

HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS STANDINGS CUSTOM INVOCATION

B. Karina and Array

time limit per test: 2 seconds memory limit per test: 256 megabytes input: standard input output: standard output

Karina has an array of n integers $a_1, a_2, a_3, \ldots, a_n$. She loves multiplying numbers, so she decided that the *beauty* of a pair of numbers is their product. And the *beauty* of an array is the maximum *beauty* of a pair of **adjacent** elements in the array.

For example, for n = 4, a = [3, 5, 7, 4], the *beauty* of the array is $\max(3 \cdot 5, 5 \cdot 7, 7 \cdot 4) = \max(15, 35, 28) = 35$.

Karina wants her array to be as *beautiful* as possible. In order to achieve her goal, she can remove some elements (possibly zero) from the array. After Karina removes all elements she wants to, the array must contain at least two elements.

Unfortunately, Karina doesn't have enough time to do all her tasks, so she asks you to calculate the maximum *beauty* of the array that she can get by removing any number of elements (possibly zero).

Input

The first line of the input contains an integer t ($1 \le t \le 10^4$) — the number of test cases.

The description of the test cases follows.

The first line of a test case contains an integer n ($2 \leq n \leq 2 \cdot 10^5$) — the length of the array n

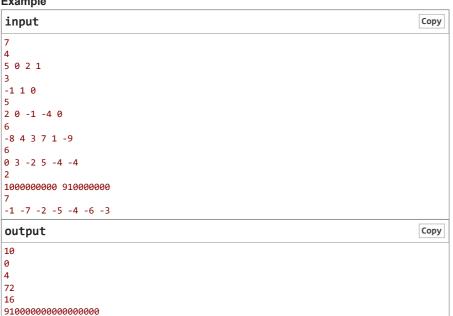
The second line of a test case contains n integers a_1,a_2,a_3,\ldots,a_n ($-10^9 \le a_i \le 10^9$) — the elements of the array a.

The sum of all values of n across all test cases does not exceed $2 \cdot 10^5$.

Output

Output *t* integers, each of which is the answer to the corresponding test case — the maximum *beauty* of the array that Karina can get.

Example



Codeforces Round 867 (Div. 3)

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest









Note

In the first test case of the example, to get the maximum beauty, you need to remove the 2-nd element.

In the second and third test cases of the example, there is no need to remove any elements to achieve maximum beauty.

In the fourth test case of the example, you need to leave only the first and last elements.

Codeforces (c) Copyright 2010-2023 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: May/30/2023 17:27:31^{UTC-3} (g1).
Desktop version, switch to mobile version.

Privacy Policy

Supported by



