Department of Electrical and Computer Engineering
North South University

Java Project

Wonderland Show Reservation

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LETTER OF TRANSMITTAL

June 2023

To

Muhammad Shafayat Oshman
Lecturer,
Department of Electrical and Computer Engineering
North South University, Dhaka

Subject: **Submission of Java Project Report on "Wonderland Show Reservation"**

Dear Sir,
With due respect, I would like to submit my **CSE215 Project Report** on **"Wonderland Show Reservation"** as a part of our BSc program. The report deals with the Online show reservation system. This project was very much valuable to me as it helped me gain experience and apply in real life. I tried to the maximum competence to meet all the dimensions required from this report.

I will be highly obliged if you kindly receive this report and provide your valuable judgment. It will be my immense pleasure if you find this report useful and informative to have an apparent perspective.

Sincerely Yours,

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SHAKIL AHMED
ECE Department
North South University, Bangladesh

Chapter 1 Introduction

The purpose of this project is to create a Java program for **Online Show reservations**. The program allows users to sign in, view upcoming shows, available shows, and book tickets for the desired show. The project aims to provide a user-friendly interface for users to navigate and book show tickets easily. Automating the ticket booking process, it saves time and effort for both users and show authorities.

Chapter 2 Methodology

The project is implemented using Java programming language. The following classes are used in the project:

The "Wonderland Show Reservation" is a Java program that allows users to sign in or log in, view upcoming and available shows, and book tickets for their desired shows. The program uses file input and output operations to read and show details from text files and store customer information.

1. **Login Class (login.java):**
   The login class handles user authentication. It prompts the user to enter a username and password, reads a file ("login.txt") containing stored usernames and passwords, and checks if the entered credentials match any of the stored records. If the login is successful, it displays a welcome message and invokes the main menu. If the login fails, it prompts the user to try again.

2. **Main_Menu Class (Main_Menu.java):**
   The Main_Menu class represents the main menu of the program. It displays a list of options, allowing the user to choose between viewing upcoming shows, available shows, booking tickets, or exiting the program. Based on the user's input, it invokes corresponding methods or performs appropriate actions.

3. **All_Movies Class (All_Movies.java):**
   The All_Movies class reads a file ("allmovies.txt") containing details of all shows and displays them. It uses the Shows class to create show objects and calls the show() method to display each show's information.

4. **AvailableMoviesFileInput Class (AvailableMoviesFileInput.java):**
   The AvailableMoviesFileInput class reads a file ("AvailableMovie.txt") containing details of available shows and displays them. It follows a similar approach as the All_Movies class, creating show objects and invoking the show() method to display the information. After displaying available shows, it allows the user to book a ticket by invoking the BookAv class.

5. **Book Class (Book.java):**
   The Book class handles the ticket booking process. It prompts the user to choose a movie number, provides information about the selected show, and collects customer details such as name, phone number, address, and seat preference. Based on the seat type chosen (front or back seat) and the number of tickets, it calculates the total price. It uses the Shows and CustomerInfo classes to display show information and generate a bill. After booking the ticket, it prompts the user for further action.

6. **BookAv Class (BookAv.java):**
   The BookAv class allows users to book tickets for available shows. It prompts the user to provide their details and chooses a show based on the entered show number. It follows a

similar process as the Book class, handling seat selection, price calculation, generating a bill, and providing options to the user after booking.

7. **CustomerInfo Class (CustomerInfo.java):**
   The CustomerInfo class is a subclass of the Shows class and represents customer information for a booked ticket. It stores details such as the customer's name, phone number, and address, and extends the Shows class to include information about the booked show. This class is used in the Book and BookAv classes to create customer objects and generate bills.

