编程作业: Maximum Pairwise Product

您还未提交解答。您必须获得 1/1 分才能通过。

截止时间　在以下日期前通过此作业 October 8, 11:59 PM PDT

> **说明**
>
> 我提交的作业
>
> 讨论

Introduction and Learning Outcomes

In this assignment and the next videos and readings, you will …

1. Implement a program for a given computational problem.

2. Find out that it is slow: on large datasets, it takes too long to run.

3. Implement a more efficient program that is able to process even large datasets in less than a second.

4. Use stress testing to locate and fix a bug in the program.

Problem Description

Problem

Given a sequence of non-negative integers $a_0, \ldots, a_{n-1}$, find the maximum pairwise product, that is, the largest integer that can be obtained by multiplying two different elements from the sequence (or, more formally, $\max\limits_{0 \le i \ne j \le n-1} a_i a_j$).

Different elements here mean a_i and a_j with $i \neq j$ (it can be the case that $a_i = a_j$).

Input format

The first line of the input contains an integer n. The next line contains n non-negative integers $a_0, \ldots, a_{n-1}$ (separated by spaces).

Constraints

$2 \leq n \leq 2 \cdot 10^5; 0 \leq a_0, \ldots, a_{n-1} \leq 10^5$.

Output format

Output a single number — the maximum pairwise product.

Sample 1

Input:

```
1   3
2   1 2 3
```

Output:

```
1   6
```

Explanation:

$6 = 2 \times 3$

Sample 2

Input:

```
1   10
2   7 5 14 2 8 8 10 1 2 3
```

Output:

```
1   140
```

Explanation:

$$140 = 14 \times 10$$

Sample 3

Input:

```
1   5
2   4 6 2 6 1
```

Output:

```
1   36
```

Starter files

```
max_pairwise_product.py
```

```
MaxPairwiseProduct.java
```

```
max_pairwise_product.cpp
```

What To Do

If you are using Python, Java, or C++, download one of the starter files above and save to your working directory.

In the next sequence of videos and readings, we will go through the process of solving this problem together.

How to submit

When you're ready to submit, you can upload files for each part of the assignment on the "My submission" tab.