

Write a java program to movie ticket booking system

```
import java.io.FileWriter;
import java.io.IOException;
import java.util.*;

class MovieShow {
    public static int showCount = 1;

    public int showID;
    public String movieName;
    public String theaterName;
    public String showTime;
    public int totalSeats;
    public double ticketPrice;
    public int nextSeatNumber;

    public HashMap<Integer, String> bookingDetails;

    public MovieShow(String movieName, String theaterName, String showTime, int
seats, double price) {
        this.showID = showCount++;
        this.movieName = movieName;
        this.theaterName = theaterName;
        this.showTime = showTime;
        this.totalSeats = seats;
        this.ticketPrice = price;
        this.nextSeatNumber = 1;
        this.bookingDetails = new HashMap<>();
    }
}
```

```
}
```

```
public void bookTickets(int bookingID, List<String> customerNames) {
```

```
    StringBuilder details = new StringBuilder();
```

```
    for (String name : customerNames) {
```

```
        details.append("Booking ID: ").append(bookingID)
```

```
            .append(", Name: ").append(name)
```

```
            .append(", Seat: ").append(nextSeatNumber++)
```

```
            .append(", Price: ₹").append(ticketPrice)
```

```
            .append("\n");
```

```
    }
```

```
    bookingDetails.put(bookingID, details.toString());
```

```
    totalSeats -= customerNames.size();
```

```
    writeToFile("BOOKED", bookingID, details.toString());
```

```
}
```

```
public void cancelBooking(int bookingID) {
```

```
    if (bookingDetails.containsKey(bookingID)) {
```

```
        String detail = bookingDetails.get(bookingID);
```

```
        int count = (int) detail.lines().count();
```

```
        totalSeats += count;
```

```
        bookingDetails.remove(bookingID);
```

```
        System.out.println("Booking ID " + bookingID + " cancelled.");
```

```
        writeToFile("CANCELLED", bookingID, detail);
```

```
    } else {
```

```

        System.out.println("Booking ID " + bookingID + " not found.");
    }
}

public void showSummary() {
    System.out.println("Show ID: " + showID + ", Movie: " + movieName +
        ", Theater: " + theaterName + ", Time: " + showTime);

    System.out.println("Available Seats: " + totalSeats + ", Ticket Price: ₹" +
ticketPrice);
}

public void printBookingDetails() {
    System.out.println("--- Booking Details for Show ID " + showID + " ---");
    if (bookingDetails.isEmpty()) {
        System.out.println("No bookings yet.");
    } else {
        for (String detail : bookingDetails.values()) {
            System.out.print(detail);
        }
    }
}

private void writeToFile(String action, int bookingID, String content) {
    try (FileWriter writer = new FileWriter("movie_bookings.txt", true)) {
        writer.write "[" + action + "] Show ID: " + showID + ", Booking ID: " +
bookingID + "\n");
        writer.write(content);
        writer.write("-----\n");
    } catch (IOException e) {
        System.out.println("Error writing to file: " + e.getMessage());
    }
}

