

数组与数 Array & Numbers

课程版本 v3.3 主讲 令狐冲

禁止录制与传播视频, 否则将追究法律责任和经济赔偿



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大纲 Outline



- Sorted Array
 - Merge Two Sorted Arrays
 - Intersection of Two Arrays
 - Multiply Two Arrays
 - Median Of Two Sorted Arrays
- Subarray
 - Best Time to Buy and Sell Stocks I, II, III
 - Subarray I, II, III, IV
- Two Pointers
 - Two sum, 3Sum, 4Sum, k Sum, 3Sum Closest
 - Partition Array



令狐师兄带你写代码之

Merge Two Sorted Arrays

http://www.lintcode.com/problem/merge-two-sorted-arrays

Related Questions



- 将小数组归并到大数组里
 - http://www.lintcode.com/problem/merge-sorted-array/
 - http://www.jiuzhang.com/solutions/merge-sorted-array/
- 两个数组的交
 - http://www.lintcode.com/problem/intersection-of-two-arrays/
- 数组内积(点乘)
 - Example $[1,3] \cdot [2,4] = 1*2 + 3*4 = 14$
 - Follow up: 两个数组都非常大, 但是其中都包含很多0
 - Example [1,0,0,0,0 ..., 0, 2, 0,..., 0, 3] · [0,..., 0, 4, 0,..., 0, 5]



Median of Two Sorted Arrays

http://www.lintcode.com/problem/median-of-two-sorted-arrays/

http://www.jiuzhang.com/solutions/median-of-two-sorted-arrays/

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Best Time to Buy and Sell Stock vs Maximum Subarray

http://www.lintcode.com/problem/best-time-to-buy-and-sell-stock/

http://www.lintcode.com/problem/maximum-subarray/



独孤九剑——破掌式

碰到 Subarray 相关的问题,一定要想到Prefix Sum

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Related Questions



- http://www.lintcode.com/problem/best-time-to-buy-and-sell-stock-ii/
- http://www.lintcode.com/problem/best-time-to-buy-and-sell-stock-iii/
- http://www.lintcode.com/problem/maximum-subarray-ii/
- http://www.lintcode.com/problem/maximum-subarray-iii/

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Take a break

5 minutes

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Subarray



- Minimum Subarray
- http://www.lintcode.com/problem/minimum-subarray/
- Maximum Subarray Difference
- http://www.lintcode.com/problem/maximum-subarray-difference/
- Subarray Sum
- http://www.lintcode.com/problem/subarray-sum/
- http://www.lintcode.com/problem/subarray-sum-closest/



令狐师兄带你敲代码之 Two Sum & Two Sum Closest

http://www.lintcode.com/problem/two-sum/

http://www.lintcode.com/problem/two-sum-closest/



3Sum

http://www.lintcode.com/problem/3sum/

http://www.jiuzhang.com/solutions/3sum/

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3Sum Closest

http://www.lintcode.com/problem/3sum-closest/

http://www.jiuzhang.com/solutions/3sum-closest/



4Sum

http://www.lintcode.com/problem/4sum/

http://www.jiuzhang.com/solutions/4sum/

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小结



- Two Sum 相关的问题的两种做法
 - Hash Map
 - Sort + Two Pointers
- 学会比较他们的优劣

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http://www.lintcode.com/problem/partition-array/

http://www.jiuzhang.com/solutions/partition-array/



Sort Letters by Case

http://www.lintcode.com/problem/sort-letters-by-case/

http://www.jiuzhang.com/solutions/sort-letters-by-case/



Sort Colors

http://www.lintcode.com/en/problem/sort-colors/

http://www.jiuzhang.com/solutions/sort-colors/

Related Questions



- Sort Colors II
- http://www.lintcode.com/en/problem/sort-colors-ii/
- http://www.jiuzhang.com/solutions/sort-colors-ii/
- Interleaving Positive and Negative Numbers
- http://www.lintcode.com/problem/interleaving-positive-and-negative-numbers/
- http://www.jiuzhang.com/solutions/interleaving-positive-and-negative-integers/

总结



- Median of Two Sorted Arrays
 - 想不到算法没关系, 但要能理解算法并实现出来
- Subarray
 - Prefix Sum
- Two Sum
 - Hash Map vs Two Pointers
- Partition Array
 - 二分 vs 三分