一、题目说明

题目581. Shortest Unsorted Continuous Subarray，求最大连续子数组（如果该子数组有序，则整个数组有序）的长度。难度是Easy!

二、我的解答

不动脑子，将数组排序，然后从左到右比较，再从右到左比较。即可获得最短子数组的长度。

```
class Solution{
    public:
        int findUnsortedSubarray(vector<int>& nums){
            int len = nums.size()-1;
            vector<int> tmp;
            for(int i=0;i<nums.size();i++){
                tmp.push_back(nums[i]);
            }
            sort(tmp.begin(),tmp.end());
            int left = 0,right = len;
            while(left<len && tmp[left]==nums[left]){
                left++;
            }
            while(right>=left && tmp[right]==nums[right]){
                right--;
            }
            return (right-left+1);
        }
};
```

性能如下:

```
Runtime: 44 ms, faster than 51.61% of C++ online submissions for Shortest
Unsorted Continuous Subarray.
Memory Usage: 11.3 MB, less than 38.10% of C++ online submissions for Shortest
Unsorted Continuous Subarray.
```

三、优化措施

优化如下:

```
class Solution{
    public:
        int findUnsortedSubarray(vector<int>& nums){
            int m = nums[0], n = nums.back(), l = -1, r = -2;
            int len = nums.size();
            //从左到右遍历，如果nums[i]比前面的都大，则i+1的位置正确
            for (int i = 1; i < len; ++i)
            {
                m = max(m, nums[i]);
                n = min(n, nums[len - 1 - i]);
                if (m != nums[i]) r = i;
                if (n != nums[len - 1 - i]) l = len - 1 - i;
            }
```

```
            return r - l + 1;
        }
};
```

性能如下：

```
Runtime: 36 ms, faster than 77.82% of C++ online submissions for Shortest
Unsorted Continuous Subarray.
Memory Usage: 10.5 MB, less than 71.43% of C++ online submissions for Shortest
Unsorted Continuous Subarray.
```