# Problem description

You work for one of the leading Online Tour Operators in Europe. Your company sells holiday packages that include:

* An outbound flight
* An accommodation
* An inbound flight

Your company has great news to share, since your Business department just signed a deal with a flight aggregator company to sell their flights via your e-commerce website. Some useful information of the flights:

* The flight aggregator service provides outbound & inbound flights from multiple airlines
* Each flight has a unique identifier
* Each flight is operated by an airline
* Each flight is composed by a departure airport and an arrival airport
* Each combination of an outbound flight and an inbound flight is called a flight route
* The price of a flight route is the sum of the outbound flight and the inbound flight

Some departments in your company have input in regards to how this functionality should be implemented.

## Traffic department requirements

For a given outbound flight from A (departure airport) to B (arrival airport) operated by a certain airline:

* The flight is combinable with all inbound flights from the same airline that depart from airport B and arrive to airport A
* Only if no inbound flights matched previous rule, then the flight is combinable with all inbound flights, no matter the airline, that depart from airport B and arrive to airport A

## UX department requirements

* Both the list of outbound flights and inbound flights are to be presented as 2 separate lists using radio buttons
* Both the list of outbound flights and inbound flights are to be sorted by price ascending
* First time the screen is loaded, the cheapest flight route is to be selected by default
* When the user selects an outbound flight, only those inbound flights that are allowed according to the Traffic department rules stated above are to be enabled for selection. The rest of the inbound flights should be disabled. Out of the allowed flight routes the cheapest one is to be selected by default
* The price of the selected route should be displayed in the screen

## Remarks

* Departure dates, flight times and airport countries do not need to be taken into account
* To evaluate your back-end skills, logic to calculate the allowed flight routes should be implemented server side
* External service that provides the flights is available at:

http://www.mocky.io/v2/5ce66fb8330000660073156e

# Exercise 1

Your Product Owner comes and asks you if you can implement a flight routes component according to the requirements stated above.

# Exercise 2

[Write a set of unit tests to validate the function that calculates the allowed flight routes works as requested.](http://www.mocky.io/v2/5ce66fb8330000660073156e)