package finalproject\_phase1;

import java.util.HashMap;

import java.util.Map;

import java.util.Scanner;

class MovieTheatre {

private Map<String, String> credentials;

private Map<String, Map<String, Boolean>> seatingArrangement;

private Map<String, Double> seatPrices;

public MovieTheatre() {

credentials = new HashMap<>();

credentials.put("ashok125", "Ashok125MPH"); // Default login credentials

seatingArrangement = new HashMap<>();

// seating arrangement for different shows

seatingArrangement.put("2024-01-05\_18:00", initializeSeats());

seatPrices = new HashMap<>();

// seat prices

seatPrices.put("Standard", 10.0);

seatPrices.put("VIP", 20.0);

}

private Map<String, Boolean> initializeSeats() {

Map<String, Boolean> seats = new HashMap<>();

// let's assume 5 rows and 5 columns

for (int i = 1; i <= 5; i++) {

for (int j = 1; j <= 5; j++) {

seats.put(i + "-" + j, false); // False means seat available

}

}

return seats;

}

public boolean login(String username, String password) {

return credentials.containsKey(username) && credentials.get(username).equals(password);

}

public void updatePassword(String username, String newPassword) {

credentials.put(username, newPassword);

System.out.println("Password updated successfully.");

}

public void viewSeatingArrangement(String dateAndTime) {

if (seatingArrangement.containsKey(dateAndTime)) {

System.out.println("Seating Arrangement for " + dateAndTime + ":");

printSeats(seatingArrangement.get(dateAndTime));

} else {

System.out.println("Invalid date and time.");

}

}

public void bookTicket(String dateAndTime, String seatCategory) {

Map<String, Boolean> seats = seatingArrangement.get(dateAndTime);

if (seats != null) {

System.out.println("Select seat (e.g., 2-3): ");

Scanner scanner = new Scanner(System.in);

String seat = scanner.nextLine();

if (seats.containsKey(seat) && !seats.get(seat)) {

seats.put(seat, true);

double amount = seatPrices.getOrDefault(seatCategory, 0.0);

System.out.println("Ticket booked successfully for seat " + seat + ". Amount: $" + amount);

} else {

System.out.println("Invalid seat or already booked.");

}

} else {

System.out.println("Invalid date and time.");

}

}

public void checkBookingStatus(String dateAndTime) {

if (seatingArrangement.containsKey(dateAndTime)) {

System.out.println("Booking Status for " + dateAndTime + ":");

printSeats(seatingArrangement.get(dateAndTime));

} else {

System.out.println("Invalid date and time.");

}

}

private void printSeats(Map<String, Boolean> seats) {

for (Map.Entry<String, Boolean> entry : seats.entrySet()) {

System.out.print(entry.getKey() + " - " + (entry.getValue() ? "Booked" : "Available") + "\t");

}

System.out.println();

}

}

public class MovieTicketBookingSimulator {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

MovieTheatre movieTheatre = new MovieTheatre();

// Login

System.out.println("Book My Show Welcomes You");

System.out.println(" ");

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

String username = scanner.nextLine();

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

String password = scanner.nextLine();

if (movieTheatre.login(username, password)) {

System.out.println("Login successful.");

// Main Menu

int choice;

do {

System.out.println("\nMenu:");

System.out.println("1. Update Password");

System.out.println("2. View Seating Arrangement");

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

System.out.println("4. Check Booking Status");

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

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

choice = scanner.nextInt();

scanner.nextLine();

switch (choice) {

case 1:

System.out.print("Enter new password: ");

String newPassword = scanner.nextLine();

movieTheatre.updatePassword(username, newPassword);

break;

case 2:

System.out.print("Enter date and time (e.g., 2024-01-02\_18:00): ");

String dateAndTime = scanner.nextLine();

movieTheatre.viewSeatingArrangement(dateAndTime);

break;

case 3:

System.out.print("Enter date and time (e.g., 2024-01-02\_18:00): ");

dateAndTime = scanner.nextLine();

System.out.print("Select seat category (Standard/VIP): ");

String seatCategory = scanner.nextLine();

movieTheatre.bookTicket(dateAndTime, seatCategory);

break;

case 4:

System.out.print("Enter date and time (e.g., 2024-01-02\_18:00): ");

dateAndTime = scanner.nextLine();

movieTheatre.checkBookingStatus(dateAndTime);

break;

case 5:

System.out.println("Logout successful.");

break;

default:

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

}

} while (choice != 5);

} else {

System.out.println("Invalid credentials. Login failed.");

}

scanner.close();

}

}