VRSEC
VELAGAPUDI RAMAKRISHNA SIDDHARTHA ENGINEERING COLLEGE
(Sponsored by Siddhartha Academy of General & Technical Education)
Estd. 1977

B. Tech – Computer Science and Engineering

20ES3102B – JAVA PROGRAMMING

Title:

Library Management System

Home Assignment
Submitted by,

228W1A05J3 , 228W1A05E7 , 228W1A05E9

Second Year

LIBRARY MANAGEMENT SYSTEM

Description:

A Library Management System is a simple Java program that helps manage a library's book inventory and related transactions. It provides functionalities such as adding new books, checking in/out books, and displaying available titles.

Implementation:

List of packages and classes used:

List of packages used:

- LMS

List of classes used:

- book
- books
- student
- students
- Library

Source code:

book.java

Represents a book and captures details like serial number, book name, author name, quantity, and a copy count.

```
package LMS;

import java.util.Scanner;

public class book

{

     public int sNo;

     public String bookName;

     public String authorName;

     public int bookQty;

     public int bookQtyCopy;

     Scanner input = new Scanner(System.in);
```

```
     public book()
     {
// Display message for taking input later
// taking input via
// nextInt() and nextLine() standard methods
          System.out.println("Enter Serial No of Book:");
          this.sNo = input.nextInt();
          input.nextLine();
          System.out.println("Enter Book Name:");
          this.bookName = input.nextLine();
          System.out.println("Enter Author Name:");
          this.authorName = input.nextLine();
          System.out.println("Enter Quantity of Books:");
          this.bookQty = input.nextInt();
          bookQtyCopy = this.bookQty;
     }
}
```

Manages an array of books and provides methods for operations like adding, comparing, searching, and displaying books. Tracks book count and facilitates check-out and check-in functionalities for students.

