

Document Java EE Coding Exercise

Overview

Write an application which takes an array as an input, and calculates the volume of water which remained after the rain, in units.

Technologies used

JRE 1.8

Maven

Eclipse 4.6

Wildfly 10

JUnit 4.12

General Information of the application

This application is deployable in any EJB container. After the deploy you can call an instance of the main class (SurfaceWaterProblem) and the method called calculateRemainedWater

Complexity analysis

Time complexity: I believe the solution has the $O(n)$ time complexity.

Space complexity: $O(1)$ extra space. Only constant space required for left, right, maxLeft and maxRight.

Logic used to solve the problem

For each piece of surface (array element) I get the min height between the max height left and max height right.

Ps: The javadoc is also attached with this doc.