Project Based Learning:

# Project Overview:

The Travel Booking System is a command-line application written in C++, simulating a basic seat reservation platform for passengers. It integrates Object-Oriented Programming, file handling, and modular programming to create a menu-driven system that stores, retrieves, and manages booking data persistently.

This hands-on project encourages a deep understanding of structured programming and input validation, offering a real-world application development experience using C++.

# Objectives:

* Design and implement a booking system using C++.
* Apply object-oriented concepts
* Learn to use file handling for persistent data storage.
* Practice clean code writing and version control using Git & GitHub.

**System Features:**

* Add new bookings with automatic unique ID generation.
* View all bookings in a formatted table
* Search bookings by passenger name or destination
* Edit existing bookings
* Cancel bookings using Booking ID

**Key Functions:**

* addBooking()
* cancelBooking()
* editBooking()
* searchBooking()
* viewBookings()

# Requirements/Task(s):

**Task 1: Planning & System Design**

Defined system requirements

Outlined class and function design

Sketched class diagram

Designed user input/output structure

**Task 2: Booking Management Module**

Created Booking class with necessary data members

Added functionalities:

Add Booking

Cancel Booking

Edit Booking

**Task 3: View/Search/Seat Summary**

View all bookings (formatted output)

Search by name/destination

Seat availability check

**Task 4: Final Integration & Menu System**

Created interactive menu with 6 options

Integrated all modules using switch-case

Handled loop control and invalid inputs

Performed testing with edge cases

**Task 5: Documentation & Submission**

Cleaned and formatted final code

Wrote detailed documentation (this file)

Created README.md with how-to-run, sample I/O

Pushed final project to GitHub

**GitHub Submission:**

https://github.com/Renu-gehlot/Renu-project

Travel-Booking-System/

│

├── README.md

├── renu.cpp

├── renu1.cpp

├── Documentation.pdf (optional)

# Summarize what you learned:

The Travel Booking System project offered a comprehensive journey through real-world application development using C++. With integrated file management, class structures, and input validation, this system mimics a simplified yet effective reservation platform and fosters deep understanding of core programming concepts.