**Data Dictionary**

| **Entities** | **Entity descriptions** | **Data elements** | **Descriptions** | **Data type** | **Length** | **Data format** | **Validation rules** | **Example** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Category | Store information about all book’s categories | category\_ID | Unique identifier for each category | int | 7 | Numeric | Primary Key, Not Null , Unique |  |
| cate\_name | Name of the category | varchar(50) | 50 | Text | Not Null, Unique |  |
| cate\_description | Short description about the category | varchar(100) | 100 | Text | Not Null |  |
| Author | Store information about all authors | author\_ID | Unique identifier for each author | int | 7 | Numeric | Primary Key, Not Null , Unique |  |
| author\_name | Name of the author | varchar(50) | 50 | Text | Not Null, Unique |  |
| author\_dob | Author’s date of birth | DATE | 10 | dd/mm/yyyy | Not Null |  |
| author\_email | Author’s email | varchar(50) | 50 | Text | Not Null, Unique |  |
| Publisher | Store information about all publishers | publisher\_ID | Unique identifier for each publisher | int | 7 | Numeric | Primary Key, Not Null, Unique |  |
| publisher\_name | Name of the publisher | varchar(50) | 50 | Text | Not Null, Unique |  |
| publisher\_address | Publisher’s address | varchar(50) | 50 | Tex | Not Null |  |
| publisher\_phone | Publisher’s phone number | varchar(50) | 50 | Text | Not Null, Unique |  |
| publisher\_email | Publisher’s email | varchar(50) | 50 | Text | Not null, Unique |  |
| Book | Store information about all on-sale books | book\_ID | Unique identifier for each book | int | 7 | Numeric | Primary Key, Not Null, Unique |  |
| book\_title | Name of the book | varchar(50) | 50 | Text | Not Null |  |
| book\_des | Short description about the book | varhar(100) | 100 | Text | Not Null |  |
| publishedDate | The published date of a book | varchar(50) | 50 | Text | Not Null |  |
| ISBN | International Standard Book Number | varchar(13) | 13 | Text | Not Null, Unique |  |
| publisher | Information about the book’s publisher | int | 7 | Numeric | Not Null |  |
| book\_price | Price of the book | double | 15 | Numeric | Not Null |  |
| quantityInStock | The remaining number of books left in the store | int | 7 | Numeric | Not Null |  |
| category | Information about the book’s categories | int | 7 | List | Not Null |  |
| author | Information about the book’s authors | int | 7 | List | Not Null |  |
| status | Demand where the book is still selling or not | boolean | 1 | String | Not Null |  |
| Users | This table stores information about users. | userID(pk) | Unique identifier for each user. | int | 7 digits | Numeric | NOT NULL,  UNIQUE | 0000001 |
|  |  | userName | The username used for login/authentication. | varchar(50) | 50 | Plain text | NOT NULL,  UNIQUE | user1 |
|  |  | fullName | The full name of user | varchar(50) | 50 | Plain text | NOT NULL |  |
|  |  | password | The password associated with the user. | varchar(50) | 50 | Plain text | NOT NULL | abc258@ |
|  |  | age | The age of user | varchar(3) |  |  | NOT NULL |  |
|  |  | userDoB | The date of birth of the user. | date | 8 | dd/mm/yyyy | NOT NULL | 22/02/2003 |
|  |  | userAddress | The address of the user. | varchar(100) | 100 | Plain text | NOT NULL | 25 abc |
|  |  | userEmail | The email address of the user. | varchar(100) | 100 | Plain text (email format) | NOT NULL,  UNIQUE | example1@example.com |
|  |  | userPhoneNum | The phone number of the user. | varchar(12) | 12 | Plain text | NOT NULL,  UNIQUE | 0123456789 |
|  |  | roleID(fk) | The identifier of the user's role. References the Roles table. |  |  |  |  |  |
| Roles | This table stores information about roles. | roleID(pk) | Unique identifier for each role. | int | 7 digits | Numeric | NOT NULL,  UNIQUE | 0000002 |
|  |  | roleName | The name of the role. | varchar(50) | 50 | Plain text | NOT NULL | admin |
|  |  | roleDescription | The description of the role. | varchar(100) | 100 | Plain text | NOT NULL |  |
| Orders | This table stores information about orders. | orderID(pk) | Unique identifier for each order. | varchar(10) | 10 | Numeric | NOT NULL,  UNIQUE | 0000034 |
|  |  | orderDate | The date of the order. | date | 8 | dd/mm/yyyy | NOT NULL | 22/03/2024 |
|  |  | orderTotalAmount | The total amount of orders. | int | 9 digits | Numeric | NOT NULL | 105 |
|  |  | userID(fk) | The identifier of the user. References the Users table. |  |  |  |  |  |
|  |  | totalPrice | The total price of an order | double | 7 digits | ab.cd | NOT NULL |  |
|  |  | orderItem(fk) | The list of order items |  |  |  |  |  |
| Order\_Items | This table stores information about the order’s items.. | bookID(pk,fk) | The identifier of the book. References the Books table. |  |  |  |  |  |
|  |  | orderID(pk,fk) | The identifier of the order. References the Orders table. |  |  |  |  |  |
|  |  | orderQuantity | The quantity of order item. | int | 7 digits | Numeric | NOT NULL | 500 |
|  |  | orderPrice | The price of order item. | double | 7 digits | ab.cd | NOT NULL | 30.45 |
| Comment | This table stores information about comments. | commentID(pk) | Unique identifier for each comment. | varchar(10) | 10 | Numeric | NOT NULL,  UNIQUE |  |
|  |  | commentDetail | The detail of a comment | varchar(100) | 100 | Plain text | NOT NULL |  |
|  |  | createdDate | The created date of a comment | date | 8 | dd/mm/yyyy | NOT NULL |  |
|  |  | rate | The user’s rate | int | 1 digits | range 1-5 | NOT NULL |  |
|  |  | userID(fk) | The identifier of the user. References the Users table. |  |  |  |  |  |
| Voucher | This table stores information about vouchers. | voucherID | Unique identifier for each voucher. | varchar(10) | 10 | Numeric | NOT NULL,  UNIQUE |  |
|  |  | voucherName | The name of a voucher | varchar(50) | 50 | Plain text | NOT NULL |  |
|  |  | voucherDes | The description of a voucher | varchar(100) | 100 | Plain text | NOT NULL |  |
|  |  | code | The unique code of each voucher | varchar(10) | 10 | Plain text | NOT NULL,  UNIQUE |  |
|  |  | discount | The discount percentage of the voucher | varchar(6) | 6 digits | a% | NOT NULL |  |
|  |  | expirationDate | The expiration date of the voucher | date | 8 | dd/mm/yyyy | NOT NULL |  |
| Notification | This table stores information about notifications. | notificationID | Unique identifier for each notification. | varchar(10) | 10 | Numeric | NOT NULL,  UNIQUE |  |
|  |  | notificationTitle | The title of a notification | varchar(100) | 100 | Plain text | NOT NULL |  |
|  |  | notificaitonBody | The body of a notification | varchar(100) | 100 | Plain text | NOT NULL |  |
|  |  | createdDate | The created date of the notification | date | 8 | dd/mm/yyyy | NOT NULL |  |
|  |  | createdBy | The publisher of the notification | varchar(50) | 50 | Plain text | NOT NULL |  |