Median of Two Sorted Arrays

Hard

There are two sorted arrays **nums1** and **nums2** of size m and n respectively.

Find the median of the two sorted arrays. The overall run time complexity should be O(log (m+n)).

You may assume **nums1** and **nums2** cannot be both empty.

**Example 1:**

nums1 = [1, 3]  
nums2 = [2]  
  
The median is 2.0

**Example 2:**

nums1 = [1, 2]  
nums2 = [3, 4]  
  
The median is (2 + 3)/2 = 2.5

**解法1**

空间换时间，先将两个数组归并，然后直接查询

double findMedianSortedArrays(vector<int>& nums1, vector<int>& nums2) {  
 vector<int>ans;  
 int i = 0, j = 0;  
 while(i < nums1.size() && j < nums2.size()){  
 if(nums1[i] <= nums2[j]){  
 ans.push\_back(nums1[i++]);  
 }else if(nums2[j] <= nums1[i]){  
 ans.push\_back(nums2[j++]);  
 }else{  
 ans.push\_back(nums1[i++]);  
 ans.push\_back(nums2[j++]);  
 }  
 }  
 while(i < nums1.size()){  
 ans.push\_back(nums1[i++]);  
 }  
 while(j < nums2.size()){  
 ans.push\_back(nums2[j++]);  
 }  
 int n = ans.size();  
 if(n % 2 == 1)return ans[n / 2];  
 else return (ans[n / 2] + ans[n / 2 - 1]) \* 0.5;  
}

**解法2**

递归