Moon rover

Coding Challenge

Thanks for taking the time and looking into ICE Services as your next potential employer. Here's a small challenge we want you to solve.

The task:
Create a small application and design a REST API with the following prerequisites. We will ask you also to present your solution to us to emulate a code and design review session. Think about how you would do it in front of a small group and prepare your presentation accordingly. Think about how you would convince other people of your approaches. Presentation is an important part of the assignment because we look at how you articulate your thoughts. Use the tools of your choice to present your solution.

Problem details:

- The application is a simulation of a moon rover moving on a square tabletop, of dimensions 5x5 units
- There are no other obstructions on the surface
- The rover should be able to be placed on the tabletop, it has coordinates and facing, which shows where the rover is and in which direction the rover can move. The rover can turn on the spot and its facing changes accordingly
- The rover is free to roam around the surface of the tabletop but must be prevented from falling to destruction. Any movement that would result in the rover falling from the tabletop must be prevented, however further valid movement commands must still be allowed.

Create an application with the following use cases:

- It should be possible to **place** the rover on the surface to the specific coordinates and facing (e.g. 1,1,south)
- It should be possible to send a **move** command to the rover. The rover should move one unit in the facing direction
- It should be possible to send a **turn** command to the rover, in this case, the rover should turn to the left or the right. It's facing should change accordingly
- It should be possible to request a **report** from the rover about its position on the tabletop and its facing
- Commanding the rover should be realised via a REST API

Extra information:

- You should implement your application in one of the JVM languages
- You have your hands free, meaning you choose what build tools, libraries, frameworks, etc. you want to use
- Although it's a simple application, it should be production-ready. Everybody has a different opinion on what that means so we're looking forward to talking about that with you

Deliverables:
Your coding challenge solution as a link to a public repository or as a zip file with all the necessary files you think need to be provided when thinking about a production-ready solution. You must be prepared to present the solution. If there are artefacts (e.g. slides, Miro-board, etc.) that you will use in the presentation, they should also be included.

In case you have additional questions, feel free to contact us. We're looking forward to receiving your solution.

Have a lot of fun 🤞