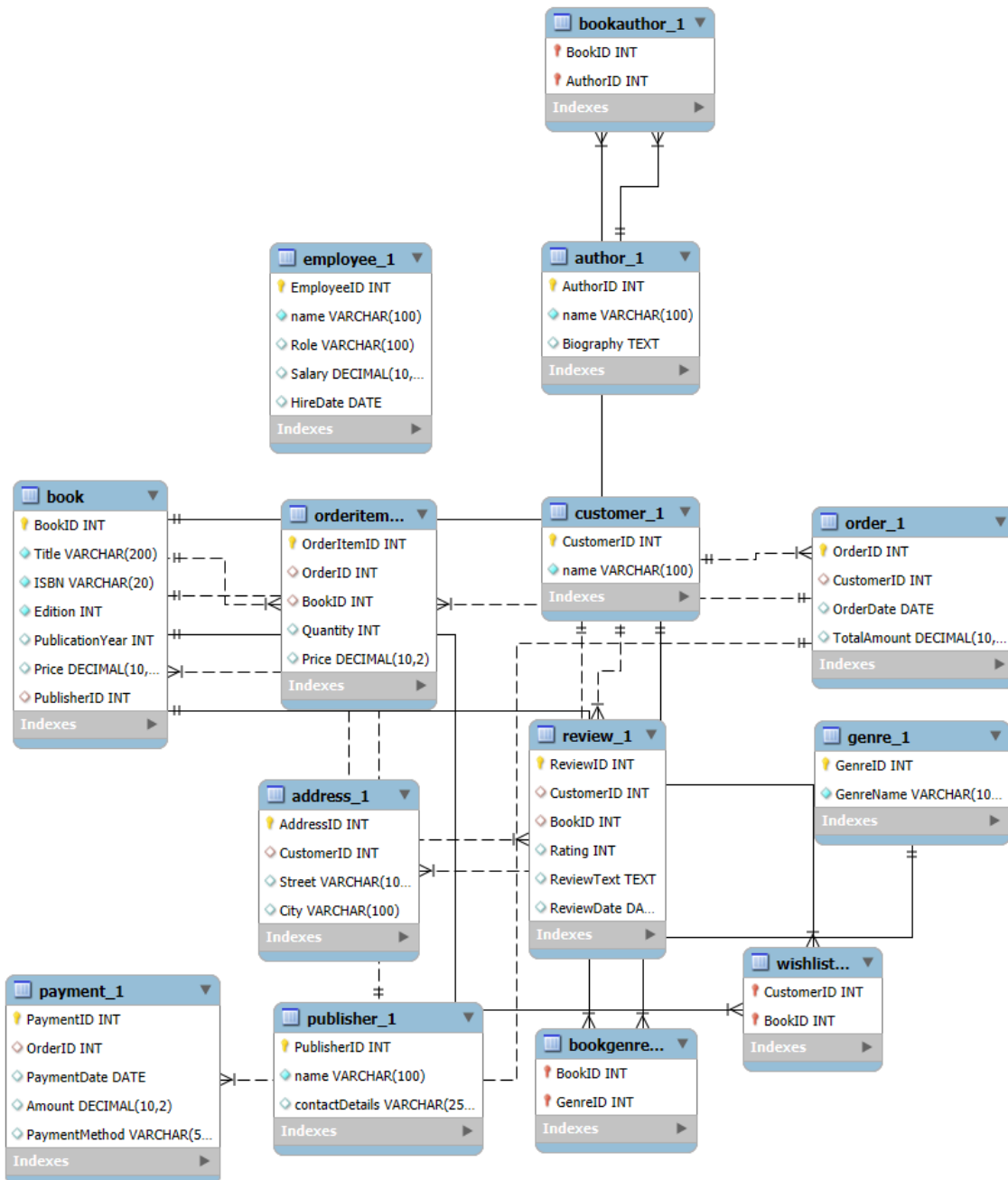
The ERD visually represents entities and relationships between them, including:
- Primary Keys (PK),Foreign Keys (FK),Relationships (1:1, 1:N, N:M)

SAMPLE DATA INSERTED

➔ **Publishers**: Added sample publishers including Pearson, Penguin, and HarperCollins.

➔ **Books**: Inserted books across various domains such as Technology, Fiction, Education, and Science.

➔ **Genres**: Included genres like Technology, Education, Fiction, Psychology, and Science.

➔ **Authors**: Linked authors to their respective books appropriately.

➔ **Customers**: Added sample customers from different cities with their addresses.

➔ **Wishlists & Orders**: Populated wishlists and orders for the customers.

➔ **Reviews**: Provided sample reviews for selected books.

➔ **Payments**: Recorded payments corresponding to the orders placed.

➔ **Employees**: Inserted sample employees representing different roles within the organization.

SAMPLE QUERIES DEMONSTRATOR

➔ Display all books with their publishers and genres.
➔ List of books with authors and their biographies.
➔ Show customer wishlists and order details.
➔ Retrieve reviews and ratings for specific books.
➔ Calculate total sales for each customer.

FUTURE SCOPE

➔ Implementation of stored procedures for automation of complex tasks.
➔ Development of advanced queries for sales analytics and reporting.
➔ Building a web interface or application for customer interaction.

CONCLUSION

The *Online Book Publishing* database project successfully demonstrates the design and implementation of a well-structured relational database for an online book-selling platform. It effectively models real-world entities, maintains data consistency through normalization and referential integrity, and supports complex relationships between books, authors, publishers, customers, and orders. This database lays a strong foundation for future enhancements, including integration with web or mobile applications, advanced analytics, and real-time user interaction.