11. Container With Most Water

<https://leetcode.com/problems/container-with-most-water/>

1. **Listen**

**Problem Statement:**

You are given an **integer array** *height* of length **n**.

Find two lines that together with the x-axis form a container, such that the container contains the most water.

Return *the maximum amount of water a container can store*.

**Input:**

**integer array** *height* of length **n**.

**Goal:**

find two heights in the input array *height* such that together with the x-axis contains the most area (water).

**Return:**

return *the maximum amount of water a container can store*.

1. **Examples**

Example 1:

A picture containing icon

Description automatically generated

**Input:** height = [1,8,6,2,5,4,8,3,7]

**Output:** 49

**Explanation:** The above vertical lines are represented by array [1,8,6,2,5,4,8,3,7]. In this case, the max area of water (blue section) the container can contain is 49.

**Constraints:**

* **Notice** that you may not slant the container.
* n == height.length
* 2 <= n <= 105 (height must at least have a length of 2)
* 0 <= height[i] <= 104 (no negative element values)

**Test Cases:**

* Array with length 2
* Array with all 0 values
* Regular array with greater than length 2 and non 0 values

1. **Brute Force**
2. **Optimize**
3. **Walkthrough**
4. **Implement**
5. **Test**