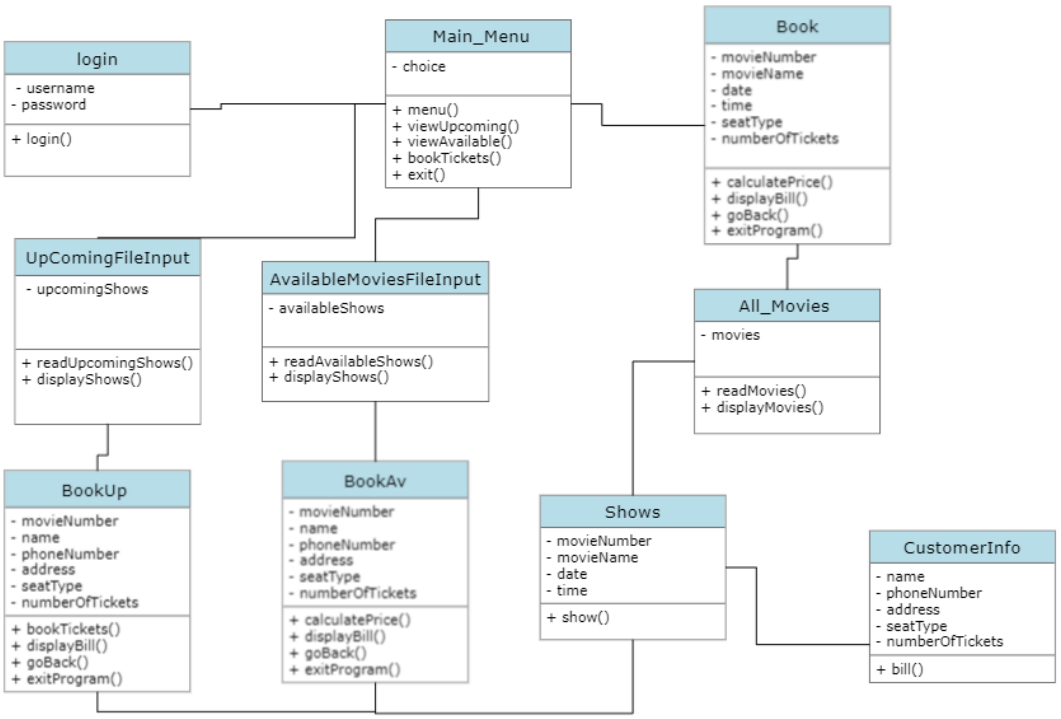
8. **File Input:**
   The program utilizes file input to read information about shows and login credentials. It reads from the following files:

- "login.txt" - Contains stored usernames and passwords for authentication.
- "allmovies.txt" - Contains details of all shows.
- "AvailableMovie.txt" - Contains details of available shows.
- "upcoming.txt" - Contains details of upcoming shows.

9. **Error Handling:**
   The program includes exception handling to catch and handle file-related exceptions, such as file not found or I/O errors. It displays appropriate error messages in case of exceptions.

10. **User Interaction:**
    The program interacts. Interactions are shown in the Output section.

Chapter 3 UML Diagram



Chapter 4 Difficulties & Errors

1. User Input Validation: Validating user input can be challenging, as the program needs to handle various scenarios such as invalid usernames, passwords, and incorrect input formats. Ensuring that the program can handle these situations gracefully and provide appropriate error messages can be difficult.

2. File Handling: Reading and writing data to files can pose challenges, especially when dealing with large amounts of data or when multiple users are accessing the program simultaneously. Proper file handling techniques need to be implemented to prevent data corruption or loss.

3. Concurrency and Synchronization: When multiple users are accessing the program concurrently, issues related to concurrency and synchronization may arise. It is crucial to ensure that data integrity is maintained and that concurrent access to shared resources is properly synchronized to avoid conflicts and inconsistencies.

4. Error Handling and Exception Handling: Handling errors and exceptions effectively is essential for a robust program. Identifying potential error scenarios and implementing appropriate error handling mechanisms can be a complex task, especially when dealing with unexpected situations.

5. User Interface Design: Designing an intuitive and user-friendly interface is a significant challenge. The program should provide clear instructions, options, and feedback to users at each step of the ticket booking process. Ensuring that the interface is visually appealing and responsive adds an additional layer of complexity.

6. Security: Protecting user data and ensuring secure communication between the program and external systems is crucial. Implementing secure authentication mechanisms, encrypting sensitive data, and preventing unauthorized access require careful consideration and implementation.

