CS 261 Recitation 5: Midterm Reflections and Binary Search

In order to get credit for the recitation, you need to be checked off by the end of recitation. For non-zero recitations, you can earn a maximum of 3 points for recitation work completed outside of recitation time, but you must finish this recitation before the next recitation. For extenuating circumstance, contact your recitation TAs and Instructor.

**Group work**, and **individual work** are highlighted

**Recitation 5 Grade Breakdown:**
- Part 1: Midterm Reflections 3 pts
- Part 2: Find median of two sorted array 7 pts

**Part 1: Midterm Reflections**
1. A lot of the concepts in the class are abstract, and you are expected to understand the logic well. Instead of trying to guess the difficult concepts, we want you to provide us with terms or concepts you don’t think you understand yet, and provide your current definition or understanding of the term or concept to clear any misconceptions or affirm your knowledge. Your answers can be either specific vocabulary terms or more general ideas. We’ll try to address some of these concepts and/or terms in future lecture/recitations.

2. What did you struggle with the most on Exam 1?

**Part 2: Find the Median of Two Sorted Array**

**Download and unzip the start code for this part:**
https://classes.engr.oregonstate.edu/eecs/winter2022/cs261-020/recitations/rec5.zip

**(4 pts) Problem Statement:** Given two sorted arrays `nums1` and `nums2` of size `nums1Size` and `nums2Size` respectively, return the median of the two sorted arrays.
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.

Assuming:

- nums1.length == nums1Size
- nums2.length == nums2Size
- 0 <= nums1Size <= 1000
- 0 <= nums2Size <= 1000
- 1 <= nums1Size + nums2Size <= 2000
- -10^6 <= nums1[i], nums2[i] <= 10^6

(3 pts) Optimize your solution
Optimize your solution so that the overall run time complexity should be \(O(\log (\text{nums1Size} + \text{nums2Size}))\).

Make sure you get checked off by the TA by showing them the output of your program, your report, and your group work before the end of your recitation section.

For backup purposes, please submit your work for this recitation (including all documents/text files for group work, and programs) to TEACH.