books.java

```
package LMS;
import java.util.Scanner;
public class books
{
     book theBooks[] = new book[50];
     public static int count;
     Scanner input = new Scanner(System.in);
     // Method 1
     // To compare books
     public int compareBookObjects(book b1, book b2)
```

```
     {
              // If book name matches
              //The equalsIgnoreCase() method compares two strings,
ignoring lower case and upper case differences.
          if (b1.bookName.equalsIgnoreCase(b2.bookName))
          {
                        // Printing book exists
               System.out.println("Book of this Name Already Exists");
               return 0;
          }
                 // if book serial matches
          if (b1.sNo == b2.sNo)
          {
                       // Print book exists
               System.out.println("Book of this Serial No Already
Exists");
               return 0;
          }
          return 1;
     }
// Method 2
// To add book
public void addBook(book b)
{
       for (int i = 0; i < count; i++) {
       if (this.compareBookObjects(b, this.theBooks[i])== 0)
       return;
       }
       if (count < 50) {
           theBooks[count] = b;
           count++;
```

```
        }
        else {
             System.out.println("No Space to Add More Books.");
        }
}
// Method 3
// To search book by serial number
public void searchBySno()
{
     // Display message
     System.out.println("\t\t\t\tSEARCH BY SERIAL NUMBER\n");
    // Class data members
    int sNo;
    System.out.println("Enter Serial No of Book:");
    sNo = input.nextInt();
    int flag = 0;
    System.out.printf("%-7s%-35s%-20s%-20s%-10s\n", "S.No", "Name",
"Author", "Available Qty", "Total Qty");
    for (int i = 0; i < count; i++)
    {
            if (sNo == theBooks[i].sNo) {
            System.out.printf("%-7d%-35s%-20s%-20d%-
10d\n",theBooks[i].sNo, theBooks[i].bookName, theBooks[i].authorName,
theBooks[i].bookQtyCopy, theBooks[i].bookQty);
            flag++;
            return;
      }
    }
    if (flag == 0)
      System.out.println("No Book for Serial No " + sNo + " Found.");
}
```

```
// Method 4

// To search author by name

public void searchByAuthorName()

{

     System.out.println("\t\t\t\tSEARCH BY AUTHOR'S NAME");

     input.nextLine();

     // Consume the newline character left by previous input

     System.out.println("Enter Author Name:");

     String authorName = input.nextLine();

     int flag = 0;

     System.out.printf("%-7s%-35s%-20s%-20s%-10s\n", "S.No", "Name",
"Author", "Available Qty", "Total Qty");

     for (int i = 0; i < count; i++)

     {

               // if author matches any of its book

               if
(authorName.equalsIgnoreCase(theBooks[i].authorName))

          {

                    // Print below corresponding credentials

                    System.out.printf("%-7d%-35s%-20s%-20d%-10d\n",
theBooks[i].sNo, theBooks[i].bookName, theBooks[i].authorName,
theBooks[i].bookQtyCopy, theBooks[i].bookQty);

                    flag++ ;

               }

          }

          // Else no book matches for the author

          if (flag == 0)

               System.out.println("No Books of " + authorName + "
Found.");

}

// Method 5

// To display all books
```

```
public void showAllBooks()

{

     System.out.println("\t\t\t\tSHOWING ALL BOOKS\n");

     System.out.printf("%-7s%-35s%-20s%-20s%-10s\n", "S.No",
"Name","Author", "Available Qty", "Total Qty");

     for (int i = 0; i < count; i++)

     {

          System.out.printf("%-7d%-35s%-20s%-20d%-10d\n",
theBooks[i].sNo,
theBooks[i].bookName,theBooks[i].authorName,theBooks[i].bookQtyCopy,
theBooks[i].bookQty);

     }

}

// Method 6

// To edit the book

public void upgradeBookQty()

{

     System.out.println("\t\t\t\tUPDATE QUANTITY OF A BOOK\n");

     System.out.println("Enter Serial No of Book");

     int sNo = input.nextInt();

     for (int i = 0; i < count; i++)

     {

          if (sNo == theBooks[i].sNo)

          {

               // Display message

               System.out.println("Enter No of Books to be Added:");

               int addingQty = input.nextInt();

               theBooks[i].bookQty += addingQty;

               theBooks[i].bookQtyCopy += addingQty;

               return;

          }

     }
```

```
}
// Method 7
// To create menu
public void dispMenu()
{
     // Displaying menu
     System.out.println("---------------------------------");
     System.out.println("[1] Add a new Book.");
     System.out.println("[2] Update the quantity of a Book.");
     System.out.println("[3] Search a Book.");
     System.out.println("[4] Show All Books.");
     System.out.println("[5] Student Registration.");
     System.out.println("[6] Show All Registered Students.");
     System.out.println("[7] Check Out Book. ");
     System.out.println("[8] Check In Book. ");
     System.out.println("[0] Exit.");
     System.out.println("---------------------------------");
     System.out.println("Enter Your choice:");
}
// Method 8
// To search the library
public int isAvailable(int sNo)
{
     for (int i = 0; i < count; i++)
     {
          if (sNo == theBooks[i].sNo)
          {
               if (theBooks[i].bookQtyCopy > 0)
               {
                    System.out.println("Book is Available.");
```

```
                    return i;
               }
               System.out.println("Book is Unavailable");
               return -1;
          }
     }
     System.out.println("No Book of Serial Number "+ " Available in
Library.");
     return -1;
}
// Method 9
// To remove the book from the library
public book checkOutBook()
{
     System.out.println("Enter Serial No of Book to be Checked Out.");
     int sNo = input.nextInt();
     int bookIndex = isAvailable(sNo);
     if (bookIndex != -1)
     {
          theBooks[bookIndex].bookQtyCopy--;
          return theBooks[bookIndex];
     }
     return null;
}
// Method 10
// To add the Book to the Library
public void checkInBook(book b)
{
     for (int i = 0; i < count; i++)
     {
          if (b.equals(theBooks[i]))
```

```
            {
                  theBooks[i].bookQtyCopy++;
                  return;
            }
      }
}
```

Represents a student with attributes such as name, registration number, and a list of borrowed books.

student.java

```
package LMS;
import java.util.Scanner;
public class student
{
      String studentName;
      String regNum;
      book borrowedBooks[] = new book[3];
      public int booksCount = 0;
      Scanner input = new Scanner(System.in);
      public student()
      {
            System.out.println("Enter Student Name:");
            this.studentName = input.nextLine();
            System.out.println("Enter Registration Number:");
            this.regNum = input.nextLine();
      }
}
```

