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Module 3.2 Assignment

## Tables:

1. Publisher Table:

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Primary Key** |
| publisher\_name | Varchar(255) | Yes |
| publisher\_ID | Int | Yes |
| publisher\_address | Varchar(255) | No |
| publisher\_email | Varchar(255) | No |

1. Book Table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Primary Key** | **Foreign Key** |
| book\_isbn | Varchar(15) | Yes | ISBN |
| book\_name | Varchar(255) | No | Title of the book |
| book\_price | Decimal(10,2) | No | Price of the book |
| publisher\_ID | Int | No | Foreign Key referencing publisher\_ID in Publisher Table |

1. Author Table:

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Data Type** | **Primary Key** |
| author\_first\_name | Varchar(255) | No |
| author\_last\_name | Varchar(255) | No |
| author\_phone | Varchar(20) | No |
| author\_email | Varchar(255) | No |
| author\_address | Varchar(255) | No |

Explanation for 3NF: In the Publisher table, there is no redundancy, so it remains unchanged. However, in the Book table, we have made some changes to eliminate redundancy. We have removed the publisher address and publisher email from the Book table and instead stored them in the Publisher table. To establish a connection between a book and its publisher, we have added a foreign key (publisher\_ID) in the Book table. This helps in eliminating redundancy and maintaining data integrity. The Author table, on the other hand, does not have any redundancy, so it remains unchanged. The reason why this organization achieves 3NF is because of the following: 1. Each table has a primary key that uniquely identifies each record. This ensures that there are no duplicate entries in the tables. 2. There are no partial dependencies on any non-key attributes. This means that all the non-key attributes in each table depend on the entire primary key. This helps in avoiding data inconsistency and ensures that each attribute is fully dependent on the primary key. 3. All non-key attributes depend on the entire primary key of their respective tables. For example, in the Book table, the book\_price attribute depends on the entire book (identified by book\_isbn), rather than just a part of it (like publisher information). This helps in simplifying data manipulation and ensures that the data remains consistent.

A screenshot of a spreadsheet

Description automatically generated