# ER diagram of Library Management System

This Library ER diagram illustrates key information about the Library, including entities such as staff, readers, books, publishers, reports, and authentication system. It allows for understanding the relationships between entities.

**Entities and their Attributes –**

* **Book Entity :** It has authno, isbn number, title, edition, category, price. ISBN is the Primary Key for Book Entity.
* **Reader Entity :** It has UserId, Email, address, phone no, name. Name is composite attribute of firstname and lastname. Phone no is multi valued attribute. UserId is the Primary Key for Readers entity.
* **Publisher Entity :** It has PublisherId, Year of publication, name. PublisherID is the Primary Key.
* **Authentication System Entity :** It has LoginId and password with LoginID as Primary Key.
* **Reports Entity :** It has UserId, Reg\_no, Book\_no, Issue/Return date. Reg\_no is the Primary Key of reports entity.
* **Staff Entity :** It has name and staff\_id with staff\_id as Primary Key.
* **Reserve/Return Relationship Set :** It has three attributes: Reserve date, Due date, Return date.

[**Relationships b**](https://www.geeksforgeeks.org/attributes-to-relationships-in-er-model/amp/)**etween Entities –**

* A reader can reserve N books but one book can be reserved by only one reader. The relationship 1:N.
* A publisher can publish many books but a book is published by only one publisher. The relationship 1:N.
* Staff keeps track of readers. The relationship is M:N.
* Staff maintains multiple reports. The relationship 1:N.
* Staff maintains multiple Books. The relationship 1:N.
* Authentication system provides login to multiple staffs. The relation is 1:N.

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