**Movie Seat Booking System Documentation**

**Introduction:**

The Seat Booking System is a C program designed to simulate a booking system for a venue with a seating chart. This program allows users to view the seating chart, book seats, and calculate the total price for their bookings. The system enforces a limit of booking up to 5 seats per booking. The program uses constants and functions to manage and display the seating arrangement.

**Constants:**

**NUM\_ROWS:** The number of rows in the seating chart (e.g., 7).

**SEATS\_PER\_ROW:** The number of seats in each row (e.g., 10).

**TICKET\_PRICE:** The price of one ticket (e.g., Rs. 150).

**Functions:**

1. **initializing\_seating\_arrangement:**

* **Purpose:** Initializes the seating chart with available seats, represented by '0'.
* **Parameters:** int seat[][SEATS\_PER\_ROW] - a 2D array representing the seating chart.
* **Description:** This function iterates through each row and seat in the seating chart and sets the value to '0', indicating that the seat is available.

1. **display\_seats:**

* **Purpose:** Displays the current status of seats in the venue, marking available seats with '0' and booked seats with 'X'.
* **Parameters:** int seat[][SEATS\_PER\_ROW] - the seating chart to display.
* **Description:** This function iterates through each row and seat in the seating chart and prints '0' if the seat is available or 'X' if the seat is not available. It provides a visual representation of the current seat status.

1. **booking\_seat:**

* **Purpose:** Books a specific seat if it is available and updates the seating chart.
* **Parameters:** int seat\_char[][SEATS\_PER\_ROW] - the 2D array representing the seating chart, int row - the row number of the seat to be booked, int seat - the seat number to be booked.
* **Description:** The function checks if the provided row and seat numbers are valid (within the defined range) and whether the seat is available (marked as '0'). If the seat is available, it updates the seating chart by marking that seat as '1' to indicate that it's booked. If the seat is already booked, the function notifies the user.

1. **bookSeatsLimit:**

* **Purpose:** Books a limited number of seats, prompting the user for row and seat numbers and checking availability.
* **Parameters:** int chart[][SEATS\_PER\_ROW] - the seating chart to check and update, int numSeats - the maximum number of seats to be booked in a single booking.
* **Description:** The function repeatedly prompts the user to enter the row and seat numbers for booking until the maximum limit of numSeats is reached. It calls the booking\_seat function to book each seat, updates the seating chart, and keeps track of the number of seats booked.

1. **total\_price:**

* **Purpose:** Calculates and displays the total price for the booked seats.
* **Parameters:** int seat - the total number of seats booked.
* **Description:** This function calculates the total price by multiplying the number of booked seats by the ticket price and then displays the total price.

**Main Program (main function):**

1. **Usage:**

* Run the program.
* Use the menu to display the seating chart, book seats, calculate the total price, or quit.
* The program enforces a limit of booking up to 5 seats in a single booking.

1. **Operation:**

* The program initializes the seating arrangement using the initializing\_seating\_arrangement function.
* Users are presented with a menu to choose from four options: displaying the seating chart, booking seats, calculating the total price, or quitting.
* For the "Display seating chart" option, the program uses display\_seats to show the current seat status.
* For the "Book a seat" option, users can specify the number of seats to book (up to 5), and the program calls bookSeatsLimit to handle the booking process.
* For the "See the total price" option, total\_price calculates and displays the total price for the booked seats.
* The program continues to run until the user selects the "Quit" option.

1. **Timings Feature:**

* In this program, users can choose from different timings to book seats. There are four timing slots available: 10:30 - 12:30, 1:00 - 3:00, 4:30 - 6:30, and 7:00 - 9:00. When users select a timing, they can view the seating chart for that specific timing, book seats, and calculate the total price for their bookings. This feature allows for better organization and management of bookings for different time slots.

1. **Note:**

* Each time a seat is booked, it is marked as "1" in the seating chart.
* Invalid inputs for row or seat numbers are handled, and the user is notified.

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