Manages an array of students and offers methods for adding students, displaying all students, and handling book check-out and check-in.

students.java

```
package LMS;

import java.util.Scanner;

// Class

public class students

{

     // Creating objects of Scanner and students class

     Scanner input = new Scanner(System.in);

     student theStudents[] = new student[50];

     public static int count = 0;

     // Method 1

     // To add books

     public void addStudent(student s)

     {

          for (int i = 0; i < count; i++)

          {

               if (s.regNum.equalsIgnoreCase(theStudents[i].regNum))

               {

               // Print statement

               System.out.println("Student of Reg Num " + s.regNum + "
is Already Registered.");

               return;

               }

          }

          if (count <= 50)

          {

          theStudents[count] = s;

          count++;
```

```
            }
      }
}
// Method 2
// Displaying all students
public void showAllStudents()
{
      // Printing student name and
      // corresponding registered number
      System.out.println("Student Name\t\tReg Number");
      for (int i = 0; i < count; i++)
      {
            System.out.println(theStudents[i].studentName+ "\t\t"+
theStudents[i].regNum);
      }
}
// Method 3
// To check the Student
public int isStudent()
{
      System.out.println("Enter Reg Number:");
      String regNum = input.nextLine();
      for (int i = 0; i < count; i++)
      {
            if (theStudents[i].regNum.equalsIgnoreCase(regNum))
            {
                  return i;
            }
      }
      // Print statements
      System.out.println("Student is not Registered.");
```

```
      System.out.println("Get Registered First.");
      return -1;
}
// Method 4
// To remove the book
public void checkOutBook(books book)
{
      int studentIndex = this.isStudent();
      if (studentIndex != -1)
      {
            System.out.println("checking out");
            book.showAllBooks();
            book b = book.checkOutBook();
            System.out.println("checking out");
            if (b != null)
            {
                  if (theStudents[studentIndex].booksCount<= 3)
                  {
                        System.out.println("adding book");

      theStudents[studentIndex].borrowedBooks[theStudents[studentIndex]
.booksCount]=b;
                        theStudents[studentIndex].booksCount++;
                        return;
                  }
                  else
                  {
                        System.out.println("Student Can not Borrow more
than 3 Books.");
                        return;
                  }
```

```
            }
            System.out.println("Book is not Available.");
      }
}
// Method 5
// To add the book
public void checkInBook(books book)
{
      int studentIndex = this.isStudent();
      if (studentIndex != -1)
      {
            // Printing credentials corresponding to student
            System.out.printf("%-7s%-35s%-20s\n", "S.No", "Book Name",
"Author Name");
            student s = theStudents[studentIndex];
            for (int i = 0; i < s.booksCount; i++)
            {
                  System.out.printf("%-7d%-35s%-20s",
s.borrowedBooks[i].sNo,s.borrowedBooks[i].bookName,
s.borrowedBooks[i].authorName);
            }
            // Display message only
            System.out.println("Enter Serial Number of Book to be
Checked In:");
            int sNo = input.nextInt();
            for (int i = 0; i < s.booksCount; i++)
            {
                  if (sNo == s.borrowedBooks[i].sNo)
                  {
                        book.checkInBook(s.borrowedBooks[i]);
                        s.borrowedBooks[i] = null;
                        return;
```

```
                }
            }
            System.out.println("Book of Serial No " + sNo + " not
Found");
      }
}
```

Library.java

Main class serving as the entry point for the Library Management System.