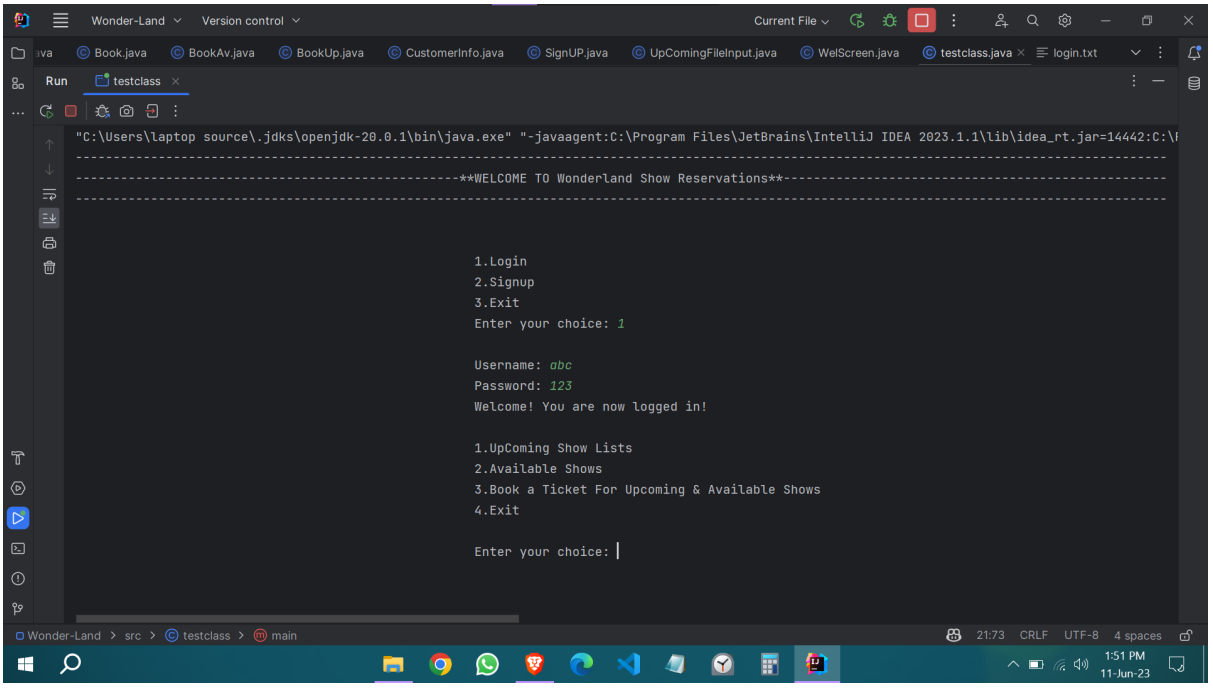
7. Testing and Debugging: Comprehensive testing is essential to identify and resolve any issues or bugs in the program. Thoroughly testing different scenarios, including edge cases, and debugging any errors can be time-consuming and challenging.

8. Scalability and Performance: As the number of users and data increases, the program should be able to handle the load efficiently without compromising performance. Ensuring scalability and optimizing the program's performance can be a complex task, requiring careful design and implementation considerations.

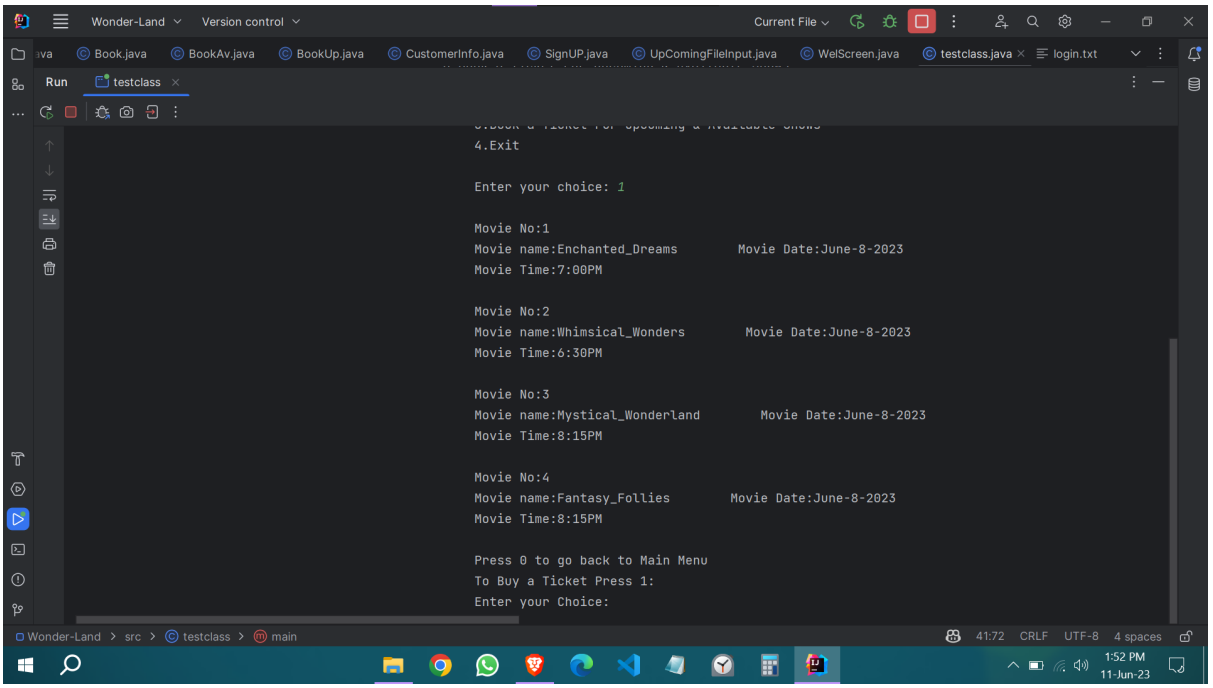
Overall, developing a show reservation project involves addressing these challenges to create a robust, secure, and user-friendly application.

