Programming assignment

In order to evaluate your programming skills, we ask you to solve the following task. The task is solved in a programming language of your choice.

We ask you to deliver the solution in the same quality as you would provide a delivery to a customer. You may not use other people's code or code libraries to resolve the task. That is, the solution can only contain references to the standard libraries of your language, as well as any third party libraries for unit tests.

We are interested in your competence in several areas, including:

- Your chosen language
- Programming paradigms related to your selection of programming language
- Software design and architecture
- Tests
- User interfaces

Your solution to the programming assignment will form the basis of the conversation during the technical interview. Highlight what you are good at. If you feel certain parts could have been resolved better if you had more time, then comment on that too.

From the time you receive the assignment, you usually have one week to submit your solution. The solution can be submitted via for example GitHub or as a zip file.

Task: Robot programming

Your task is to program the controller to a robot. It's a simple robot that can walk around in a room where the floor is represented as a number of fields in a wire mesh. Input is first two numbers, which tells the robot how big the room is:

```
5 7
```

Which means that the room is 5 fields wide and is 7 fields deep.

The size of the room follows two digits and one letter indicating the starting position of the robot and its orientation in space. For example:

```
3 3 N
```

Which means that the robot is in field (3, 3) and faces north. Subsequently, the robot receives a number of navigation commands in the form of characters. The following commands shall be implemented:

- L Turn left
- R Turn right
- F Walk forward

Example:

```
LFFRFRFRFF
```

After the last command is received, the robot must report which field it is in and what direction it is facing.

Example:

```
5 5
1 2 N
RFRFFRFRF
Report: 1 3 N
```

```
5 5
0 0 E
RFLFFLRF
Report: 3 1 E
```