package intern;

import java.util.ArrayList;

import java.util.HashMap;

import java.util.List;

import java.util.Map;

import java.util.Scanner;

class Movie {

private String title;

private String genre;

private int durationMinutes;

public Movie(String title, String genre, int durationMinutes) {

this.title = title;

this.genre = genre;

this.durationMinutes = durationMinutes;

}

public String getTitle() {

return title;

}

public String getGenre() {

return genre;

}

public int getDurationMinutes() {

return durationMinutes;

}

}

class Showtime {

private Movie movie;

private String time;

private int availableSeats;

public Showtime(Movie movie, String time, int totalSeats) {

this.movie = movie;

this.time = time;

this.availableSeats = totalSeats;

}

public Movie getMovie() {

return movie;

}

public String getTime() {

return time;

}

public int getAvailableSeats() {

return availableSeats;

}

public void bookSeats(int numSeats) {

if (numSeats <= availableSeats) {

availableSeats -= numSeats;

System.out.println("Seats booked successfully.");

} else {

System.out.println("Not enough seats available.");

}

}

public void cancelSeats(int numSeats) {

availableSeats += numSeats;

System.out.println("Seats canceled successfully.");

}

}

class BookingSystem {

private Map<String, Movie> movies;

private List<Showtime> showtimes;

public BookingSystem() {

this.movies = new HashMap<>();

this.showtimes = new ArrayList<>();

initializeMovies();

initializeShowtimes();

}

private void initializeMovies() {

Movie movie1 = new Movie("Inception", "Sci-Fi", 148);

Movie movie2 = new Movie("The Dark Knight", "Action", 152);

Movie movie3 = new Movie("Titanic", "Romance", 195);

movies.put("Inception", movie1);

movies.put("The Dark Knight", movie2);

movies.put("Titanic", movie3);

}

private void initializeShowtimes() {

Showtime showtime1 = new Showtime(movies.get("Inception"), "10:00 AM", 50);

Showtime showtime2 = new Showtime(movies.get("The Dark Knight"), "2:00 PM", 60);

Showtime showtime3 = new Showtime(movies.get("Titanic"), "6:00 PM", 70);

showtimes.add(showtime1);

showtimes.add(showtime2);

showtimes.add(showtime3);

}

public void displayMovies() {

System.out.println("Available Movies:");

for (Movie movie : movies.values()) {

System.out.println(movie.getTitle() + " - " + movie.getGenre() + " - " + movie.getDurationMinutes() + " minutes");

}

}

public void displayShowtimes() {

System.out.println("Available Showtimes:");

for (Showtime showtime : showtimes) {

System.out.println(

showtime.getMovie().getTitle() + " - " + showtime.getMovie().getGenre() + " - " + showtime.getTime() +

" - Available Seats: " + showtime.getAvailableSeats()

);

}

}

public void bookTickets(String movieTitle, String showtime, int numSeats) {

for (Showtime s : showtimes) {

if (s.getMovie().getTitle().equals(movieTitle) && s.getTime().equals(showtime)) {

s.bookSeats(numSeats);

return;

}

}

System.out.println("Invalid movie title or showtime.");

}

public void cancelTickets(String movieTitle, String showtime, int numSeats) {

for (Showtime s : showtimes) {

if (s.getMovie().getTitle().equals(movieTitle) && s.getTime().equals(showtime)) {

s.cancelSeats(numSeats);

return;

}

}

System.out.println("Invalid movie title or showtime.");

}

}

public class MovieTicketBookingSystem {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

BookingSystem bookingSystem = new BookingSystem();

while (true) {

System.out.println("\nMovie Ticket Booking System Menu:");

System.out.println("1. Display Movies");

System.out.println("2. Display Showtimes");

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

System.out.println("4. Cancel Tickets");

System.out.println("5. Exit");

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

int choice = scanner.nextInt();

scanner.nextLine(); // Consume the newline character

switch (choice) {

case 1:

bookingSystem.displayMovies();

break;

case 2:

bookingSystem.displayShowtimes();

break;

case 3:

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

String movieTitle = scanner.nextLine();

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

String showtime = scanner.nextLine();

System.out.print("Enter number of seats to book: ");

int numSeatsToBook = scanner.nextInt();

bookingSystem.bookTickets(movieTitle, showtime, numSeatsToBook);

break;

case 4:

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

movieTitle = scanner.nextLine();

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

showtime = scanner.nextLine();

System.out.print("Enter number of seats to cancel: ");

int numSeatsToCancel = scanner.nextInt();

bookingSystem.cancelTickets(movieTitle, showtime, numSeatsToCancel);

break;

case 5:

System.out.println("Exiting the program. Goodbye!");

System.exit(0);

default:

System.out.println("Invalid choice. Please enter a valid option.");

}

}

}

}