Chapter 5 Output

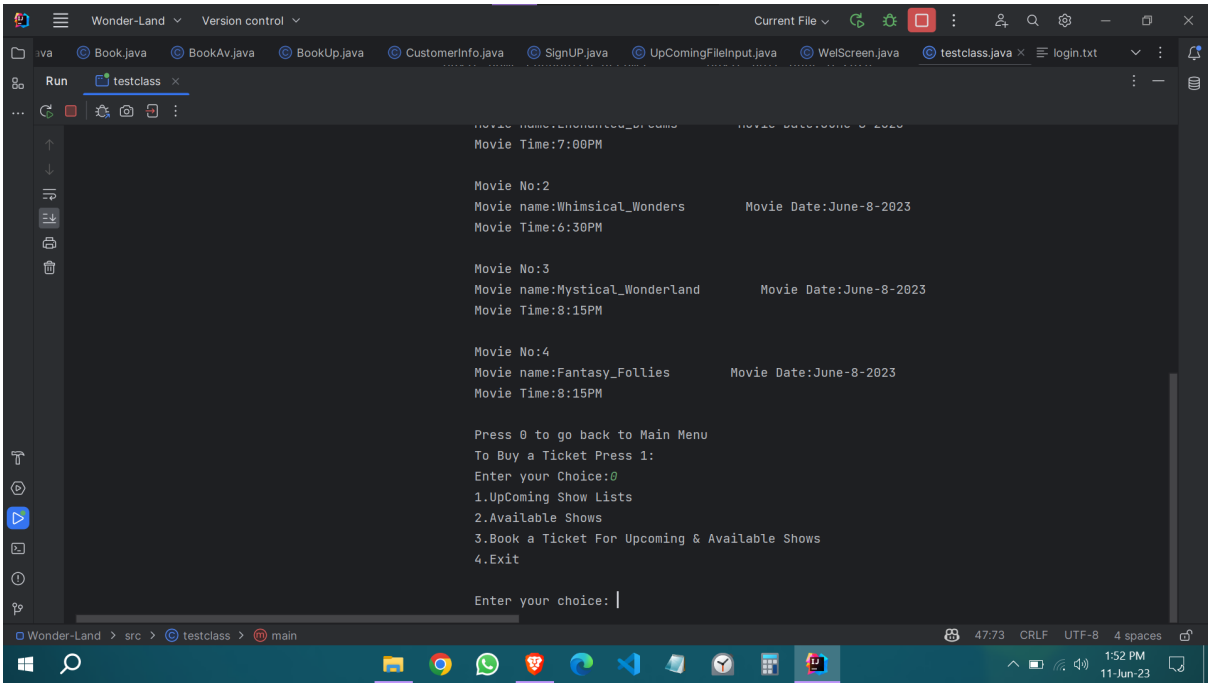
- **A welcoming screen where the user can either signup or login**



