

railway seat reservation system

Presented by sameer shaikh

Initialization Logic in the System

- Sets up all seats in a clean **default state** when the program starts.
- Restores **previous bookings** from stored data so nothing is lost between runs.
- Ensures the system is ready for **booking, cancellation, and display** as soon as it opens.
- Provides users with an **accurate seat** view the moment they start the program.

Validation Logic in the System

- Checks that seat numbers entered by the user are within the valid range.
- Stops double booking by detecting when a seat is already reserved.
- Prevents cancelling seats that are not booked, keeping data consistent.
- Gives clear error messages so users understand and correct mistakes easily.

Validation Flow - Book Operation

User Input (Seat & Name)



Check Seat Range (1-50)?



Check Seat Available?



Booking Confirmed ✓

Benefits of This Approach

- **Data Integrity:** Prevents invalid bookings and corrupted data
- **User Experience:** Clear error messages guide user actions
- **Persistence:** Previous bookings restored on program restart
- **Reliability:** System remains stable under all conditions

Thank You!

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