



PROGRAMMING IN JAVA

ASSIGNMENT

March 2017

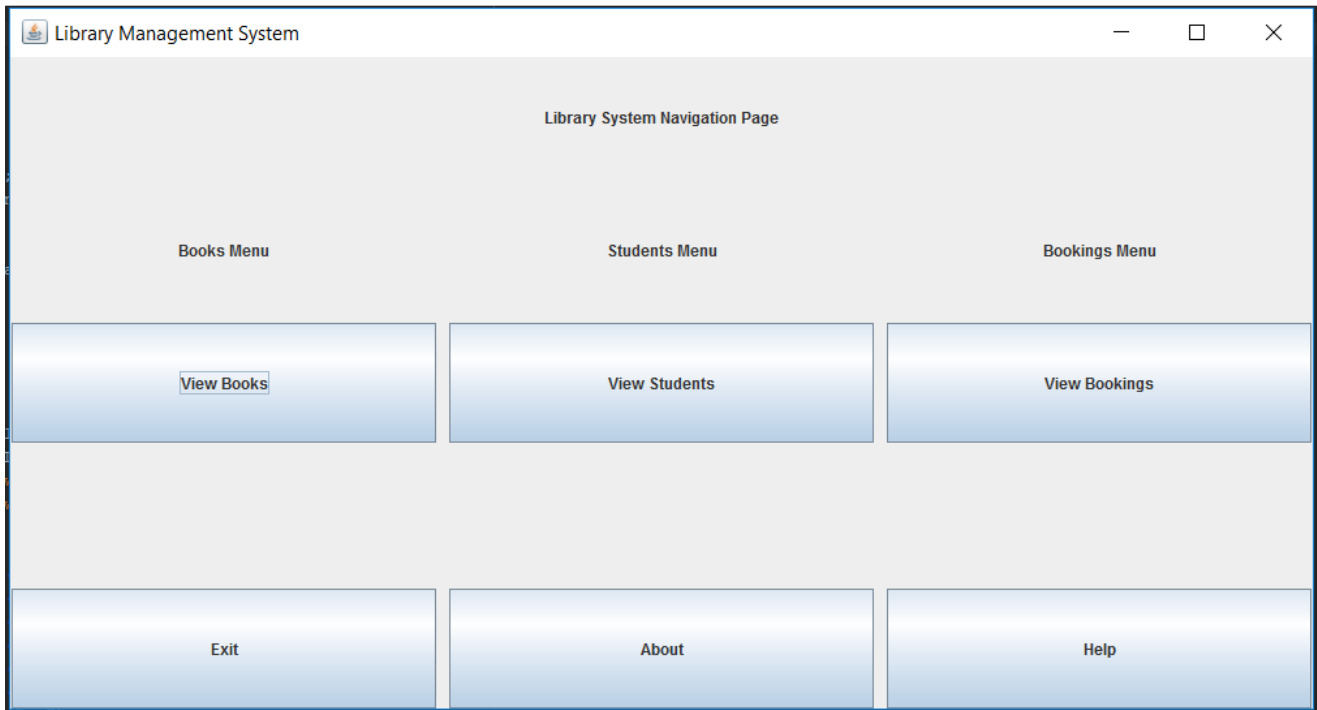
Sydney Twigg
M8C3XRSN8

CONTENTS

QUESTION 1	2
QUESTION 2	4
REFERENCES.....	5

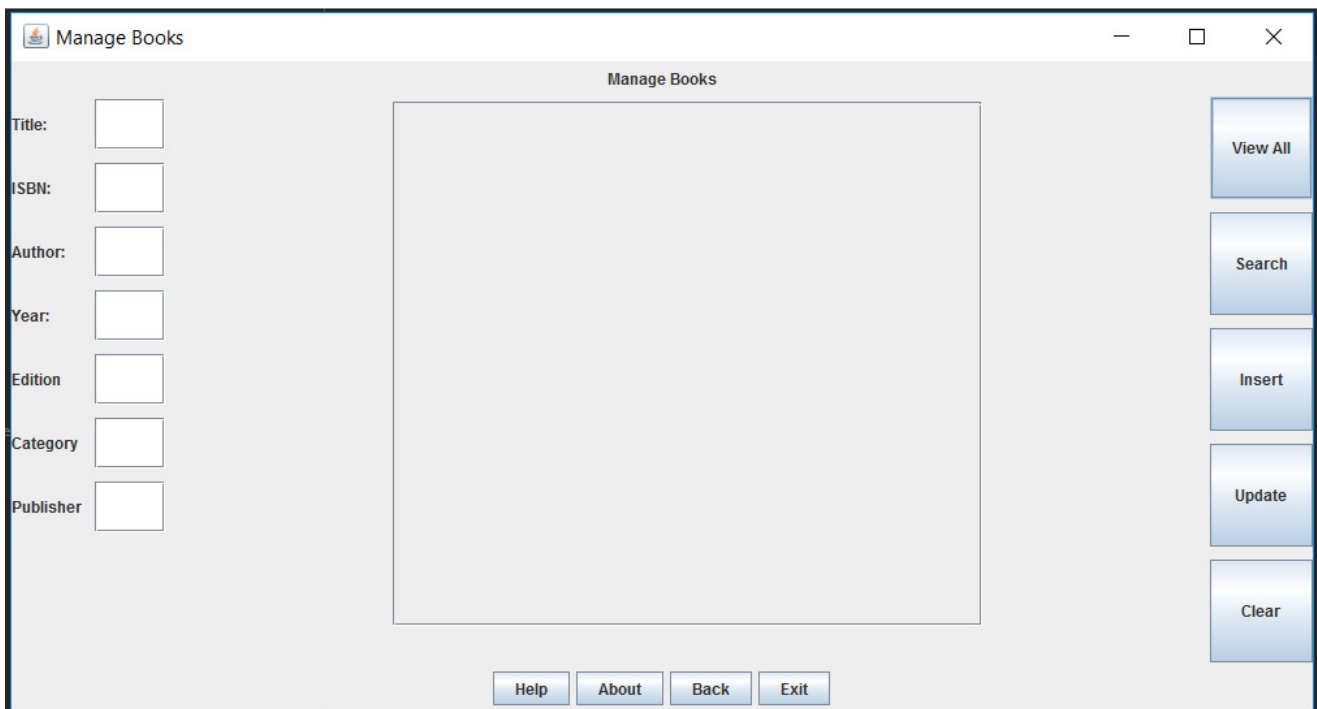
QUESTION 1

Home Page:



The screenshot shows a window titled "Library Management System" with standard Windows window controls (minimize, maximize, close). The main content area is titled "Library System Navigation Page". It features three menu categories: "Books Menu", "Students Menu", and "Bookings Menu". Below each menu category is a corresponding button: "View Books" under Books Menu, "View Students" under Students Menu, and "View Bookings" under Bookings Menu. At the bottom of the window, there are three more buttons: "Exit", "About", and "Help".

Manage Books



The screenshot shows a window titled "Manage Books" with standard Windows window controls. The main content area is titled "Manage Books". On the left side, there are seven input fields for book details, each with a label: "Title:", "ISBN:", "Author:", "Year:", "Edition", "Category", and "Publisher". In the center of the window is a large, empty rectangular box, likely intended for displaying a list of books. On the right side, there are five buttons stacked vertically: "View All", "Search", "Insert", "Update", and "Clear". At the bottom of the window, there are four buttons: "Help", "About", "Back", and "Exit".

Student Details:

The 'Student Details' window features a title bar with standard window controls. The main area is divided into three sections. On the left, there are input fields for 'Title' (a dropdown menu with 'Mr' selected), 'Student Number', 'Name', 'Surname', 'Cell number', and 'Address'. In the center is a large, empty rectangular box. On the right, there is a vertical stack of buttons: 'View All', 'Search', 'Insert', 'Update', and 'Clear'. At the bottom center, there are four buttons: 'Help', 'About', 'Back', and 'Exit'.

Manage bookings:

The 'Manage Bookings' window has a similar layout to the 'Student Details' window. It includes a title bar with window controls. The left side contains input fields for 'Booking date', 'ISBN', 'Title', 'Student name', 'Student surname', and 'Student number'. The center features a large, empty rectangular box. On the right side, there is a vertical stack of buttons: 'Create', 'Clear', 'Return', 'Search', and 'View All'. At the bottom center, there are four buttons: 'Back', 'Help', 'About', and 'Exit'.

