Computer Programming I — Homework Assignment #12

Problem: Design a simplified Vieshow Cinemas Taipei QSquare system

Functions:

1. Sign In: Enter an email address and a password to sign in the system. You may modify your account information.

1.1. Account Information: Display personal information for the specified member.

1.2. Buy Tickets: Append a new record into the binary file **Booking Histories.dat**.

1.3. My Bookings: Display booking history for the specified account.

2. New Member: Append a new record into the binary file **Member Info.dat**.

Requirements:

1. Global variables, except hours, are not allowed.

2. The format of the file **Member Info.dat** is as follows:

char email[ 40 ];

char password[ 24 ];

char IDNumber[ 12 ];

char name[ 12 ];

char phone[ 12 ];

3. The format of the file **Booking Histories.dat** is as follows:

char email[ 40 ];

int movieCode;

int dateCode;

int sessionTimeCode;

int numTickets[ 4 ]; // numTickets[0]: the number of adult tickets

// numTickets[1]: the number of concession tickets,

// numTickets[2]: the number of disability tickets

// numTickets[3]: the number of elderly tickets

char seletedSeats[ 24 ][ 4 ];

4. The format of the file **Movies.dat** is as follows:

int movieCode;

int prices[ 4 ]; // prices[0]:adult, prices[1]:concession, prices[2]:disability, prices[3]:elderly

bool dates[ 9 ];

bool sessionTimes[ 17 ];

bool occupiedSeats[ 9 ][ 17 ][ 8 ][ 12 ];

The screen dialog should appear as follows:

|  |
| --- |
| Welcome to Vieshow Cinemas Taipei QSquare system  1. Sign In  2. New Member  3. End  Enter your choice (1~3): 0  Enter your choice (1~3): 4  Enter your choice (1~3): 2  Enter your ID number: 111 **displayed by the function newMember**  Enter your name: 111  Enter an email address: 111  Enter a password: 111  Enter your phone number: 111  Successful!  1. Sign In  2. New Member  3. End  Enter your choice (1~3): 2  Enter your ID number: 111  An account already exists with the ID number! **displayed by the function newMember**  1. Sign In  2. New Member  3. End  Enter your choice (1~3): 2  Enter your ID number: 222  Enter your name: 222  Enter an email address: 111  An account already exists with the e-mail! **displayed by the function newMember**  Enter an email address: 222  Enter a password: 222  Enter your phone number: 222  Successful!  1. Sign In  2. New Member  3. End  Enter your choice (1~3): 1  Enter email address: 333 **displayed by the function signIn**  Enter password: 333  Sorry, unrecognized email or password. **displayed by the function illegal**  Enter email address: 111 **displayed by the function signIn**  Enter password: 222  Sorry, unrecognized email or password. **displayed by the function illegal**  Enter email address: 111 **displayed by the function signIn**  Enter password: 111  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 0  Enter your choice (1~4): 5  Enter your choice (1~4): 1  1. Name: 111 **displayed by the function accountInfor**  2. Email Address: 111  3. Phone Number: 111  4. ID Number: 111  5. Password: 111  Which one do you want to modify (0 – not modify)? 0  1. Account Information **displayed by the function signIn**  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  No bookings! **displayed by the function** **displayBookingHistory**  1. Account Information **displayed by the function signIn**  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 2  0. Movie: MURDER ON THE ORIENT EXPRESS **displayed by the function displaySessionTimes**  Date: 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 3. 12:00, 9. 18:00, 15. 00:00,  1. Movie: BEYOND SKYLINE  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 2. 11:00, 5. 14:00, 9. 18:00, 11. 20:00, 14. 23:00, 16. 01:00,  2. Movie: TRAGEDY GIRLS  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 2. 11:00, 4. 13:00, 6. 15:00, 7. 16:00, 10. 19:00, 12. 21:00, 13. 22:00, 16. 01:00,  3. Movie: THE BRINK  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 12. 21:00,  4. Movie: THE GREAT BUDDHA  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 3. 12:00, 8. 17:00, 13. 22:00,  5. Movie: WONDER  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 3. 12:00, 7. 16:00, 10. 19:00, 13. 22:00, 16. 01:00,  6. Movie: DADDYS HOME 2  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 7. 16:00,  7. Movie: TAKE ME TO THE MOON  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 1. 10:00, 6. 15:00, 10. 19:00, 15. 00:00,  8. Movie: THE BOLD THE CORRUPT AND THE BEAUTIFUL  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 3. 12:00, 5. 14:00, 6. 15:00, 8. 17:00, 10. 19:00, 13. 22:00, 14. 23:00, 15. 00:00,  9. Movie: COCO AND OLAFS FROZEN ADVENTURE  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 1. 10:00, 3. 12:00, 4. 13:00, 6. 15:00, 7. 16:00, 8. 17:00, 11. 20:00, 13. 22:00, 16. 01:00,  10. Movie: SECRET SUPERSTAR  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 1. 10:00, 4. 13:00, 9. 18:00, 12. 21:00,  11. Movie: POKEMON THE MOVIE I CHOOSE YOU  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 5. 14:00, 10. 19:00, 15. 00:00,  Enter movie code (0 - 11): -1  Enter movie code (0 - 11): 12  Enter movie code (0 - 11): 11  Enter date code (0 - 8): -1  Enter date code (0 - 8): 9  Enter date code (0 - 8): 2  Enter date code (0 - 8): 3  Enter session time code (0 - 16): -1  Enter session time code (0 - 16): 17  Enter session time code (0 - 16): 4  Enter session time code (0 - 16): 5  Movie: POKEMON THE MOVIE I CHOOSE YOU  Date: Dec 16 Sat  Show Time: 14:00  Price: Adult-270, Concession-270, Disability-160, Elderly-160 **displayed by the function buyTickets**  Enter the number of adult tickets (0 - 6): -1  Enter the number of adult tickets (0 - 6): 7  Enter the number of adult tickets (0 - 6): 0  Enter the number of concession tickets (0 - 6): 0  Enter the number of disability tickets (0 - 6): 0  Enter the number of elderly tickets (0 - 6): 0  Enter the number of adult tickets (0 - 6): 2  Enter the number of concession tickets (0 - 6): 0  Enter the number of disability tickets (0 - 6): 1  Enter the number of elderly tickets (0 - 6): 0  No. of Tickets Price Subtotal  Adult 2 270 540  Disability ticket 1 160 160 **displayed by the function display**  Total Amount For Tickets: 700  A B C D E F G H I J K L  0 0 0 0 0 0 0 0 0 0 0 0 0  1 0 0 0 0 0 0 0 0 0 0 0 0  2 0 0 0 0 0 0 0 0 0 0 0 0  3 0 0 0 0 0 0 0 0 0 0 0 0 **displayed by the function selectSeats**  4 0 0 0 0 0 0 0 0 0 0 0 0  5 0 0 0 0 0 0 0 0 0 0 0 0  6 0 0 0 0 0 0 0 0 0 0 0 0  7 0 0 0 0 0 0 0 0 0 0 0 0  Select 3 seats (e.g. 0A):  ? 