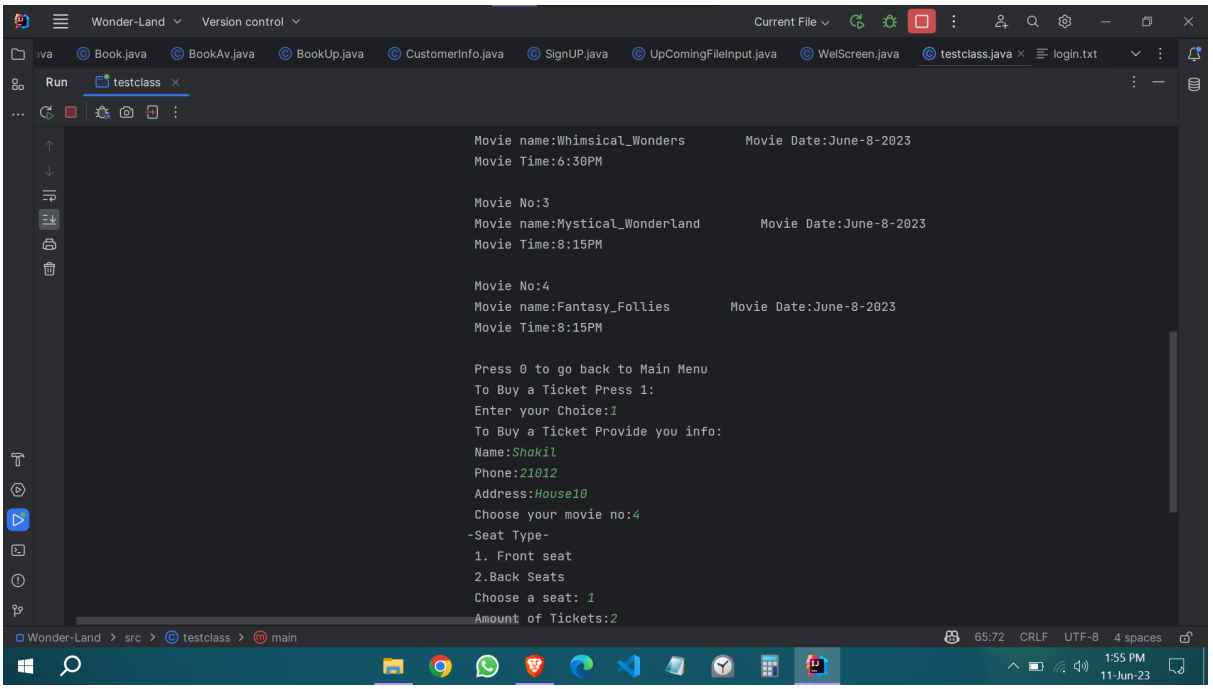
- **Then the user gets the option of booking upcoming shows, available shows or choose from all shows.**



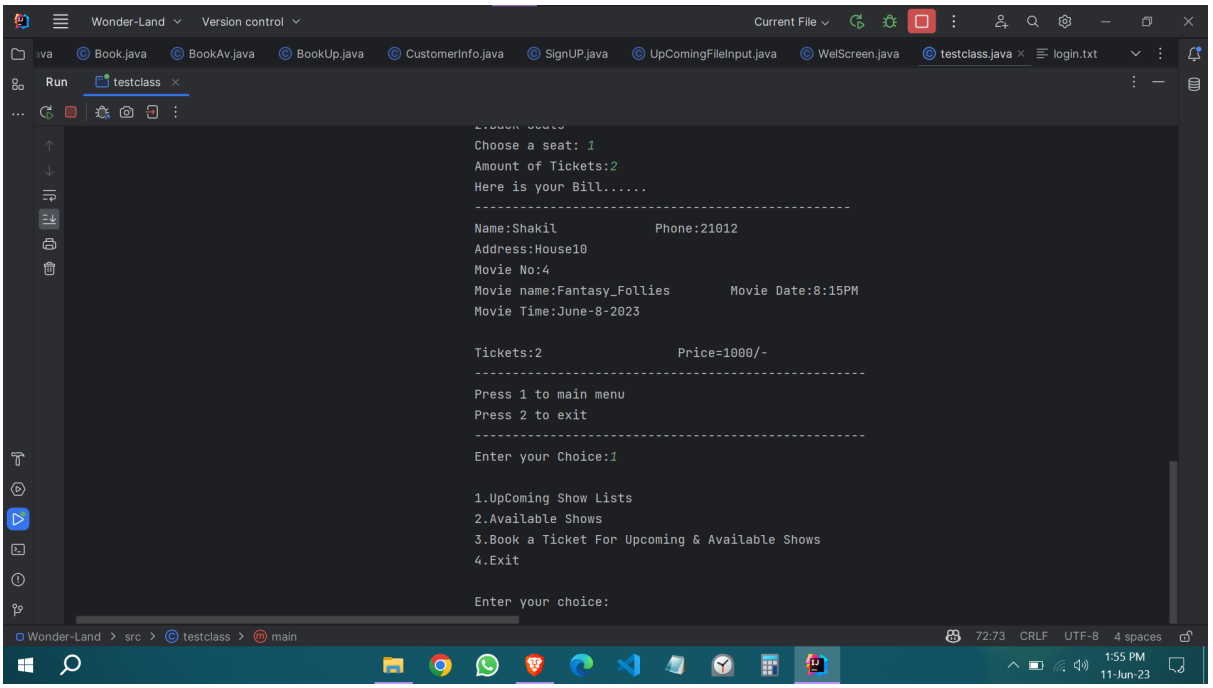
- **Here user gets the option for buying ticket or going back to main menu**