QUESTION 2

MySQL Scripts:

```
CREATE DATABASE `javaassignment` /*!40100 DEFAULT CHARACTER SET utf8 */;

CREATE TABLE `bookings` (
  `reference` varchar(36) NOT NULL,
  `bookingDate` varchar(10) DEFAULT NULL,
  `ISBN` varchar(20) DEFAULT NULL,
  `bookTitle` varchar(50) NOT NULL,
  `name` varchar(45) NOT NULL,
  `surname` varchar(45) NOT NULL,
  `studentNum` varchar(45) DEFAULT NULL,
  `returnDate` varchar(10) DEFAULT NULL,
  PRIMARY KEY (`reference`),
  UNIQUE KEY `reference_UNIQUE` (`reference`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `books` (
  `ISBN` varchar(20) NOT NULL,
  `title` varchar(50) NOT NULL,
  `author` varchar(45) NOT NULL,
  `year` int(11) NOT NULL,
  `edition` varchar(10) NOT NULL,
  `category` varchar(45) NOT NULL,
  `publisher` varchar(45) NOT NULL,
  `copiesAvailable` int(11) NOT NULL DEFAULT '1',
  PRIMARY KEY (`ISBN`),
  UNIQUE KEY `ISBN_UNIQUE` (`ISBN`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `students` (
  `studentNumber` int(11) NOT NULL,
  `title` varchar(10) DEFAULT NULL,
  `name` varchar(45) NOT NULL,
  `surname` varchar(45) NOT NULL,
  `cellNum` varchar(14) DEFAULT NULL,
  `address` varchar(200) NOT NULL,
  PRIMARY KEY (`studentNumber`),
  UNIQUE KEY `studentNumber_UNIQUE` (`studentNumber`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

REFERENCES

- Alexander, A., 2016. *A Java MySQL UPDATE example*. [Online]
Available at: <http://alvinalexander.com/java/java-mysql-update-query-example>
[Accessed March 2017].
- Bablad, P., 2016. *How To Reverse An Array In Java?*. [Online]
Available at: <http://javaconceptoftheday.com/reverse-an-array-in-java/>
[Accessed February 2017].
- Chase, P., 2008. *How To Return an Array from a Method*. [Online]
Available at: <https://coderanch.com/t/408623/java/return-array-method#1796724>
[Accessed February 2017].
- Gotovos, A., 2016. *How do I reverse an int array in Java?*. [Online]
Available at: <http://stackoverflow.com/questions/2137755/how-do-i-reverse-an-int-array-in-java>
[Accessed February 2017].
- Hovercraft Full Of Eels [screen name], 2011. *Multiple input in JOptionPane.showInputDialog*. [Online]
Available at: <http://stackoverflow.com/questions/6555040/multiple-input-in-joptionpane-showinputdialog>
[Accessed March 2017].
- Oracle, 2015. *Using Prepared Statements*. [Online]
Available at: <http://docs.oracle.com/javase/tutorial/jdbc/basics/prepared.html>
[Accessed March 2017].
- Oracle, 2016. *BorderLayout*. [Online]
Available at: <https://docs.oracle.com/javase/7/docs/api/java/awt/BorderLayout.html>
[Accessed March 2017].
- Oracle, 2016. *How to Use Combo Boxes*. [Online]
Available at: <https://docs.oracle.com/javase/tutorial/uiswing/components/combobox.html>
[Accessed March 2017].
- Oracle, 2016. *How to Use Labels*. [Online]
Available at: <https://docs.oracle.com/javase/tutorial/uiswing/components/label.html>
[Accessed March 2017].
- Oracle, 2016. *How to Use Scroll Panes*. [Online]
Available at: <https://docs.oracle.com/javase/tutorial/uiswing/components/scrollpane.html>
[Accessed March 2017].
- Sampson, 2010. *Increment a database field by 1*. [Online]
Available at: <http://stackoverflow.com/questions/2762851/increment-a-database-field-by-1>
[Accessed March 2017].
- Saryada, W., 2017. *How do I generate UUID / GUID in Java?*. [Online]
Available at: <https://kodejava.org/how-do-i-generate-uuid-guid-in-java/>
[Accessed March 2017].
- W3 Schools, 2017. *SQL UPDATE Statement*. [Online]
Available at: https://www.w3schools.com/sql/sql_update.asp
[Accessed March 2017].
- Wright, K., 2012. *Checking if a record exists*. [Online]
Available at: <https://coderanch.com/t/538298/databases/Checking-record-exists>
[Accessed March 2017].