Hi Candidate,

Welcome to the FrontEnd Technical Test. In this test we want to test your skills with a set of problems in order to clarify if you are the profile we are looking for. We hope and believe so.

The purposes of this technical task are:

* Evaluate your maturity with Javascript.
* Evaluate your knowledge of technologies like Angular and React.
* Evaluate your autonomy.

First of all, we would like to inform you, if you have any doubts or need any guidance, don’t hesitate to ask us.

* Alberto Manzano ([a.manzano@wearecloudware.com](mailto:a.manzano@wearecloudware.com))
* Alejandro Rodríguez ([a.rodriguez@wearecloudware.com](mailto:a.rodriguez@wearecloudware.com))
* Daniel Olmedo ([d.olmedo@wearecloudware.com](mailto:d.olmedo@wearecloudware.com))

It would be great to have a public/private code repository (Github/Gitlab whatever VCS you choose) in which we have visibility on how you created step by step the project.

# Technical task:

The Set of problems is compounded with 3 problems:

* A problem of logic made to be resolve with Javascript ES 6.
* A problem of React.
* A problem of Angular.

It’s required to generate a test suite that checks in corner cases the algorithm created works as expected.

### **Food Distribution**

Have the function FoodDistribution(**arr**) read the array of numbers stored in **arr** which will represent the hunger level of different people ranging from 0 to 5 (0 meaning not hungry at all, 5 meaning very hungry). You will also have N sandwiches to give out which will range from 1 to 20. The format of the array will be [N, h1, h2, h3, ...] where N represents the number of sandwiches you have and the rest of the array will represent the hunger levels of different people. Your goal is to minimize the hunger difference between each pair of people in the array using the sandwiches you have available.

For example: if **arr** is [5, 3, 1, 2, 1], this means you have 5 sandwiches to give out. You can distribute them in the following order to the people: 2, 0, 1, 0. Giving these sandwiches to the people their hunger levels now become: [1, 1, 1, 1]. The difference between each pair of people is now 0, the total is also 0, so your program should return **0**. Note: You may not have to give out all, or even any, of your sandwiches to produce a minimized difference.

Another example: if **arr** is [4, 5, 2, 3, 1, 0] then you can distribute the sandwiches in the following order: [3, 0, 1, 0, 0] which makes all the hunger levels the following: [2, 2, 2, 1, 0]. The differences between each pair of people is now: 0, 0, 1, 1 and so your program should return the final minimized difference of **2**.

#### **Examples**

Input: [5, 2, 3, 4, 5]

Output: 1Input: [3, 2, 1, 0, 4, 1, 0]

Output: 4

### **React Phone Book**

We provided some simple React template code. Your goal is to create a simple form at the top that allows the user to enter in a first name, last name, and phone number and there should be a submit button. Once the submit button is pressed, the information should be displayed in a list below (automatically sorted by last name) along with all the previous information that was entered. This way the application can function as a simple phone book.

Display all the information in a table with some basic CSS styling.

### **Angular Reactive Form**

We provided some simple Angular template code. Modify the app-dynamic-form template so that when you change one of the properties in the person object in the form, it is reflected in the json object below it. Your final output should look something like this:

