

## Arrays - Take Home Problems

Do the given problems using JavaScript.

1. Write a Program to find two array elements in an array that add up to a number.
2. Write a Program to find that one element in a non-empty array of integers `nums`, where every element appears twice except for one.

**Example: Input: `nums = [2,2,1]`**

**Output: 1**

3. Write a Program to find the median of two sorted arrays of the same size.
4. Write a Program to find common elements in k-sorted arrays.
5. Write a Program to find the maximum amount of water a container can store when you are given an integer array **height** of length `n`. There are `n` vertical lines drawn such that the two endpoints of the `i`th line are  $(i, 0)$  and  $(i, \text{height}[i])$  as shown in the diagram. Find two lines that together with the x-axis form a container, such that the container contains the most water.

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

**Output: 49**

