Problem 152: Maximum Product Subarray

Problem Information

Difficulty: Medium
Acceptance Rate: 35.64%
Paid Only: No
Tags: Array, Dynamic Programming

Problem Description

Given an integer array `nums`, find a subarray that has the largest product, and return _the product_.

The test cases are generated so that the answer will fit in a **32-bit** integer.

Note that the product of an array with a single element is the value of that element.

Example 1:

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

Example 2:

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

Constraints:

* `1 <= nums.length <= 2 * 104` * `-10 <= nums[i] <= 10` * The product of any subarray of `nums` is **guaranteed** to fit in a **32-bit** integer.

Code Snippets

C++:

```
class Solution {
public:
int maxProduct(vector<int>& nums) {

}
};
```

Java:

```
class Solution {
public int maxProduct(int[] nums) {

}
}
```

Python3:

```
class Solution:
def maxProduct(self, nums: List[int]) -> int:
```