Airline Reservation System

* **Introduction**

The Airline Reservation System is designed to manage flight details, customer records, bookings, and seat availability in an efficient manner. It ensures that passengers can reserve seats in real time while airlines can track bookings, cancellations, and occupancy. The system goes beyond simple reservations to provide insights into flight demand, cancellation trends, and customer behaviour.

* **Abstract**

This project implements a database-driven Airline Reservation System using SQL and extends it with Data Science techniques for analytics. The core system manages flights, customers, bookings, and inventory through structured relational tables and triggers that automatically adjust seat availability during bookings and cancellations. The project demonstrates how combining SQL with analytics can improve operational efficiency and decision-making for airlines.

* **Tools Used**

**Database Management:** MySQL

* **Steps Involved in Building the Project**

1. **Database Design:** Created tables for Customers, Flights, Bookings, Booking Seats, and Inventory with appropriate constraints.
2. Search Flights from Delhi to Mumbai.
3. Check Available Seats.
4. Check Booking summary reports.
5. **Triggers:** Implemented triggers to automatically update seat availability on booking and cancellation.

* **Conclusion**

The Airline Reservation System project successfully integrates database management. It not only automates reservations but also provides airlines with valuable insights into customer behaviour and flight performance. This hybrid approach demonstrates how traditional database systems can be enhanced with analytics, ultimately leading to better efficiency, customer satisfaction, and revenue optimization.