**AIRLINE MANAGEMENT SYSTEM**

**Introduction:**  
The Airline Management System is a Java-based desktop application designed to automate and manage airline operations. It provides a user-friendly interface for handling flight schedules, bookings, cancellations, and passenger details. Developed using **Java Swing** for the frontend and **MySQL** for backend storage, the system enhances the efficiency, accuracy, and reliability of airline processes. It also reflects the organization's commitment to adopting modern technology to improve customer experience.

**Problem Definition:**  
This system automates the registration and booking processes in an airline. It allows administrators to manage flights and customer records, while passengers can book, modify, or cancel tickets. All changes made through the Java-based interface are updated in real-time in the MySQL database.

**Need for the System:**  
The system addresses the need for:

* Faster operations
* Improved accuracy and reliability
* Reduction in manual errors
* Real-time booking and cancellation access
* Scalable record handling

**Requirements:**

* **Software:**
  + OS: Windows 10
  + Frontend: Java (NetBeans 8.2, JDK 8)
  + Backend: MySQL
* **Hardware:**
  + Processor: Intel Core i3, 2.3 GHz
  + RAM: Minimum 2 GB
  + Hard Disk: 400 GB or more

**Design Diagrams:**

* **ER Diagram:** Illustrates entities such as flights, passengers, reservations, and payments with their relationships.
* **Schema Diagram:** Defines tables and the logical structure of the database.

**Implementation:**

* **Backend:** Uses MySQL to store flight, passenger, booking, and payment details.
* **Frontend:** Built with Java Swing, offering a menu-driven interface including forms for flight info, customer data, payments, and cancellations.

**JDBC Integration:**  
The system uses JDBC for secure and efficient database connectivity between the Java frontend and MySQL backend.

**Conclusion:**  
This project successfully automates core functions of an airline system, including passenger management, flight bookings, and data storage. It improves operational efficiency, reduces manual workload, and offers a reliable platform for both airline staff and customers.