The Weakest Link

From among n people, who happen to be standing in a line, we need to choose a team for The Weakest Link television game show. Each person has a *skill coefficient*, which is a positive integer. The selected team must be a group of consecutive people in the line. The strength of a team is the sum of skills of its members multiplied by the skill of the weakest member. What is the strongest team we can choose?

Input

The first line of input contains the number of test cases z ($1 \leqslant z \leqslant 10$). The descriptions of the test cases follow.

The first line of each test case contains the number n of people ($1 \leqslant n \leqslant 70\,000$). The second line contains n positive integers not exceeding 1 000 000, which are the skills of the people in the line.

Output

For each test case output in a separate line one integer: the maximum possible strength of a team.

Sample input

```
1
4
1 2 1 3
```

Sample output

```
9
```