Introduction

This task is created with intention to test your Java coding and analytical skills when you are at home, without stress and without any distractions.

Do this task at your own pace.

Please read task description carefully and implement needed functionality.

Write code by keeping in mind the best code writing and testing practices (we value clean code, clean architecture, good code readability)

Make sure your code is tested and working according to task description.

Write unit tests.

Things you may use to achieve the needed result:

- Java 8+
- jUnit 4+
- Framework or library that supports dependency injection,
- Any source on the internet that may help you.

Expected result:

- Java 8+ project
    - Git repository hosted on GitHub or compressed as zip file
    - Unit tests for the implementation
    - Please use build tool such as Gradle
    - Implementation description

Task description

Bus charter company wants to provide new service for travel agencies – draft ticket price.

To receive draft ticket price, following data must be provided:

- List of passengers
- List of luggage items of each passenger

Draft ticket price is calculated as following:

1. Base price for an adult is provided by already existing service returning number from database based on given route (bus terminal name).
2. Infant passengers receive 50% discount.
3. Luggage price is 30% of base price.
4. Tax rates are provided by already existing service, which provides list of percentage rates on given day of purchase.

The result of calculation should contain both total price and prices for each individual item.

Needed functionality

Task is to design input and output data structure and implement functionality for calculating the draft price for a ticket.

API for base price service and tax rate service can be assumed as needed. API must be implemented as web service.

No GUI is needed, passenger data will be sent through the API directly to the methods that will be created.

No database is needed, functionality may not store any data (although it is not prohibited if needed). It should receive passenger data, calculate price, and return result.

Acceptance criteria:

Given:

- The base price for route to Vilnius, Lithuania is 10 EUR
- Two passengers:
    - Adult carrying two bags
    - Child carrying one bag
- Tax rates on given date are:
    - VAT = 21

Result should be:

- Ticket prices:
    - Adult (10 EUR + 21%) = 12.10 EUR
    - Two bags (2 x 10 EUR x 30% + 21%) = 7.26 EUR
    - Child (10 EUR x 50% + 21%) = 6.05 EUR
    - One bag (10 EUR x 30% + 21%) = 3.63 EUR
- Total price = 29.04 EUR