Experiment: Modeling UML Class Diagram for Flight Delay Management

Structural and Behavioral Aspects

• **Structural aspect**: Represents the entities (classes) in the Flight Delay Management System such as Flight, Passenger, Airline, DelayRecord, Notification, Gate, and Crew.
• **Behavioral aspect**: Describes how these entities interact, such as sending notifications to passengers when a delay occurs, updating flight status, and assigning gates/crew.

Elements in Class Diagram

1. **Classes**
- **Flight**: flightNo, departureTime, status
- **Passenger**: passengerID, name, contactInfo
- **Airline**: airlineID, name
- **DelayRecord**: recordID, reason, duration
- **Notification**: notifID, message, timestamp
- **Gate**: gateNo, terminal
- **Crew**: crewID, role

2. **Relationships**
- A Flight belongs to one Airline.
- A Flight has many Passengers.
- A Flight may have multiple DelayRecords.
- Notifications are sent to Passengers about a Flight.
- A Flight departs from a Gate.
- A Flight is managed by Crew.

Class Diagram