This project will operate in the context of an airline booking system where customers can search and book airline tickets, as well as view, modify, or cancel existing airline tickets. The airline staff (admin) will be able to handle booking requests, confirmations, keep passenger records, generate transaction reports, and manage flight delays/cancellations. This project aims to simplify manual processing and provide an efficient tool for both airline booking staff and customers.

In my project, I plan to give users the ability to:

- Search for available flights
- Book and cancel tickets
- Modify bookings (e.g., change the date)

The staff will be able to:

- Handle booking requests and confirmations
- Keep passenger records
- Generate transaction reports
- Manage flight delays/cancellations

I plan to use 2 hierarchies in my project. The first being the User class. Both customer and admin classes will extend from the user class. The second hierarchy is the flight class. Both domesticFlight class and InternationalFlight class will extend from the flight class.

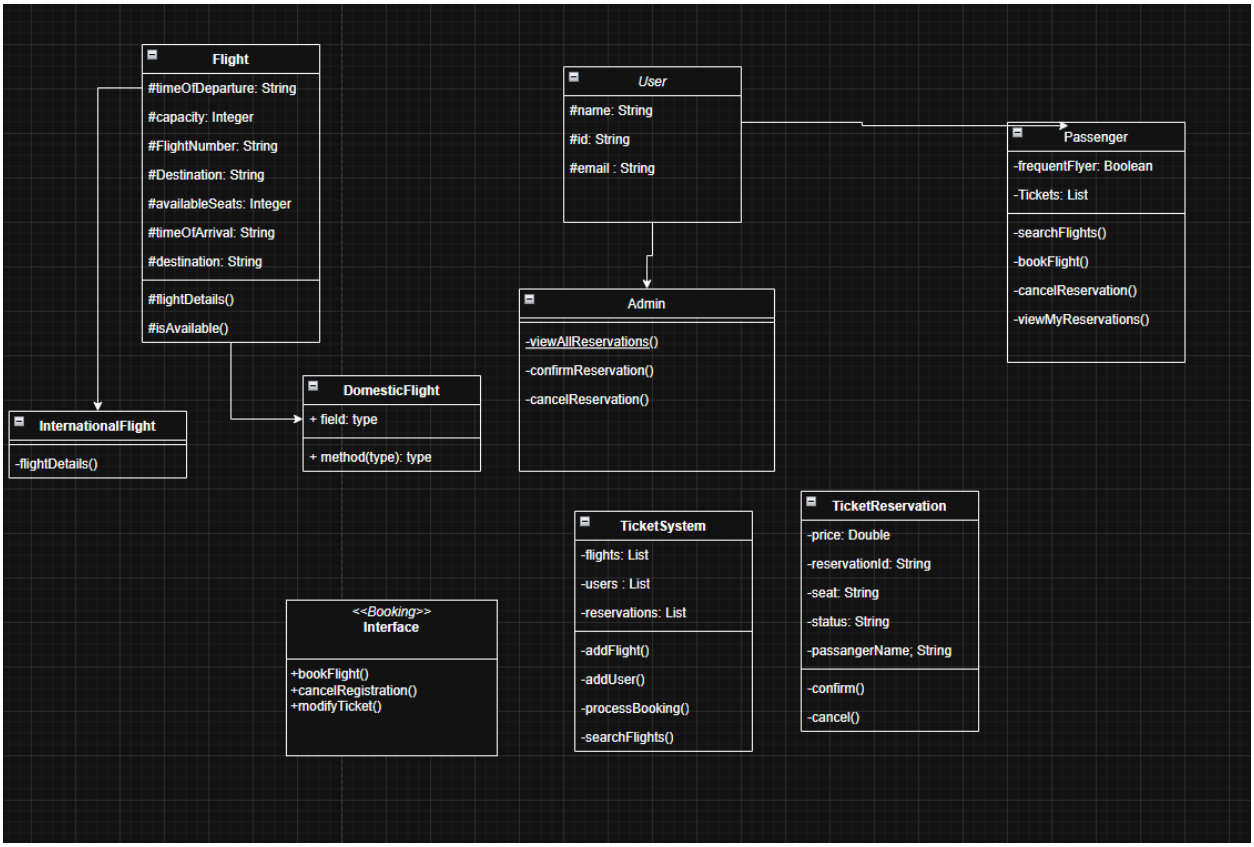
I will need a Booking interface that will be implemented by the TicketReservation class, for the booking, cancelling and modifying tickets methods.

Runtime-polimorphism will be used in the bookFlight, cancelFlight, and modifyTicket methods for overriding from the Booking interface.

The TextIO will be implemented in the TicketSystem class in order to read a file containing user information and to write all the booking confirmations into a CSV file.

The comparable will be implemented in the Flight class to allow sorting based on departure time. The comparator will be implemented in the Passenger class to allow sorting based on name or passenger id.

I plan to implement the User, Admin, and Passenger, and the ticketReservation classes with methods implemented.


Flight
#timeOfDeparture: String
#capacity: Integer
#FlightNumber: String
#Destination: String
#availableSeats: Integer
#timeOfArrival: String
#destination: String
#flightDetails()
#isAvailable()
User
#name: String
#id: String
#email : String
Passenger
-frequentFlyer: Boolean
-Tickets: List
-searchFlights()
-bookFlight()
-cancelReservation()
-viewMyReservations()
Admin
-viewAllReservations()
-confirmReservation()
-cancelReservation()
InternationalFlight
-flightDetails()
DomesticFlight
+ field: type
+ method(type): type
<<Booking>>
Interface
+bookFlight()
+cancelRegistration()
+modifyTicket()
TicketSystem
-flights: List
-users : List
-reservations: List
-addFlight()
-addUser()
-processBooking()
-searchFlights()
TicketReservation
-price: Double
-reservationId: String
-seat: String
-status: String
-passangerName; String
-confirm()
-cancel()