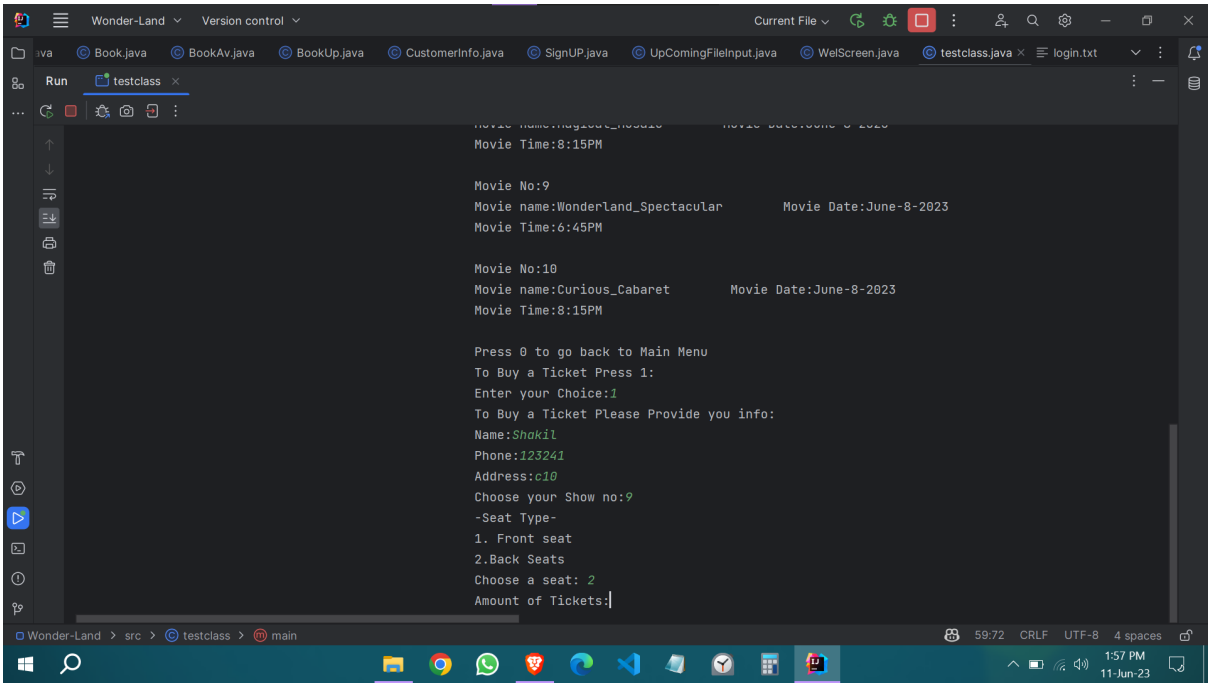
- **Here user gives his information for confirming ticket**



