SPO Coding Challenge

Build a workforce optimization tool for one of our cleaning partners! Our partner has contracts with several structures all around Berlin. These structures are all of varying size (measured in rooms). The workforce of our partner is made up of Senior Cleaners and Junior Cleaners. Senior Cleaners have a higher work capacity than Junior Cleaners. Our partner is free to decide how many Senior and Junior Cleaners are to be sent to clean a structure but there always needs to be at least one Senior cleaner at every structure to lead the juniors. The goal is to minimize overcapacity at every structure.

Given an array of structure sizes (in no. of rooms) as well as work capacities of Junior and Senior Cleaners, your program should present the optimal numbers of Juniors and Seniors for every structure.

Input:

- array of rooms (int) for every structure
- cleaning capacity Junior Cleaner (int)
- cleaning capacity Senior Cleaner (int)

We do not have cleaning providers with more than 100 structures in their portfolio. None of the structures will have more than 100 rooms.

Output:

- array of maps which include the optimal number of Juniors and Seniors for every structure

Examples:

1)

In: { rooms: [35, 21, 17], senior: 10, junior: 6 }

Out: [{senior: 3, junior: 1}, {senior: 1, junior: 2}, {senior: 2, junior: 0}]

2)

In: { rooms: [24, 28], senior: 11, junior: 6 }

Out: [{senior: 2, junior: 1}, {senior: 2, junior: 1}]

Please provide a git repository where we can see the source code. Use Spring framework and Java 8. Please write tests. Make your program accessible through a JSON API and provide some documentation on how to use it.