Library

-ebooks : ArrayList<Books>
-subjects: ArrayList<String>
-numAuthors : ArrayList<Integer>
-authors : ArrayList<String>
-checkouts : ArrayList<Checkout>

+search(s : String) : void
+createAccount(username, password, first name, lastname);
+bookLog()
+checkoutLog();
+averageCostBySubject()

1

has

1

0..*

1

0..* | issues

1

0..* | validates

Book

-title: String
-author : ArrayList<Author>
-subject :String
-bookNumber : Integer
-ISBN : Integer
-cost : Double
-timeLimit : Integer
-bookAmount : Integer
-numTimesCheckedOut : Integer

logs

1..*

1..* | writes

1..*

Author

-Author ID : Integer
-BirthYear : Integer
-FirstName : String
-LastName : String

Checkout

-accountID : String
-books : ArrayList<Book>
-dueDate : String

+setDueDate()
+incrementTimesBookCheckedOut()

0..*

creates

1

Account

-accountID : String
-password : String
-firstName: String
-lastName : String
-cart : ArrayList<Book>
-checkouts : ArrayList<Checkout>

+addToCart(book: Book)
+renew(book: Book)
+return(book: Book)
+checkout()

Library Manager

-accountID : String
-password : String
-firstName : String
-lastName : String
-cart : ArrayList<Book>
-checkouts : ArrayList<Checkout>

+addToCart (book : Book)
+renew(book : Book)
+return(book: Book)
+setBookLimit(accountID : String)
+setTimeLimit(accountID : String, book : Book)
+add(book: Book)
+remove(book: Book)
+checkout()

Patron

-patronID : String
-password : String
-firstName : String
-lastName : String
-BookLimit : Integer
-cart : ArrayList<Book>
-checkouts : ArrayList<Checkout>

+raddToCart(book: Book)
+renew(book: Book)
+return(book: Book)
+checkout()