# **CLASS DIAGRAM**

Library Management System

Semester 3 – Java Midterm

Vanessa Rice

#### **LIBRARY**

-book: List<Book>

-author: List<Author>

-patrons: List<Patron>

+searchBooksByTitle(title:String): List<Book>

+searchBooksByAuthor(authorName:String): List<Book>

+seachBookByISBN(ISBN:String): Book

+borrowBook(book: Book, patron:Patron)

+returnBook(book:Book, patron:Patron)

+addBook(book:Book)

+removeBook(book:Book)

+addAuthor(author:Author)

+removeAuthor(author:Author)

+removePatron(patron:Patron)

+addPatron(patron:Patron)

+searchPatronByName(name:String):Patron

#### воок

-title: String

-author: Author

-ISBN: String

- publisher: String

-numCopies: Int

-status: Status

+getTitle(): String

+getAuthor(): Author

+getISBN(): String

+getPubisher():String

+getNumCopies(): Int

+getStatus(): Status

+setStatus(status: Status)

+decrementCopies()

+incrementCopies()

#### **AUTHOR**

-name: String

-birthdate: String

+getAuthorName(): String

+getBirthdate(): String

#### **PATRON**

-name: String

-address: String

-phonenUmber: String

-borrowedBooks: List<Book>

-fines: double

+getName(): String

+getAddress(): String

+getPhoneNumber(): String

+getBorrowedBooks(): List<Book>

+calculateFines(): double

+addBorrowedBook(book: Book)

+removeBorrowedBook(book:Book)

+addFines(amount: double)

### **AUTHOR**

-name: String

-birthdate: String

+getAuthorName(): String

+getBirthdate(): String

## **STATUS**

**AVAILBLE** 

CHECKED\_OUT

OVERDUE