

DATA DICTIONARY					
RELATION NAME	Attribute Name	Data Type	Domain/Allowed Values	Constraints	Description
ITEM	ItemID	VARCHAR	Unique string identifier	Primary Key, NOT NULL	Unique Identifier shared by all items(books, media, etc)
BOOK	ItemID	VARCHAR	Must exist in item table	Primary Key, Foreign Key -> Item, NOT NULL	Identifier for a book (inherits from item)
	Genre	VARCHAR	Any valid genre string (Fiction, Non-Fiction)		Classification of the book
	ISBN	VARCHAR(13)	13-character ISBN string	NOT NULL	International Standard Book Number
	PublicationDate	DATE	Valid date	NOT NULL	Date when the book was published
	Title	VARCHAR	Non-empty string	NOT NULL	Title of the book
	CopiesAvailable	INT	Non-negative integer	Check: CopiesAvailable >= 0	Number of copies available
DIGITAL MEDIA	ItemID	VARCHAR	Must exist in item table	Primary Key, Foreign Key -> Item, NOT NULL	Identifier for digital media (inherits from Item
	MediaID	VARCHAR	Unique media identifier	NOT NULL	Unique identifier for the digital media content
	Format	VARCHAR	PDF, EPUB, MP3, etc.	NOT NULL	Format or media type
	PublicationDate	DATE	Valid date	NOT NULL	Date of publication
	Title	VARCHAR	Non-empty string	NOT NULL	Title of the digital media
	CopiesAvailable	INT	Non-negative integer	Check: CopiesAvailable >= 0	Number of Copies Available
MAGAZINE	ItemID	VARCHAR	Must exist in item table	Primary Key, Foreign Key -> Item, NOT NULL	Identifier for a magazine (inherits from item)
	MagazineID	VARCHAR	Unique magazine identifier	NOT NULL	Unique identifier for the magazine
	IssueNumber	VARCHAR	Any valid issue string	NOT NULL	Identifierfor the the magazine issue
	PublicationDate	DATE	Valid date	NOT NULL	Date when the magazine was published
	Title	VARCHAR	Non-empty string	NOT NULL	Title of the magazine
	CopiesAvailable	INT	Non-negative integer	Check: CopiesAvailable >= 0	Number of copies available
CLIENT	ClientID	VARCHAR	Unique client identifier	Primary Key, NOT NULL	Unique identifier for each client
	Email	VARCHAR	Valid email format	NOT NULL (unique if require)	Email address of the client
	Name	VARCHAR	Non-empty string	NOT NULL (unique if require)	Name of the client
	AccountStatus	BOOLEAN	TRUE (active) / False (inactive)	NOT NULL	Indicates whether the client's account is active
AUTHOR	AuthorID	VARCHAR	Unique author identifier	Primary Key, NOT NULL	Unique identifier for each author
	Name	VARCHAR	Non-empty string	NOT NULL	Name of the author
PUBLISHER	PublisherID	VARCHAR	Unique publisher identifier	Primary Key, NOT NULL	Unique identifier for each publisher
	Name	VARCHAR	Non-empty string	NOT NULL	Name of the publisher
NOTIFICATION	NotificationID	VARCHAR	Unique notificaiton identifier	Primary Key, NOT NULL	Unique identifier for a notification
	SendDate	DATE	Valid date	NOT NULL	Date when the notification was sent
	Message	VARCHAR	Text message	NOT NULL	Content of the notification
	ClientID	VARCHAR	Must exist in Client table	Foreign Key -> Client, NOT NULL	Identifier for the client receiving the notification
TRANSACTION	TransactionID	VARCHAR	Unique transaction identifier	Primary Key, NOT NULL	Unique identifier for a transaction
	ItemID	VARCHAR	Must exist in Item table	Foreign Key -> Item, NOT NULL	Identifier for the item involved in the transaction
	ClientID	VARCHAR	Must exist in Client table	Foreign Key -> Client, NOT NULL	Identifier for the client involved in the transaction
	LateFee	DECIMAL(5,2)	Decimal Value	Check: LateFee >= 0	Fee charged if the item is returned late
	DueDate	DATE	Valid date	NOT NULL	Due date for returning item
	CheckoutDate	DATE	Valid date	NOT NULL	Date when the item was checked out

RESERVATION	ReservationID	VARCHAR	Unique reservation identifier	Primary Key, NOT NULL	Unique identifier for a reservation
	Status	BOOLEAN	TRUE (active) / FALSE (fulfilled)	NOT NULL	Indicates if the reservation is active or fulfilled
	ReservationDate	DATE	Valid date	NOT NULL	Date when the reservation was made
	ItemID	VARCHAR	Must exist in Item table	Foreign Key -> Item, NOT NULL	Identifier for the reserved item
	ClientID	VARCHAR	Must exist in Client table	Foreign Key -> Client, NOT NULL	Identifier for the client making the reservation
MEMBERSHIP	MembershipType	VARCHAR	Descriptive membership Category (Standard, Premium)	Primary Key, NOT NULL	Type of membership that determines privileges
	BorrowingLimit	INT	Non-negative integer	Check: BorrowingLimit >= 0	Maximum number of items that can be borrowed
	LateFee	DECIMAL(5,2)	Decimal Value	Check: LateFee >= 0	Late fee rate applicable for this membership type
CREATES (RELATIONSHIP TABLE)	ItemID	VARCHAR	Must exist in Item table	Composite Primary Key, Foreign Key -> Item, NOT NULL	Part of the composite key linking an item to its author
	AuthorID	VARCHAR	Must exist in Author table	Composite Primary Key, Foreign Key -> Author, NOT NULL	Part of composite key linking an author to the item
PUBLISHES (RELATIONSHIP TABLE)	ItemID	VARCHAR	Must exist in Item table	Composite Primary Key, Foreign Key -> Item, NOT NULL	Part of composite key linking an item to its publisher
	PublisherID	VARCHAR	Must exist in Publisher table	Composite Primary Key, Foreign Key -> Publisher, NOT NULL	Part of composite key linking a publisher to the item