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Approved by AICTE & Affiliated to Anna University
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

LIBRARY MANAGEMENT SYSTEM

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Elite Training Project 1 Report

Java Programming

Submission Date: **25/04/2023**

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SUMMARY

A library is a place where books and sources of information are stored. They make it easier for people to get access to them for various purposes. Here we have created a library management system.

It is used to maintain library records. This system helps the system to keep the book records. Here books can be added and issued to the users. Also, the admin can add different books and can delete them later. The existing books can be viewed by the admin.

Screen Shots

```
java -cp /tmp/wwG9zX5DXQ LibraryManagementSystem
Welcome to Library Management System!
1. Add a book
2. Remove a book
3. Display all books
4. Exit
```

Home page output.

```
java -cp /tmp/mNLe67uB7f LibraryManagementSystem
Welcome to Library Management System!
1. Add a book
2. Remove a book
3. Display all books
4. Exit
1
Enter book title: TheGuide
Enter book author: R.K.Narayan
Enter book ISBN: 123
Book added successfully!
```

First book has been added successfully.

```
Welcome to Library Management System!
1. Add a book
2. Remove a book
3. Display all books
4. Exit
1
Enter book title: GodOfSmallThings
Enter book author: ArundhatiRoy
Enter book ISBN: 456
Book added successfully!
```

Second book has been added successfully

```
Welcome to Library Management System!  
1. Add a book  
2. Remove a book  
3. Display all books  
4. Exit  
2  
Enter book ISBN to remove: 123  
Book removed successfully!
```

A book from the list had been removed successfully using ISBN code.

```
Welcome to Library Management System!  
1. Add a book  
2. Remove a book  
3. Display all books  
4. Exit  
3  
List of all books:Title: GodOfSmallThings, Author: ArundhatiRoy, ISBN: 456
```

The code has been exited.

SOURCE CODE:

```
import java.util.ArrayList;
import java.util.Scanner;

public class LibraryManagementSystem {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        ArrayList<Book> books = new ArrayList<>();

        while (true) {
            System.out.println("Welcome to Library Management System!");
            System.out.println("1. Add a book");
            System.out.println("2. Remove a book");
            System.out.println("3. Display all books");
            System.out.println("4. Exit");

            int choice = scanner.nextInt();
            switch (choice) {
                case 1:
                    addBook(scanner, books);
                    break;
                case 2:
                    removeBook(scanner, books);
                    break;
                case 3:
                    displayBooks(books);
                    break;
                case 4:
                    System.out.println("Exiting Library Management System. Goodbye!");
                    System.exit(0);
                default:
                    System.out.println("Invalid choice! Please enter a valid choice.");
            }
        }

        private static void addBook(Scanner scanner, ArrayList<Book> books) {
            System.out.print("Enter book title: ");
            String title = scanner.next\(\);
            System.out.print("Enter book author: ");
            String author = scanner.next\(\);
            System.out.print("Enter book ISBN: ");
            String isbn = scanner.next\(\);

            Book book = new Book(title, author, isbn);
```

```
books.add(book);
System.out.println("Book added successfully!");
}

private static void removeBook(Scanner scanner, ArrayList<Book> books) {
System.out.print("Enter book ISBN to remove: ");
String isbn = scanner.next\(\);

boolean removed = false;
for (Book book : books) {
if (book.getIsbn().equals(isbn)) {
books.remove(book);
removed = true;
break;
}
}

if (removed) {
System.out.println("Book removed successfully!");
} else {
System.out.println("Book not found! Please enter a valid ISBN.");
}
}

private static void displayBooks(ArrayList<Book> books) {
System.out.println("List of all books:");
for (Book book : books) {
System.out.println(book);
}
}

class Book {
private String title;
private String author;
private String isbn;

public Book(String title, String author, String isbn) {
this.title = title;
this.author = author;
this.isbn = isbn;
}

public String getTitle() {
return title;
}
```

```
}  
  
public String getAuthor() {  
    return author;  
}  
  
public String getIsbn() {  
    return isbn;  
}  
public String toString() {  
    return "Title: " + title + ", Author: " + author + ", ISBN: " + isbn;  
}  
}
```