链滴

3Sum

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原文链接：https://ld246.com/article/1519528963084
来源网站：链滴
许可协议：署名-相同方式共享 4.0 国际 (CC BY-SA 4.0)

题目描述

Given an array S of n integers, are there elements a, b, c in S such that a + b + c = 0? Find all nique triplets in the array which gives the sum of zero.

Note: The solution set must not contain duplicate triplets.

For example, given array S = [-1, 0, 1, 2, -1, -4],

A solution set is:
[
  [-1, 0, 1],
  [-1, -1, 2]
]

解题思路

转换为2Sum问题。target为-nums[i]。

代码

```
class Solution {
    List<List<Integer>> ret = new ArrayList<>();

    public List<List<Integer>> threeSum(int[] nums) {
        if (nums == null || nums.length < 3)
            return ret;

        Arrays.sort(nums);

        for (int i = 0; i < nums.length-2; i++) {
            if (i > 0 && nums[i] == nums[i-1])
                continue;
            twoSum(nums, i+1);
        }
        return ret;
    }

    private void twoSum(int[] nums, int start) {
        int left = start;
        int right = nums.length-1;
        while (left < right) {
            if (nums[left] + nums[right] + nums[start-1] == 0) {
                ArrayList<Integer> list = new ArrayList<>();
                list.add(nums[start-1]);
                list.add(nums[left]);
                list.add(nums[right]);
                ret.add(list);
                while (left < right && nums[left] == nums[left+1])
                    left++;
                while (left < right && nums[right] == nums[right-1])
                    right--;
```

```
                left++;
                right--;
            } else if (nums[left] + nums[right] + nums[start-1] < 0) {
                left++;
            } else if (nums[left] + nums[right] + nums[start-1] > 0)
                right--;
        }
    }
}
```

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