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package day1Practice;

import java.util.*;

class Movie
{
    String name;
    int duration; // in minutes
    Movie(String name, int duration)
    {
        this.name = name;
        this.duration = duration;
    }
}

class Theater
{
    String name;
    List<Movie> movies;
    int[][] seats; // 2D array to represent the seats, 0 represents
available, 1 represents booked

    Theater(String name, List<Movie> movies, int rows, int cols)
//Constructor for Theater class
    {
        this.name = name;
        this.movies = movies;
        this.seats = new int[rows][cols];
    }

    void displayMovies()
    {
        System.out.println("Movies playing at " + name + ":");
        for (Movie movie : movies)
        {
            System.out.println(movie.name + " (" + movie.duration + "
minutes)");
        }
        System.out.println();
    }

    void displaySeats()
    {
        System.out.println("Seat layout for " + name + ":");
        for (int i=0;i<seats.length;i++)
        {
            for (int j=0;j<seats[i].length;j++)
            {
                System.out.print(seats[i][j] == 0 ? "*" : "X ");
            }
            System.out.println();
        }
        System.out.println();
    }

    boolean bookSeat(int row, int col)
    {
        if (row>=0&&row<seats.length&&col>=0&&col<seats[0].length) {
            if (seats[row][col]==0)
            {
                seats[row][col]=1; // Mark the seat as booked
            }
        }
    }
}

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        return true;
    }
    else
    {
        System.out.println("Seat already booked. Please
choose another seat.");
    }
}
else
{
    System.out.println("Invalid seat selection.");
}
return false;
}
}

class MovieBookingSystem
{
    List<Theater> theaters;
    MovieBookingSystem()
    {
        theaters=new ArrayList<>();
    }

    void addTheater(Theater theater)
    {
        theaters.add(theater);
    }

    void displayTheaters()
    {
        System.out.println("Available theaters:");
        for (Theater theater:theaters)
        {
            System.out.println(theater.name);
        }
        System.out.println();
    }

    public static void main(String[] args)
    {
        Movie movie1 = new Movie("Inception", 150);
        Movie movie2 = new Movie("The Shawshank Redemption", 142);
        Movie movie3 = new Movie("The Dark Knight", 152);

        List<Movie> movies1 = Arrays.asList(movie1, movie2);
        List<Movie> movies2 = Arrays.asList(movie2, movie3);

        Theater theater1 = new Theater("Cineplex A", movies1, 5, 10);
        Theater theater2 = new Theater("Cineplex B", movies2, 6, 8);

        MovieBookingSystem bookingSystem = new MovieBookingSystem();
        bookingSystem.addTheater(theater1);
        bookingSystem.addTheater(theater2);

        Scanner scanner = new Scanner(System.in);

        while (true)
        {
            bookingSystem.displayTheaters();

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        System.out.print("Enter the name of the theater to book
tickets (or 'exit' to end): ");
        String theaterName = scanner.nextLine();
        if (theaterName.equalsIgnoreCase("exit"))
        {
            break;
        }

        Theater selectedTheater=null;
        for (Theater theater : bookingSystem.theaters)
        {
            if (theater.name.equalsIgnoreCase(theaterName))
            {
                selectedTheater=theater;
                break;
            }
        }

        if (selectedTheater==null)
        {
            System.out.println("Invalid theater name. Please try
again.");
            continue;
        }

        selectedTheater.displayMovies();
        System.out.print("Enter the name of the movie to book
tickets: ");

        String movieName=scanner.nextLine();

        Movie selectedMovie=null;

        for (Movie movie : selectedTheater.movies)
        {
            if (movie.name.equalsIgnoreCase(movieName))
            {
                selectedMovie = movie;
                break;
            }
        }

        if (selectedMovie==null)
        {
            System.out.println("Invalid movie name. Please try
again.");
            continue;
        }

        selectedTheater.displaySeats();
        System.out.print("Enter the row number for the seat: ");
        int row = scanner.nextInt();
        System.out.print("Enter the column number for the seat:
");

        int col = scanner.nextInt();
        boolean bookingSuccessful = selectedTheater.bookSeat(row,
col);

        if (bookingSuccessful)
        {
            System.out.println("Ticket booked successfully!");
            System.out.println("Enjoy the movie: " +
selectedMovie.name);

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                System.out.println("Movie duration: " +
selectedMovie.duration + " minutes");
            } else
            {
                System.out.println("Ticket booking failed. Please try
again.");
            }

            scanner.nextLine();
        }

        System.out.println("Thank you for using the Movie Ticket
Booking Simulator!");
    }
}
```