```

```
    }  
  }  
}
```

```
public class MovieTicketBookingSystem {  
    private static final Scanner sc = new Scanner(System.in);  
    private static final ArrayList<MovieShow> shows = new ArrayList<>();  
    private static int bookingID = 1;  
  
    public static void main(String[] args) {  
        initializeShows();  
  
        while (true) {  
            System.out.println("\n--- Movie Ticket Booking System ---");  
            System.out.println("1. Book Tickets");  
            System.out.println("2. Cancel Booking");  
            System.out.println("3. Show Booking Details");  
            System.out.println("4. Exit");  
            System.out.print("Enter your choice: ");  
  
            int choice = readInt();  
  
            switch (choice) {  
                case 1 -> handleBooking();  
                case 2 -> handleCancellation();  
                case 3 -> printAllShows();  
                case 4 -> {  
                    System.out.println("Exiting... Thank you!");  
                    return;  
                }  
            }  
        }  
    }  
}
```

```
    }  
    default -> System.out.println("Invalid choice. Please try again.");  
    }  
}  
}
```

```
private static void initializeShows() {  
    shows.add(new MovieShow("Devara", "Galaxy Cinema", "6:00 PM", 50,  
300.0));  
    shows.add(new MovieShow("Nayak", "Cineplex", "9:00 PM", 40, 250.0));  
}
```

```
private static void handleBooking() {  
    System.out.print("Enter Show ID: ");  
    int sid = readInt();  
  
    MovieShow currentShow = getShowById(sid);  
    if (currentShow == null) {  
        return;  
    }  
  
    System.out.print("Enter number of tickets: ");  
    int ticketCount = readInt();  
  
    if (ticketCount <= 0) {  
        System.out.println("Invalid ticket count.");  
        return;  
    }  
  
    System.out.print("Enter seat ID: ");  
    int seatId = readInt();  
  
    if (seatId < 1 || seatId > currentShow.getSeats()) {  
        System.out.println("Invalid seat ID. Please try again.");  
        return;  
    }  
  
    if (currentShow.getSeats() - ticketCount < 0) {  
        System.out.println("Invalid ticket count. Please try again.");  
        return;  
    }  
  
    currentShow.setSeats(currentShow.getSeats() - ticketCount);  
    System.out.println("Booking successful. Total seats remaining: " + currentShow.getSeats());  
}
```

```
if (ticketCount > currentShow.totalSeats) {  
    System.out.println("Not enough seats available.");  
    return;  
}
```

```
List<String> customerNames = new ArrayList<>();  
sc.nextLine(); // consume leftover newline
```

```
for (int i = 1; i <= ticketCount; i++) {  
    System.out.print("Enter name for Ticket " + i + ": ");  
    String name = sc.nextLine();  
    customerNames.add(name);  
}
```

```
currentShow.bookTickets(bookingID, customerNames);  
System.out.println("Booking successful! Your Booking ID: " + bookingID);  
currentShow.showSummary();
```

```
    bookingID++;  
}
```

```
private static void handleCancellation() {  
    System.out.print("Enter Show ID: ");  
    int sid = readInt();  
  
    MovieShow currentShow = getShowById(sid);  
    if (currentShow == null) {  
        return;  
    }  
}
```

```
System.out.print("Enter Booking ID to cancel: ");  
int bid = readInt();  
  
currentShow.cancelBooking(bid);  
currentShow.showSummary();  
}
```

```
private static void printAllShows() {  
    for (MovieShow show : shows) {  
        show.showSummary();  
        show.printBookingDetails();  
    }  
}
```

```
private static MovieShow getShowById(int sid) {  
    for (MovieShow show : shows) {  
        if (show.showID == sid) {  
            return show;  
        }  
    }  
    System.out.println("Invalid Show ID.");  
    return null;  
}
```

```
private static int readInt() {  
    while (!sc.hasNextInt()) {  
        System.out.print("Enter a valid number: ");  
        sc.next();  
    }
```

```
    }  
    return sc.nextInt();  
}  
}
```

Output:

--- Movie Ticket Booking System ---

1. Book Tickets
2. Cancel Booking
3. Show Booking Details
4. Exit

Enter your choice: 3

Show ID: 1, Movie: Devara, Theater: Galaxy Cinema, Time: 6:00 PM

Available Seats: 50, Ticket Price: ₹300.0

--- Booking Details for Show ID 1 ---

No bookings yet.

Show ID: 2, Movie: Nayak, Theater: Cineplex, Time: 9:00 PM

Available Seats: 40, Ticket Price: 250.0

--- Booking Details for Show ID 2 ---

No bookings yet.

--- Movie Ticket Booking System ---

1. Book Tickets
2. Cancel Booking
3. Show Booking Details
4. Exit

Enter your choice: 1

Enter Show ID: 1

Enter number of tickets: 1

Enter name for Ticket 1: A

Booking successful! Your Booking ID: 1

Show ID: 1, Movie: Devara, Theater: Galaxy Cinema, Time: 6:00 PM

Available Seats: 49, Ticket Price: ₹300.0

--- Movie Ticket Booking System ---

1. Book Tickets
2. Cancel Booking
3. Show Booking Details
4. Exit

Enter your choice: 2

Enter Show ID: 1

Enter Booking ID to cancel: 1

Booking ID 1 cancelled.

Show ID: 1, Movie: Devara, Theater: Galaxy Cinema, Time: 6:00 PM

Available Seats: 50, Ticket Price: ₹300.0

--- Movie Ticket Booking System ---

1. Book Tickets
2. Cancel Booking
3. Show Booking Details
4. Exit

Enter your choice: 4

Exiting... Thank you!