Lab Report: Railway Ticket Booking System

1. Introduction The Railway Ticket Booking System is a simple command-line application designed to facilitate the booking, viewing, and cancellation of train tickets. The system efficiently manages ticket records in a structured file, ensuring easy retrieval and modification. This project demonstrates file handling, user input validation, and basic data management in Python.

2. Objective The primary objective of this project is to develop a user-friendly railway ticket booking system that allows passengers to:

Book train tickets by providing necessary details.

View booked tickets in a structured format.

Cancel tickets using seat numbers.

Ensure data persistence using file storage.

3. Technology Used The project is implemented using the following technologies:

Python: The core programming language for implementing the ticket booking logic.

File Handling: Used for storing and retrieving ticket information from a text file.

Command-Line Interface (CLI): Provides user interaction with the system.

4. Challenges and Solutions

Challenge: Handling file persistence

Solution: Implemented file handling functions to initialize, read, write, and modify the ticket records efficiently.

Challenge: Preventing duplicate seat bookings

Solution: Introduced a function to check if a seat is already booked before allowing a new booking.

Challenge: Validating user inputs (e.g., age as a number, valid seat numbers)

Solution: Used input validation techniques, such as checking integer values for age and verifying seat numbers before processing.

5. Conclusion The Railway Ticket Booking System successfully achieves its goal of providing a simple yet functional platform for managing train ticket reservations. By implementing file-based storage and user input validation, the system ensures data consistency and ease of use. Future enhancements could include a graphical interface and database integration to improve scalability and user experience.