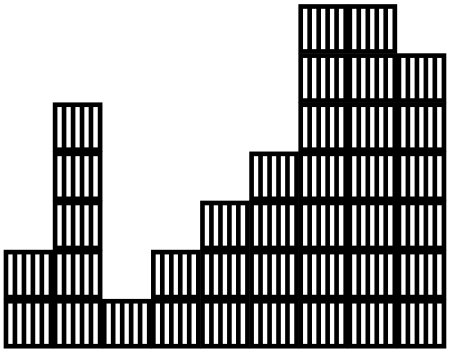
The home assignment consists of two parts:

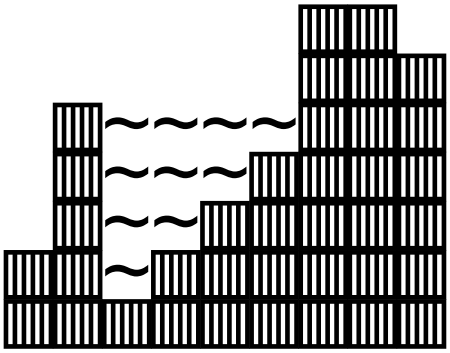
Part I - Algorithm

Consider the following picture:



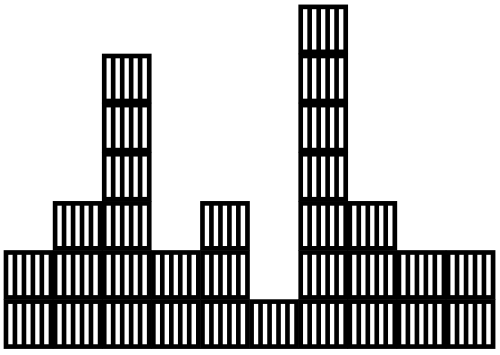
In this picture we have walls of different heights. This picture is represented by an array of integers, where the value at each index is the height of the wall. The picture above is represented with an array as [2,5,1,2,3,4,7,7,6].

Now imagine it rains. How much water is going to be accumulated in puddles between walls?

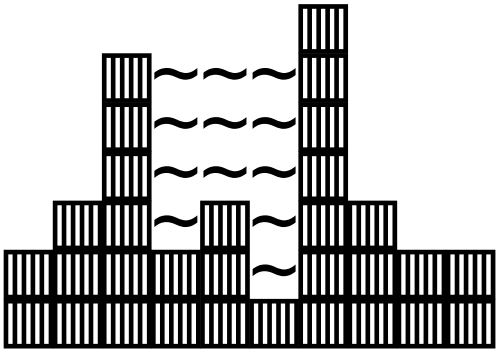


We count volume in square blocks of 1X1. So in the picture above, everything to the left of index 1 spills out. Water to the right of index 7 also spills out. We are left with a puddle between 1 and 6 and the volume is 10.

Another example ([2,3,6,2,3,1,7,3,2,2]):



The result should have been one puddle between the two taller towers, volume is 12:



Write a solution in JS (offline or online: jsfiddle, plunker, etc.) that calculates the volume of the water accumulated by the rain as described above. You can use any third party JS libraries you think might help. Please list them in the solution to make it clear which such libraries you used.

Part II - Visualization

Provide a visualization of the solution (in the spirit of the examples above, but you can be as creative as you like). If you like, you can choose any JS framework to accomplish this.