Displays a menu for various library operations and orchestrates actions using instances of the books and students classes.

```
import LMS.book;
import LMS.books;
import LMS.student;
import LMS.students;
import java.util.Scanner;
public class Library {
public static void main(String[] args)
      {
            Scanner input = new Scanner(System.in);
            // Displaying menu
            System.out.println("*************************  Library
**************************");
            System.out.println(" Select From The Following Options: ");

      System.out.println("*****************************************
**************************");
            books ob = new books();
            students obStudent = new students();
            int choice;
            int searchChoice;
```

```
            do {
                ob.dispMenu();
                choice = input.nextInt();
                // Switch case
                switch (choice)
                {
                    case 1:
                        book b = new book();
                        ob.addBook(b);
                        break;
                    case 2:
                        ob.upgradeBookQty();
                        break;
                    case 3:
                        System.out.println(" press 1 to Search with
Book Serial No.");
                        System.out.println(" Press 2 to Search with
Book's Author Name.");
                        searchChoice = input.nextInt();
                        // Nested switch
                        switch (searchChoice)
                        {
                            case 1:
                                ob.searchBySno();
                                break;
                            case 2:
                                ob.searchByAuthorName();
                                break;
                        }

                    case 4:
```

```
                    ob.showAllBooks();
                    break;
               case 5:
                    student s = new student();
                    obStudent.addStudent(s);
                    break;
               case 6:
                    obStudent.showAllStudents();
                    break;
               case 7:
                    obStudent.checkOutBook(ob);
                    break;
               case 8:
                    obStudent.checkInBook(ob);
                    break;
               default:
                    System.out.println("ENTER BETWEEN 0 TO 8");
          }
     }
     while (choice != 0);
  }
}
```

OUTPUT:

[1] Add a book:

```
D:\java pdfs\java project>javac Library.java

D:\java pdfs\java project>java Library
************************  Library ************************
 Select From The Following Options:
**************************************************************************
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
1
Enter Serial No of Book:
1
Enter Book Name:
Discrete Mathematics
Enter Author Name:
Mott
Enter Quantity of Books:
10
---------------------------------
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
1
Enter Serial No of Book:
2
Enter Book Name:
Java Programming
Enter Author Name:
Herbert Schildt
Enter Quantity of Books:
31
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
```

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
1
Enter Serial No of Book:
3
Enter Book Name:
Data Structures
Enter Author Name:
Horowitz Sahni
Enter Quantity of Books:
10
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
```

```
Enter Your choice:
1
Enter Serial No of Book:
4
Enter Book Name:
Python Programming
Enter Author Name:
Reema
Enter Quantity of Books:
21
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
1
Enter Serial No of Book:
5
Enter Book Name:
Operating System
Enter Author Name:
Iswarya Roii
Enter Quantity of Books:
15
---------------------------------
```

[2] Updating quantity of a book

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
2
                                UPDATE QUANTITY OF A BOOK

Enter Serial No of Book
4
Enter No of Books to be Added:
6
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
3
 press 1 to Search with Book Serial No.
 Press 2 to Search with Book's Author Name.
1
                                SEARCH BY SERIAL NUMBER
```

[3] Search a book

```
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
3
 press 1 to Search with Book Serial No.
 Press 2 to Search with Book's Author Name.
1
                                SEARCH BY SERIAL NUMBER

Enter Serial No of Book:
3
S.No   Name                              Author              Available Qty       Total Qty
3      Data Structures                   Horowitz Sahni      10                  10
---------------------------------
 ---------------------------------
 [1] Add a new Book.
 [2] Update the quantity of a Book.
 [3] Search a Book.
 [4] Show All Books.
 [5] Student Registration.
 [6] Show All Registered Students.
 [7] Check Out Book.
 [8] Check In Book.
 [0] Exit.
 ---------------------------------
 Enter Your choice:
 3
  press 1 to Search with Book Serial No.
  Press 2 to Search with Book's Author Name.
 2
                                 SEARCH BY AUTHOR'S NAME
 Enter Author Name:
 Iswarya Roii
 S.No   Name                               Author              Available Qty       Total Qty
 5      Operating System                   Iswarya Roii        15                  15
 ---------------------------------
```

[4] Show all books

```
 ---------------------------------
 [1] Add a new Book.
 [2] Update the quantity of a Book.
 [3] Search a Book.
 [4] Show All Books.
 [5] Student Registration.
 [6] Show All Registered Students.
 [7] Check Out Book.
 [8] Check In Book.
 [0] Exit.
 ---------------------------------
 Enter Your choice:
 4
                                 SHOWING ALL BOOKS

 S.No   Name                              Author              Available Qty       Total Qty
 1      Discrete Mathematics              Mott                10                  10
 2      Java Programming                  Herbert Schildt     31                  31
 3      Data Structures                   Horowitz Sahni      10                  10
 4      Python Programming                Reema               27                  27
 5      Operating System                  Iswarya Roii        15                  15
 ---------------------------------
```

[5]Student Registration

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
5
Enter Student Name:
C Meghana
Enter Registration Number:
228W1A05E7
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
5
Enter Student Name:
D Iswarya
Enter Registration Number:
228W1A05E9
---------------------------------
```

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
5
Enter Student Name:
V Padma
Enter Registration Number:
228W1A05J3
---------------------------------
```

[6] Show all registered students

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
6
Student Name            Reg Number
C Meghana               228W1A05E7
D Iswarya               228W1A05E9
V Padma         228W1A05J3
---------------------------------
```

[7] Check out book

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
7
Enter Reg Number:
228W1A05E9
checking out
                              SHOWING ALL BOOKS

S.No   Name                              Author              Available Qty       Total Qty
1      Discrete Mathematics              Mott                10                  10
2      Java Programming                  Herbert Schildt     31                  31
3      Data Structures                   Horowitz Sahni      10                  10
4      Python Programming                Reema               27                  27
5      Operating System                  Iswarya Roii        15                  15
Enter Serial No of Book to be Checked Out.
5
Book is Available.
checking out
adding book
---------------------------------

---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
7
Enter Reg Number:
228W1A05J3
checking out
                                SHOWING ALL BOOKS

S.No   Name                              Author              Available Qty       Total Qty
1      Discrete Mathematics              Mott                10                  10
2      Java Programming                  Herbert Schildt     31                  31
3      Data Structures                   Horowitz Sahni      10                  10
4      Python Programming                Reema               27                  27
5      Operating System                  Iswarya Roii        14                  15
Enter Serial No of Book to be Checked Out.
4
Book is Available.
checking out
adding book
---------------------------------
```

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
4
                              SHOWING ALL BOOKS

S.No   Name                              Author             Available Qty       Total Qty
1      Discrete Mathematics               Mott               10                  10
2      Java Programming                   Herbert Schildt    31                  31
3      Data Structures                    Horowitz Sahni     10                  10
4      Python Programming                 Reema              26                  27
5      Operating System                   Iswarya Roii       14                  15
---------------------------------
```

[8] Check in book

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
8
Enter Reg Number:
228W1A05E7
S.No   Book Name                              Author Name
Enter Serial Number of Book to be Checked In:
2
Book of Serial No 2 not Found
---------------------------------
```

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
8
Enter Reg Number:
Student is not Registered.
Get Registered First.
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
8
Enter Reg Number:
228W1A05J3
S.No   Book Name                      Author Name
4      Python Programming             Reema              Enter Serial Number of Book to be Checked In:
4
---------------------------------
```

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
7
Enter Reg Number:
228W1A05A2
Student is not Registered.
Get Registered First.
---------------------------------
```

```
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
-----------------------------------
Enter Your choice:
7
Enter Reg Number:
228w1a05e9
checking out
                                SHOWING ALL BOOKS

S.No   Name                                Author              Available Qty       Total Qty
1      Discrete Mathematics                Mott                10                  10
2      Java Programming                    Herbert Schildt     31                  31
3      Data Structures                     Horowitz Sahni      10                  10
4      Python Programming                  Reema               27                  27
5      Operating System                    Iswarya Roii        14                  15
Enter Serial No of Book to be Checked Out.
2
Book is Available.
checking out
adding book
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[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
--------------------------------
Enter Your choice:
8
Enter Reg Number:
228w1a05e9
S.No   Book Name                          Author Name
5      Operating System                    Iswarya Roii        2      Java Programming                    Herbert Schildt     Enter Serial Number of Book to b
e Checked In:
2
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```

[0] exit

```
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
4
                              SHOWING ALL BOOKS

S.No   Name                            Author              Available Qty       Total Qty
1      Discrete Mathematics             Mott                10                  10
2      Java Programming                 Herbert Schildt     31                  31
3      Data Structures                  Horowitz Sahni      10                  10
4      Python Programming               Reema               27                  27
5      Operating System                 Iswarya Roii        14                  15
---------------------------------
[1] Add a new Book.
[2] Update the quantity of a Book.
[3] Search a Book.
[4] Show All Books.
[5] Student Registration.
[6] Show All Registered Students.
[7] Check Out Book.
[8] Check In Book.
[0] Exit.
---------------------------------
Enter Your choice:
0
ENTER BETWEEN 0 TO 8
```