

DBML and ER Diagram Generated By DBDiagram.io**1. DBML Content**

```
Table UserTypes {  
  UserTypeID int [pk, increment]  
  UserType varchar [unique]  
  MaxLoans int  
  note: 'User types like Student or Employee, with max loan limits'  
}
```

```
Table Users {  
  UserID varchar [pk]  
  FirstName varchar  
  LastName varchar  
  UserTypeID int [ref: > UserTypes.UserTypeID]  
  note: 'Library users (students and employees)'  
}
```

```
Table ItemTypes {  
  ItemTypeID int [pk, increment]  
  ItemType varchar [unique]  
  LoanDuration int  
  note: 'Item types like Book, Reference Book, Multimedia, Other, with standard loan durations'  
}
```

```
Table Authors {  
  AuthorID int [pk, increment]  
  AuthorName varchar  
  note: 'Authors or creators of items'  
}
```

```
Table Publishers {  
  PublisherID int [pk, increment]  
  PublisherName varchar  
  note: 'Publishers of library items'  
}
```

```
Table Items {  
  ItemID varchar [pk]  
  Title varchar  
  AuthorID int [ref: > Authors.AuthorID]  
  PublisherID int [ref: > Publishers.PublisherID]  
  ItemTypeID int [ref: > ItemTypes.ItemTypeID]  
  note: 'Library items (unique by international ID, e.g., like ISBN)'  
}
```

```
Table ItemCopies {
```

```

CopyID int [pk, increment]
ItemID varchar [ref: > Items.ItemID]
CopyNum int
note: 'Physical copies of each item to handle multiples'
}

```

```

Table Loans {
  LoanID varchar [pk]
  UserID varchar [ref: > Users.UserID]
  CopyID int [ref: > ItemCopies.CopyID]
  LoanDate date
  ReturnDate date
note: 'Loan transactions'
}

```

2. Generated Diagram