1A  ? 1B  ? 1C  Successful!  1. Account Information **displayed by the function signIn**  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  Booking History:  Movie: POKEMON THE MOVIE I CHOOSE YOU **displayed by the function** **displayBookingHistory**  Date: Dec 16 Sat  Show Time: 14:00  Seats: 1A 1B 1C  No. of Tickets Price Subtotal  Adult 2 270 540  Disability ticket 1 160 160 **displayed by the function display**  Total Amount For Tickets: 700  ----------------------------------------------  1. Account Information **displayed by the function signIn**  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 4  1. Sign In  2. New Member  3. End  Enter your choice (1~3): 1  Enter email address: 222  Enter password: 222  1. Account Information **displayed by the function signIn**  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  No bookings! **displayed by the function** **displayBookingHistory**  1. Account Information **displayed by the function signIn**  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 2  0. Movie: MURDER ON THE ORIENT EXPRESS **displayed by the function displaySessionTimes**  Date: 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 3. 12:00, 9. 18:00, 15. 00:00,  1. Movie: BEYOND SKYLINE  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 2. 11:00, 5. 14:00, 9. 18:00, 11. 20:00, 14. 23:00, 16. 01:00,  2. Movie: TRAGEDY GIRLS  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 2. 11:00, 4. 13:00, 6. 15:00, 7. 16:00, 10. 19:00, 12. 21:00, 13. 22:00, 16. 01:00,  3. Movie: THE BRINK  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 12. 21:00,  4. Movie: THE GREAT BUDDHA  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 3. 12:00, 8. 17:00, 13. 22:00,  5. Movie: WONDER  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 3. 12:00, 7. 16:00, 10. 19:00, 13. 22:00, 16. 01:00,  6. Movie: DADDYS HOME 2  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 7. 16:00,  7. Movie: TAKE ME TO THE MOON  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 1. 10:00, 6. 15:00, 10. 19:00, 15. 00:00,  8. Movie: THE BOLD THE CORRUPT AND THE BEAUTIFUL  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 3. 12:00, 5. 14:00, 6. 15:00, 8. 17:00, 10. 19:00, 13. 22:00, 14. 23:00, 15. 00:00,  9. Movie: COCO AND OLAFS FROZEN ADVENTURE  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 1. 10:00, 3. 12:00, 4. 13:00, 6. 15:00, 7. 16:00, 8. 17:00, 11. 20:00, 13. 22:00, 16. 01:00,  10. Movie: SECRET SUPERSTAR  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 1. 10:00, 4. 13:00, 9. 18:00, 12. 21:00,  11. Movie: POKEMON THE MOVIE I CHOOSE YOU  Date: 3. Dec 16 Sat, 4. Dec 17 Sun, 5. Dec 18 Mon, 6. Dec 19 Tue,  Session Time: 0. 09:00, 5. 14:00, 10. 19:00, 15. 00:00,  Enter movie code (0 - 11): 11  Enter date code (0 - 8): 3  Enter session time code (0 - 16): 5  Movie: POKEMON THE MOVIE I CHOOSE YOU  Date: Dec 16 Sat  Show Time: 14:00  Price: Adult-270, Concession-270, Disability-160, Elderly-160 **displayed by the function buyTickets**  Enter the number of adult tickets (0 - 6): 1  Enter the number of concession tickets (0 - 6): 0  Enter the number of disability tickets (0 - 6): 0  Enter the number of elderly tickets (0 - 6): 0  No. of Tickets Price Subtotal  Adult 1 270 270 **displayed by the function display**  Total Amount For Tickets: 270  A B C D E F G H I J K L  0 0 0 0 0 0 0 0 0 0 0 0 0  1 1 1 1 0 0 0 0 0 0 0 0 0  2 0 0 0 0 0 0 0 0 0 0 0 0  3 0 0 0 0 0 0 0 0 0 0 0 0 **displayed by the function selectSeats**  4 0 0 0 0 0 0 0 0 0 0 0 0  5 0 0 0 0 0 0 0 0 0 0 0 0  6 0 0 0 0 0 0 0 0 0 0 0 0  7 0 0 0 0 0 0 0 0 0 0 0 0  Select 1 seats (e.g. 0A):  ? 1A  This seat has been occupied. Please select another seat.  ? 1B  This seat has been occupied. Please select another seat.  ? 2A  Successful!  1. Account Information **displayed by the function signIn**  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  Booking History:  Movie: POKEMON THE MOVIE I CHOOSE YOU **displayed by the function** **displayBookingHistory**  Date: Dec 16 Sat  Show Time: 14:00  Seats: 2A  No. of Tickets Price Subtotal  Adult 1 270 270 **displayed by the function display**  Total Amount For Tickets: 270  ----------------------------------------------  1. Account Information **displayed by the function signIn**  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 4  1. Sign In  2. New Member  3. End  Enter your choice (1~3): 3  Thank you...  請按任意鍵繼續 . . . |