Computer Programming I — Homework Assignment #13

Problem: Design a simplified Vie Show Cinemas Taoyuan Geleven Plaza 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[ 2 ]; // numTickets[ 0 ]: the number of adult tickets

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

char seletedSeats[ 20 ][ 4 ];

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

int movieCode;

int prices[ 2 ]; // prices[ 0 ]:adult, prices[1]:concession

bool dates[ 6 ]; // dates[ i ] is true if and only if the movie is available on i-th date

bool sessionTimes[ 12 ]; // sessionTimes[i] is true if and only if the movie is available on i-th session

bool occupiedSeats[ 6 ][ 12 ][ 8 ][ 12 ];

// occupiedSeats[i][j] is the occupied Seats for all accounts at j-th session time on i-th date

The screen dialog #1:

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| Welcome to Vie Show Cinemas Taoyuan Geleven Plaza system  1. Sign In  2. New Member  3. End  Enter your choice (1~3): a  Enter your choice (1~3): 0  Enter your choice (1~3): 4  Enter your choice (1~3): 2  Enter your ID number: 111  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!  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!  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): 3  Thank you! |

The screen dialog #2:

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| Welcome to Vie Show Cinemas Taoyuan Geleven Plaza system  1. Sign In  2. New Member  3. End  Enter your choice (1~3): 1  Enter email address: 333  Enter password: 333  Sorry, unrecognized email or password.  Enter email address: 111  Enter password: 222  Sorry, unrecognized email or password.  Enter email address: 111  Enter password: 111  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): a  Enter your choice (1~4): 0  Enter your choice (1~4): 5  Enter your choice (1~4): 1  1. Name: 111  2. Phone Number: 111  3. ID Number: 111  4. Password: 111  Which one do you want to modify (0 – not modify): a  Which one do you want to modify (0 – not modify): 5  Which one do you want to modify (0 – not modify): 1  Enter correct data: 333  Successful!  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 1  1. Name: 333  2. Phone Number: 111  3. ID Number: 111  4. Password: 111  Which one do you want to modify (0 – not modify): 0  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  No bookings!  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 2  0. Movie: GOODBYE JULIA  Date: 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 5. 16:00,  1. Movie: HIDDEN FACE  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 3. 14:00, 11. 22:00,  2. Movie: KRAVEN THE HUNTER  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 0. 11:00, 2. 13:00, 5. 16:00, 8. 19:00, 11. 22:00,  3. Movie: TAIWAN UNSUNG HERO  Date: 2. Dec 15 Sun, 3. Dec 16 Mon,  Session Time: 1. 12:00,  4. Movie: (C)MOANA 2  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 0. 11:00, 4. 15:00, 8. 19:00,  5. Movie: (E)MOANA 2  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 0. 11:00, 4. 15:00, 8. 19:00,  6. Movie: WICKED  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 0. 11:00, 5. 16:00, 10. 21:00,  7. Movie: GLADIATOR 2  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 5. 16:00, 10. 21:00,  8. Movie: RED ONE  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 8. 19:00,  9. Movie: (C)THE WILD ROBOT  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 5. Dec 18 Wed,  Session Time: 3. 14:00,  10. Movie: (E)THE WILD ROBOT  Date: 2. Dec 15 Sun, 4. Dec 17 Tue,  Session Time: 3. 14:00,  Enter movie code (0 - 10): a  Enter movie code (0 - 10): -1  Enter movie code (0 - 10): 11  Enter movie code (0 - 10): 6  Enter date code (0 - 5): a  Enter date code (0 - 5): -1  Enter date code (0 - 5): 6  Enter date code (0 - 5): 1  Enter date code (0 - 5): 3  Enter session time code (0 - 11): a  Enter session time code (0 - 11): -1  Enter session time code (0 - 11): 12  Enter session time code (0 - 11): 1  Enter session time code (0 - 11): 11  Enter session time code (0 - 11): 0  Movie: WICKED  Date: Dec 16 Mon  Show Time: 11:00  Price: Adult-330, Concession-300  Enter the number of adult tickets (0 - 10): a  Enter the number of adult tickets (0 - 10): 11  Enter the number of adult tickets (0 - 10): -1  Enter the number of adult tickets (0 - 10): 2  Enter the number of concession tickets (0 - 10): a  Enter the number of concession tickets (0 - 10): -1  Enter the number of concession tickets (0 - 10): 11  Enter the number of concession tickets (0 - 10): 2  No. of Tickets Price Subtotal  Adult 2 330 660  Concession 2 300 600  Total Amount For Tickets: 1260  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  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 4 seats (e.g. 0A):  ? 1E  ? 1F  ? 1G  ? 1H  Successful!  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  Booking History:  Movie: WICKED  Date: Dec 16 Mon  Show Time: 11:00  Seats: 1E 1F 1G 1H  No. of Tickets Price Subtotal  Adult 2 330 660  Concession 2 300 600  Total Amount For Tickets: 1260  ----------------------------------------------  1. Account Information  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! |