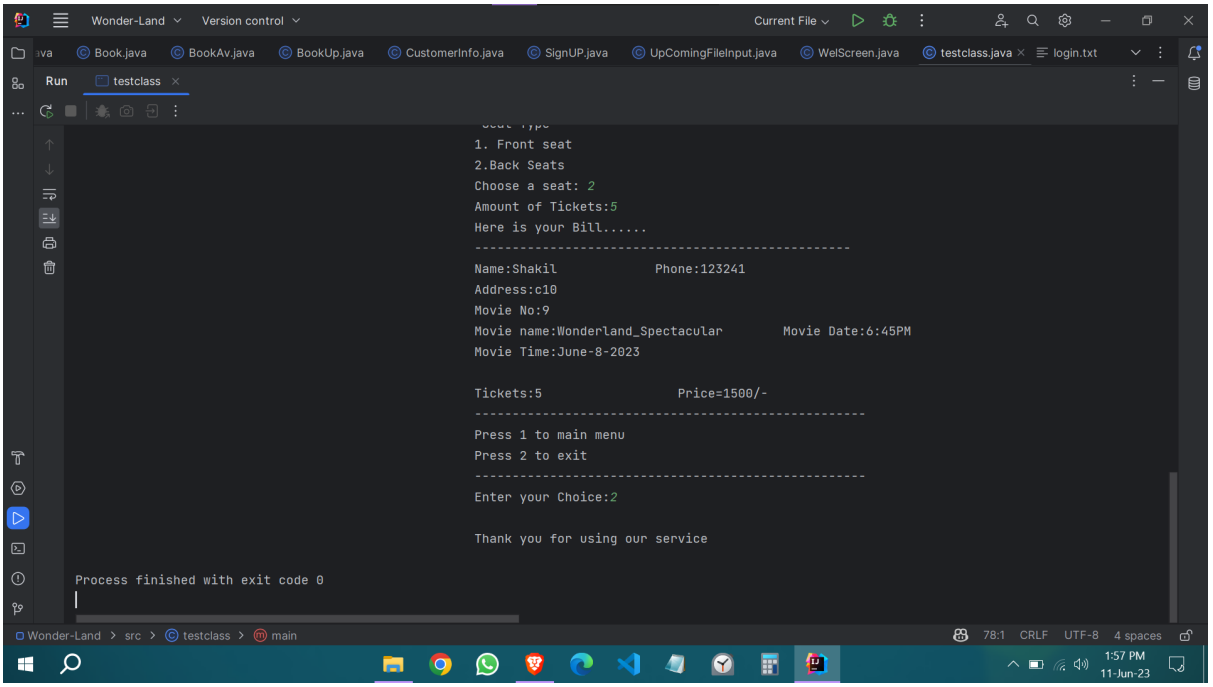
- **Here user gets the option for Exit or sign up for another round**



- **For buying another show user chooses from available shows**



- **After buying another ticker user chooses to exit the program getting a warm farewell message**



Chapter 6 Conclusion

6.1 Summary

In conclusion, the "Wonderland Show Reservation" project is a Java program that allows users to sign in, view upcoming and available shows, and book tickets for their desired shows. It utilizes file input and output operations to store and retrieve show details and customer information. The program includes authentication, a main menu, a show display, ticket booking, receipt and error handling. Overall, it provides a user-friendly interface for managing show reservations efficiently.

6.2 Limitations

1. Seat selection: Currently, the system does not support seat selection during the ticket booking process. This limits the customization and convenience for users who have specific seat preferences. Implementing the ability for users to choose their preferred seats would enhance the overall user experience.
2. Ticket cancellation: The system lacks a ticket cancellation feature, which can be inconvenient for users who need to change their plans or encounter unforeseen circumstances. By incorporating a ticket cancellation function, users would have the flexibility to cancel their booked tickets when needed.

6.3 Future Improvement

User feedback: To enhance user engagement and decision-making, it is recommended to introduce a feedback mechanism where users can provide reviews and ratings for the shows they attended. This feature would enable users to share their experiences and opinions, helping others make informed decisions when selecting shows to attend.

By addressing the limitations and considering these future improvements, the system can provide a more comprehensive and user-friendly experience for its users.

Chapter 6 Resources

Project Demonstration Video Link :
Wonderland Online reservation System - A Convenient Way to Reserve Your Favorite Shows

Project File:
https://drive.google.com/file/d/1P81kb9sQ0BulEkjQ_BROkAQJf1P6r2Q8/view?usp=sharing