[每日 LeetCode] 581. Shortest Unsorted Continuous Subarray

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原文链接：https://ld246.com/article/1552052592260
来源网站：链滴

Description:

Given an integer array, you need to find one **continuous subarray** that if you only sort this s barray in ascending order, then the whole array will be sorted in ascending order, too.

You need to find the **shortest** such subarray and output its length.

Example 1:

Input: [2, 6, 4, 8, 10, 9, 15]
Output: 5
Explanation: You need to sort [6, 4, 8, 10, 9] in ascending order to make the whole array sorte in ascending order.

Note:

1. Then length of the input array is in range [1, 10,000].
2. The input array may contain duplicates, so ascending order here means <=.

思路：考虑最容易理解的方式，缺点是空间复杂度为O(n)。使用一个辅助数组，新数组复制原数组的，然后对新数组排序。从数组起始位置开始，两个数组相互比较，当对应位置数字不同的时候停止，理再从末尾开始，对应位置上比较，也是遇到不同的数字时停止，这样中间一段就是最短无序连续子组。

C++代码

```
class Solution {
public:
    int findUnsortedSubarray(vector<int>& nums) {
        int n = nums.size();
        int i = 0;
        int j = n - 1;
        vector<int> temp = nums;
        sort(temp.begin(),temp.end());
        while(i < n && nums[i] == temp[i])
          i++;
        while(j > i && nums[j] == temp[j])
          j--;
        return j-i+1;
    }
};
```

运行时间：48ms

运行内存：13.2M