

628. Maximum Product of Three Numbers

Solved ✓

Easy

Topics

Companies

Given an integer array `nums` find three numbers whose product is maximum and return the maximum product.

Example 1:

Input: `nums = [1,2,3]`

Output: 6

Example 2:

Input: `nums = [1,2,3,4]`

Output: 24

Example 3:

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

Output: -6

Constraints:

- $3 \leq \text{nums.length} \leq 10^4$
- $-1000 \leq \text{nums}[i] \leq 1000$

The screenshot shows a code editor interface with the following components:

- Top Bar:** Includes navigation icons, a 'Run' button, a 'Submit' button, and a 'Premium' badge.
- Left Pane (Submissions):**
 - Shows 'Accepted' status for a submission by 'Zhukovlya'.
 - Runtime: 133 ms, Beats 89.21%.
 - Memory: 50.74 MB, Beats 92.09%.
 - A histogram showing runtime distribution across various time intervals.
- Right Pane (Code and Test Results):**
 - Code:** C# code for the solution, sorted by 'Auto'. It defines a `MaximumProduct` method that sorts the array and calculates the maximum product of three numbers.
 - Test Result:** Shows 'Accepted' status with a runtime of 79 ms. It lists three test cases, all of which passed.

Код:

```
using System;

public class Solution
{
    public int MaximumProduct(int[] nums)
    {
        // Сортировка массива
```

```
    Array.Sort(nums);  
    int n = nums.Length;  
  
    // Максимальное произведение трех наибольших чисел  
    int max1 = nums[n - 1] * nums[n - 2] * nums[n - 3];  
  
    // Возможное максимальное произведение с учетом двух наименьших и одного  
    // наибольшего числа  
    int max2 = nums[0] * nums[1] * nums[n - 1];  
  
    // Возвращаем наибольшее из двух возможных максимальных произведений  
    return Math.Max(max1, max2);  
}  
}
```