

Question # 16

Description:

Median of Two Sorted Arrays

Difficulty: Hard

Category: Array

Given two sorted arrays `nums1` and `nums2` of size `m` and `n` respectively, return the median of the two sorted arrays.

The overall run time complexity should be $O(\log(m+n))$.

Example 1:

Input: `nums1 = [1,3]`, `nums2 = [2]`

Output: 2.00000

Explanation: merged array = `[1,2,3]` and median is 2.

Example 2:

Input: `nums1 = [1,2]`, `nums2 = [3,4]`

Output: 2.50000

Explanation: merged array = `[1,2,3,4]` and median is $(2 + 3) / 2 = 2.5$.

Example 3:

Input: `nums1 = [0,0]`, `nums2 = [0,0]`

Output: 0.00000

Example 4:

Input: `nums1 = []`, `nums2 = [1]`

Output: 1.00000

Example 5:

Input: `nums1 = [2]`, `nums2 = []`

Output: 2.00000

Constraints:

`nums1.length == m`

`nums2.length == n`

$0 \leq m \leq 1000$

$0 \leq n \leq 1000$

$1 \leq m + n \leq 2000$

$-106 \leq \text{nums1}[i], \text{nums2}[i] \leq 106$

Good luck!

Fatih

