

## Records “interface”

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+lineRepresentation() : String

+getSearchKey() : String

## LibrarianUser “implements Records”

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-librarianId : String

-name : String

-email : String

-address : String

-phoneNumber : String

+LibrarianUser(String librarianId, String name, String email, String address, String  
phoneNumber)

## Book “implements Records”

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-bookId : String

-title : String

-authorName : String

-publisherName : String

-quantity : int

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+Book(String bookId, String title, String authorName, String publisherName, int quantity)

+setQuantity(int quantity) : void

+getQuantity() : int

## StudentBook “implements Records”

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-studentId : String

-bookId : String

-borrowDate : LocalDate

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+StudentBook(String studentId, String bookId, LocalDate borrowDate)

+getStudentId() : String

+getBookId() : String

+getBorrowDate() : LocalDate

## Database “abstract class”

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-records : ArrayList<Records>

-filename : String

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+Database(String filename)

+readFromFile() : void

+createRecordFrom(String line) : Records [abstract]

+contains(String key) : boolean

+getRecord(String key) : Records

+insertRecord(Records record) : void

+deleteRecord(String key) : void

+saveToFile() : void

## LibrarianUserDatabase “extends Database”

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+LibrarianUserDatabase(String filename)

## BookDatabase “extends Database”

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+BookDatabase(String filename)

## StudentBookDatabase “extends Database”

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+StudentBookDatabase(String filename)

## LibrarianRole

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-booksDatabase : BookDatabase

-sBDatabase : StudentBookDatabase

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+LibrarianRole()

+addBook(String id, String title, String authorName, String publisherName, int quantity)

+getListOfBooks() : Book[]

+getListOfBorrowingOperations() : StudentBook[]

+borrowBook(String studentId, String bookId, LocalDate borrowDate) : int

+returnBook(String studentId, String bookId, LocalDate borrowDate) : double

+logout() : void

## AdminRole

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-database : LibrarianUserDatabase

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+AdminRole()

+addLibrarianUser(String librarianId, String name, String email, String address, String  
phoneNumber) : void

+getListOfLibrarians() : LibrarianUser[]

+removeLibrarian(String key) : void

+logout() : void