

Problem A: Products

You will be given a set of n distinct numbers. Choose two distinct numbers such that their product is maximal. What is the maximum product?

Input

Input should be read from the standard input.

The first line of input contains the number of test cases (not more than 10). The test cases follow.

Each test case consists of two lines. The first line contains the number n , $1 \leq n \leq 1000$. The second line contains n distinct integers between $-10\,000$ and $10\,000$.

Output

For each test case output a single line to the standard output containing the maximum product you can get by multiplying two different numbers from the given set.

Sample input

```
2
3
2 3 4
4
-100 -50 1 3
```

Sample output

```
12
5000
```

Time limit: 1 second