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**LIBRARY MANAGEMENT SYSTEM USING JAVA**

**PROJECT**

#### Library Management System using java Introduction:

Learning Management System, this project build on Java is a great way to update the record, monitor and add books, search for the required ones, taking care of the issue date and return date. It comes with basic features like creating a new record and updating and deleting it.

#### Explanation:

A **Library Management System** is a software application that helps to manage and organize the daily operations of a library.

Before we begin, let’s first define the main components of our **LMS**. We will need to create a **Book** class that will hold information about each book in the library, including the title, author, ISBN, and availability status.  Finally, you will create a **LibraryManagementSystem** class that will handle the user interface and communication between the **Book** and **Library** classes.  
  
Book class will have four instance variables: Title, Author, ISBN, and Availability. These variables will hold the respective information about each book. We will also include a constructor that will take in the values for each variable and set them to the corresponding instance variables.  
  
Source code:

Book class will have four instance variables: Title, Author, ISBN, and Availability. These variables will hold the respective information about each book. We will also include a constructor that will take in the values for each variable and set them to the corresponding instance variables.  
  
  
import java.util.ArrayList;

import java.util.Scanner;

class Book {

String title;

String author;

String ISBN;

boolean availability;

public Book(String title, String author, String ISBN, boolean availability) {

this.title = title;

this.author = author;  
 this.ISBN = ISBN;

this.availability = availability;

}

}

class Library {

ArrayList books;

class Library {

ArrayList books;

public Library() {

books = new ArrayList();

}

public void addBook(Book book) {

books.add(book);

}  
public void removeBook(String ISBN) {

for (Book book : books) {

if (book.ISBN.equals(ISBN)) {

books.remove(book);

break;

}

}

}

public void displayBooks() {

for (Book book : books) {

System.out.println("Title: " + book.title);

System.out.println("Author: " + book.author);

System.out.println("ISBN: " + book.ISBN);

System.out.println("Availability: " + book.availability);

System.out.println();

}

}

}

class LibraryManagementSystem {

ublic static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

Library library = new Library();

while (true) {

System.out.println("1. Add Book");

System.out.println("2. Remove Book");

System.out.println("3. Display Books");

System.out.println("4. Exit");

int choice = scanner.nextInt();

if (choice == 1) {

scanner.nextLine(); // to consume the newline character

System.out.print("Enter title: ");

String title = scanner.nextLine();

System.out.print("Enter author: ");

String author = scanner.nextLine();

System.out.print("Enter ISBN: ");

String ISBN = scanner.nextLine();

System.out.print("Enter availability: ");

boolean availability = scanner.nextBoolean();

library.addBook(new Book(title, author, ISBN, availability));

} else if (choice == 2) {

scanner.nextLine(); // to consume the newline character

System.out.print("Enter ISBN: ");

String ISBN = scanner.nextLine();

library.removeBook(ISBN);

} else if (choice == 3) {

library.displayBooks();

} else if (choice == 4) {

break;

}

}

scanner.close();

}

}

# Output: 1. Add book 2.remove book 3.display book 4.exit 1. enter title: Rich dad poor dad enter author: Robert kiyosaki ISBN:0-446-67745-0 Avaliability: True 1. Add book 2.remove book 3.display book 4.exit 3. enter title: Rich dad poor dad enter author: Robert kiyosaki ISBN:0-446-67745-0 Avaliability: True