import java.util.\*;

class Book {

private int id;

private String title;

private String author;

private boolean isAvailable;

private List<String> reviews; // List to store reviews for the book

public Book(int id, String title, String author) {

this.id = id;

this.title = title;

this.author = author;

this.isAvailable = true;

this.reviews = new ArrayList<>();

}

public int getId() {

return id;

}

public String getTitle() {

return title;

}

public String getAuthor() {

return author;

}

public boolean isAvailable() {

return isAvailable;

}

public void borrow() {

if (isAvailable) {

isAvailable = false;

} else {

System.out.println("Book is already borrowed.");

}

}

public void returnBook() {

isAvailable = true;

}

// Add a review to the book

public void addReview(String review) {

reviews.add(review);

System.out.println("Review added successfully.");

}

// View all reviews of the book

public void viewReviews() {

if (reviews.isEmpty()) {

System.out.println("No reviews for this book.");

} else {

System.out.println("Reviews for \"" + title + "\":");

for (int i = 0; i < reviews.size(); i++) {

System.out.println((i + 1) + ". " + reviews.get(i));

}

}

}

@Override

public String toString() {

return "ID: " + id + ", Title: " + title + ", Author: " + author +

", Available: " + (isAvailable ? "Yes" : "No");

}

}

class Library {

private Map<Integer, Book> books = new HashMap<>();

public void addBook(Book book) {

books.put(book.getId(), book);

}

public void viewBooks() {

if (books.isEmpty()) {

System.out.println("No books in the library.");

return;

}

for (Book book : books.values()) {

System.out.println(book);

}

}

public void borrowBook(int bookId) {

Book book = books.get(bookId);

if (book != null && book.isAvailable()) {

book.borrow();

System.out.println("You borrowed the book: " + book.getTitle());

} else if (book != null) {

System.out.println("Sorry, the book is not available.");

} else {

System.out.println("Book not found.");

}

}

public void returnBook(int bookId) {

Book book = books.get(bookId);

if (book != null && !book.isAvailable()) {

book.returnBook();

System.out.println("You returned the book: " + book.getTitle());

} else if (book != null) {

System.out.println("The book was not borrowed.");

} else {

System.out.println("Book not found.");

}

}

public void addReview(int bookId, String review) {

Book book = books.get(bookId);

if (book != null) {

book.addReview(review);

} else {

System.out.println("Book not found.");

}

}

public void viewReviews(int bookId) {

Book book = books.get(bookId);

if (book != null) {

book.viewReviews();

} else {

System.out.println("Book not found.");

}

}

}

public class LibraryManagementSystem {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

Library library = new Library();

while (true) {

System.out.println("\nLibrary Management System");

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

System.out.println("2. View Books");

System.out.println("3. Borrow Book");

System.out.println("4. Return Book");

System.out.println("5. Add Review");

System.out.println("6. View Reviews");

System.out.println("7. Exit");

System.out.print("Enter your choice: ");

int choice = scanner.nextInt();

scanner.nextLine(); // Consume newline

switch (choice) {

case 1:

System.out.print("Enter Book ID: ");

int id = scanner.nextInt();

scanner.nextLine(); // Consume newline

System.out.print("Enter Book Title: ");

String title = scanner.nextLine();

System.out.print("Enter Book Author: ");

String author = scanner.nextLine();

library.addBook(new Book(id, title, author));

System.out.println("Book added successfully.");

break;

case 2:

library.viewBooks();

break;

case 3:

System.out.print("Enter Book ID to borrow: ");

int borrowId = scanner.nextInt();

library.borrowBook(borrowId);

break;

case 4:

System.out.print("Enter Book ID to return: ");

int returnId = scanner.nextInt();

library.returnBook(returnId);

break;

case 5:

System.out.print("Enter Book ID to add review: ");

int reviewId = scanner.nextInt();

scanner.nextLine(); // Consume newline

System.out.print("Enter your review: ");

String review = scanner.nextLine();

library.addReview(reviewId, review);

break;

case 6:

System.out.print("Enter Book ID to view reviews: ");

int viewReviewId = scanner.nextInt();

library.viewReviews(viewReviewId);

break;

case 7:

System.out.println("Exiting...");

scanner.close();

return;

default:

System.out.println("Invalid choice. Please try again.");

}

}

}

}