**Congestion Tax Calculator**

**The Scenario**

Your colleague started working on an application for calculating congestion tax fees for vehicles within the Gothenburg area. Unfortunately, said colleague has gone on parental leave and left the half-finished project to you. While there are no syntax errors in the attached code, there seem to be bugs in the calculation, and there is no entry point to the project, only a class library that currently isn't called from anywhere. Looking around your colleagues desk, you find a list of dates scribbled on a post-it. Maybe they'll come in handy.

"2013-01-14 21:00:00" Station1 City1

"2013-01-15 21:00:00" Station2 City1

"2013-02-07 06:23:27" Station3 City2

"2013-02-07 15:27:00"

"2013-02-08 06:27:00"

"2013-02-08 06:20:27"

"2013-02-08 14:35:00"

"2013-02-08 15:29:00"

"2013-02-08 15:47:00"

"2013-02-08 16:01:00"

"2013-02-08 16:48:00"

"2013-02-08 17:49:00"

"2013-02-08 18:29:00"

"2013-02-08 18:35:00"

"2013-03-26 14:25:00"

"2013-03-28 14:07:27"

**Assignment**

**We want you to think through and implement the changes and additions required to implement a solution that solves the problem and that you would approve and could stand for.**

* The application currently doesn't have an entry point, add a way to call the calculation with different inputs, preferrably over HTTP.
* As stated there may be bugs in the code, try to find and fix them.
* There is no particular structure to the code so there are several improvements that can be made.

You may limit the scope to the year 2013 and you are not expected to spend more than 4 hours in total on this assignment. The starting code is provided in Java, C#, Python, Go and TypeScript, pick the language you are most comfortable with. If you want to write your code using a different language, feel free.

**Congestion tax rules in Gothenburg**

Congestion tax is charged during fixed hours for vehicles driving into and out of Gothenburg

The maximum amount per day and vehicle is 60 SEK.

The tax is not charged on weekends (Saturdays and Sundays), public holidays, days before a public holiday and during the month of July.

**Hours and amounts for congestion tax in Gothenburg**

| **Time** | **Amount** | **Area?? District** |
| --- | --- | --- |
| 06:00–06:29 | SEK 8 |  |
| 06:30–06:59 | SEK 13 |  |
| 07:00–07:59 | SEK 18 |  |
| 08:00–08:29 | SEK 13 |  |
| 08:30–14:59 | SEK 8 |  |
| 15:00–15:29 | SEK 13 |  |
| 15:30–16:59 | SEK 18 |  |
| 17:00–17:59 | SEK 13 |  |
| 18:00–18:29 | SEK 8 |  |
| 18:30–05:59 | SEK 0 |  |

**The single charge rule**

A single charge rule applies in Gothenburg. Under this rule, a vehicle that passes several tolling stations within 60 minutes is only taxed once. The amount that must be paid is the highest one.

**Tax Exempt vehicles**

* Emergency vehicles
* Busses
* Diplomat vehicles
* Motorcycles
* Military vehicles
* Foreign vehicles

**Bonus Scenario**

Just as you finished coding, your manager shows up and tells you that the same application should be used in other cities with different tax rules. These tax rules need to be handled as content outside the application because different content editors for different cities will be in charge of keeping the parameters up to date.

Move the parameters used by the application to an outside data store of your own choice to be read during runtime by the application.

**Further questions**

As you take on the assignment you will undoubtedly have questions. Please write these questions down in a file named questions.md and submit that along with your solution. Although we cannot answer them in order for you to complete the assignment, they will be helpful in evaluating your solution.