152. Maximum Product Subarray

Description | Hints | Submissions | Discuss | Solution

Pick One

Given an integer array `nums`, find the contiguous subarray within an array (containing at least one number) which has the largest product.

Example 1:

```
Input: [2,3,-2,4]
Output: 6
Explanation: [2,3] has the largest product 6.
```

Example 2:

```
Input: [-2,0,-1]
Output: 0
Explanation: The result cannot be 2, because [-2,-1] is not a subarray.
```

Seen this question in a real interview before? Yes No

```java
public class L152 {

    /*
     * 在迭代数组时，每个元素都有两种可能性：正数或负数。我们需要跟踪一个最小值，这样当给出负数时，它也能找到最大值。我们定义了两个局部变量，一个跟踪最大值，另一
     */
    public int maxProduct(int [] nums) {
        int [] max = new int[nums.length];
        int [] min = new int[nums.length];

        max[0] = min[0] = nums[0];
        int result = nums[0];


        for (int i = 1; i < nums.length; i++) {
            if (nums[i] > 0) {
                max[i] = Math.max(nums[i], max[i-1] * nums[i]);
                min[i] = Math.min(nums[i], min[i-1] * nums[i]);
            }else {
                max[i] = Math.max(nums[i], min[i-1] * nums[i]);
                min[i] = Math.min(nums[i], max[i-1] * nums[i]);
            }
            result = Math.max(result, max[i]);
        }
        return result;
    }

}
```