

Problem 3584: Maximum Product of First and Last Elements of a Subsequence

Problem Information

Difficulty: **Medium**

Acceptance Rate: 30.70%

Paid Only: No

Tags: Array, Two Pointers

Problem Description

You are given an integer array `nums` and an integer `m`.

Return the **maximum** product of the first and last elements of any **subsequence** of `nums` of size `m`.

Example 1:

Input: `nums = [-1,-9,2,3,-2,-3,1]`, `m = 1`

Output: 81

Explanation:

The subsequence `[-9]` has the largest product of the first and last elements: $-9 * -9 = 81$. Therefore, the answer is 81.

Example 2:

Input: `nums = [1,3,-5,5,6,-4]`, `m = 3`

Output: 20

Explanation:

The subsequence `[-5, 6, -4]` has the largest product of the first and last elements.

Example 3:

Input: `nums = [2,-1,2,-6,5,2,-5,7], m = 2`

Output: `35`

Explanation:

The subsequence `[5, 7]` has the largest product of the first and last elements.

Constraints:

`1 <= nums.length <= 105` `-105 <= nums[i] <= 105` `1 <= m <= nums.length`

Code Snippets

C++:

```
class Solution {
public:
    long long maximumProduct(vector<int>& nums, int m) {

    }
};
```

Java:

```
class Solution {
    public long maximumProduct(int[] nums, int m) {

    }
}
```

Python3:

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