

Introduction to Object-Oriented Programming

Lab 3

(Packages, modifiers, constructors, getters, setters)

The goal is to implement a flight management system for an airline.

1. Create the classes `Plane`, `Pilot`, and `Passenger` in a package named `Entities`.
2. Create the classes `Flight` and `Booking` in a package named `Program`.
3. Implement the `Plane` class with private attributes `{brand, model, capacity, year}`, a constructor, and access methods. The attributes `brand`, `model`, and `year` should not change.
4. Implement the `Pilot` class with private attributes `{id, name, flightHours}`, a constructor, and access methods. The attribute `id` should not change.
5. Implement the `Passenger` class with private attributes `{passportNb, name, surname, email, phone}`, constructors with/without the attributes `{email and/or phone}`, and access methods.
6. Implement the `Flight` class with private attributes `{flightId, plane, pilot, depCity, arvCity, date}`, a constructor, and access methods. The attribute `flightId` should not change.
7. Implement the `Booking` class with private attributes `{bookingNb, passenger, flight, status}`, a constructor, and access methods. The booking number `bookingNb` is unique and sequential. The attributes `passenger` and `flight` should not change.
8. Write the main method in a class named `Airline` that is not part of any of the `Entities` and `Program` packages to:
 - (a) Enter information for creating 2 pilots, 2 planes, 4 passengers, 3 flights, and 6 bookings.
 - (b) Display the total number of registered passengers and the total number of flights.
 - (c) Cancel a booking.