Database Schema Definition

Faculty table: This table contains the data of each registered faculty. The data includes **Name, Email, Department, Designation, and Password.** The primary key for this table is **Email.** By default, the MongoDB database generates a unique id for every entry in the table. I consider that auto-generated id as **FID**(Faculty Id) for each faculty.

In our application, we are collecting publications(Books, Journals, Conferences) detail of faculty.

Each publication data is stored in two tables, which description is as follows:

For Book Publication:

BOOK: This table contains BookName, ISBN, and Publisher of the Book. ISBN is the primary key. This table also contains an auto-generated ID for each entry. This ID is used to establish relationships with the BOOK_PUBLICATION table.

BOOK_PUBLICATION: This table contains Year, Edition, CoAuthors of this edition, facultyID to determine which registered faculty has added this publication and BID that is extracted from the BOOK table. The edition is the primary key.

The aim behind the creation of these two tables is that if we have two or more faculties who have written the same book but different editions. Since the book is the same, I am assuming that the Book name, ISBN, and Publisher will be the same. So instead of adding these data more than once, I will check if the ISBN is already present in the BOOK table. If the ISBN is there then no need to add any data in the BOOK table and add the new edition, year, CoAuthors of this edition, fetch the ID of the row that matches the ISBN from BOOK table and then fetch the ID of the logged in faculty from the faculty table and add a new row to the BOOK_PUBLICATION table.

Before adding details in the BOOK_PUBLICATION table, check if the same faculty has added details of the same edition of the same book previously, if so then generate the duplicate entry error. If the data passes the above restriction then add it to the BOOK_PUBLICATION table.

The same idea is behind the creation of two tables for conferences and journals. Only the attribute names are different.