To design an Entity Relationship Diagram (ERD) for the basic library system based on the given requirements, we need to identify entities, their attributes, and the relationships between them. Here’s how the ERD would be structured:

### Entity Relationship Diagram (ERD) for Library System

Entities:

* **Book** (BookID, Title, PublicationYear)
* **Author** (AuthorID, Name)
* **Library Member** (MemberID, Name)
* **Borrowing** (BorrowingID, DueDate, ReturnDate)

Relationships:

* **Book - Author:** Many-to-Many relationship (A book can have multiple authors; an author can write multiple books)
* **Book - Borrowing:** One-to-Many relationship (A book can be borrowed multiple times; each borrowing is associated with one book)
* **Library Member - Borrowing:** One-to-Many relationship (A member can have multiple borrowings; each borrowing is associated with one member)

### ERD Notation:

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### Explanation:

* **Entities** are represented in rectangles with their attributes listed inside.
* **Relationships** are depicted with lines connecting related entities, showing cardinality (one-to-many, many-to-many).
* **Associative Entity:** The BookAuthor table (not explicitly shown with lines) connects Book and Author entities to represent the many-to-many relationship between books and authors.

In this ERD:

* Each Book can have multiple Authors, and each Author can write multiple Books.
* Each Book can have multiple Borrowings, and each Borrowing is associated with one Book.
* Each Library Member can have multiple Borrowings, and each Borrowing is associated with one Library Member.

This structure captures the relationships and constraints described in the requirements for the library system effectively.