The screen dialog #3:

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| Welcome to Vie Show Cinemas Taoyuan Geleven Plaza system  1. Sign In  2. New Member  3. End  Enter your choice (1~3): 1  Enter email address: 111  Enter password: 111  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  Booking History:  Movie: WICKED  Date: Dec 16 Mon  Show Time: 11:00  Seats: 1E 1F 1G 1H  No. of Tickets Price Subtotal  Adult 2 330 660  Concession 2 300 600  Total Amount For Tickets: 1260  ----------------------------------------------  1. Account Information  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  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  No bookings!  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 2  0. Movie: GOODBYE JULIA  Date: 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 5. 16:00,  1. Movie: HIDDEN FACE  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 3. 14:00, 11. 22:00,  2. Movie: KRAVEN THE HUNTER  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 0. 11:00, 2. 13:00, 5. 16:00, 8. 19:00, 11. 22:00,  3. Movie: TAIWAN UNSUNG HERO  Date: 2. Dec 15 Sun, 3. Dec 16 Mon,  Session Time: 1. 12:00,  4. Movie: (C)MOANA 2  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 0. 11:00, 4. 15:00, 8. 19:00,  5. Movie: (E)MOANA 2  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 0. 11:00, 4. 15:00, 8. 19:00,  6. Movie: WICKED  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 0. 11:00, 5. 16:00, 10. 21:00,  7. Movie: GLADIATOR 2  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 5. 16:00, 10. 21:00,  8. Movie: RED ONE  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 4. Dec 17 Tue, 5. Dec 18 Wed,  Session Time: 8. 19:00,  9. Movie: (C)THE WILD ROBOT  Date: 2. Dec 15 Sun, 3. Dec 16 Mon, 5. Dec 18 Wed,  Session Time: 3. 14:00,  10. Movie: (E)THE WILD ROBOT  Date: 2. Dec 15 Sun, 4. Dec 17 Tue,  Session Time: 3. 14:00,  Enter movie code (0 - 10): 6  Enter date code (0 - 5): 3  Enter session time code (0 - 11): 0  Movie: WICKED  Date: Dec 16 Mon  Show Time: 11:00  Price: Adult-330, Concession-300  Enter the number of adult tickets (0 - 10): 1  Enter the number of concession tickets (0 - 10): 1  No. of Tickets Price Subtotal  Adult 1 330 330  Concession 1 300 300  Total Amount For Tickets: 630  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 1 1 1 1 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  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 2 seats (e.g. 0A):  ? 1E  This seat bas been occupied. Please select another seat.  ? 1F  This seat bas been occupied. Please select another seat.  ? 1G  This seat bas been occupied. Please select another seat.  ? 1H  This seat bas been occupied. Please select another seat.  ? 2F  ? 2G  Successful!  1. Account Information  2. Buy Tickets  3. My Bookings  4. Sign Out  Enter your choice (1~4): 3  Booking History:  Movie: WICKED  Date: Dec 16 Mon  Show Time: 11:00  Seats: 2F 2G  No. of Tickets Price Subtotal  Adult 1 330 330  Concession 1 300 300  Total Amount For Tickets: 630  ----------------------------------------------  1. Account Information  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! |