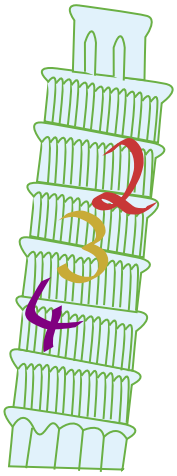
Problem ID: powertower



You just arrived in Pisa, Italy, to visit the famous Leaning Tower. As you and your friends set foot on the Piazza dei Miracoli, you see that the whole area surrounding the tower has been taped off, and the Carabinieri are not letting anybody anywhere close to the tower.

Disappointed that you will not be able to climb the tower, you ask one of the bystanding tourist guides about the reason for the blockade. He points to the side of the tower, where a sequence of numbers has been written in bright colours. He explains that this has been happening for weeks now, with new numbers always appearing shortly after authorities have removed the old ones.

Naturally, this phenomenon has sparked a wide range of theories about its cause, with explanations ranging from vandalism to divine intervention to (of course) aliens. The residents of Pisa are also speculating about the meaning of the numbers. The guide promptly presents you with his own theory: the sequences are simply mathematical expressions involving multiple successive exponentiations, so called power towers. Such a power tower is always evaluated from top to bottom, e.g. $4^{3^2} = 4^9 = 262\,144$.

To strengthen his case, the guide wants to find the numerical values of the power towers that have appeared so far, in hopes of uncovering some sort of pattern among these values. He tried using a calculator for this – however, he noticed that many of the values did not make any sense, and some were even negative!

You are quick to point out that he is having problems with integer overflow, because some of the values are outside of the range representable by his calculator. Internally, the calculator uses signed 32-bit integers, which can be used to represent any integer value in the range $[-2^{31}, 2^{31} - 1]$. Now the guide wants you to help him find all the cases in which overflow occurs.

Input

The input consists of:

- one line with one integer n ($2 \leq n \leq 100$), the length of the sequence written on the tower;
- one line with n integers $a_1, \ldots, a_n$ ($1 \leq a_i \leq 100$), the numbers on the tower as they appear from bottom to top.

Output

If the value of the power tower fits into the range of signed 32-bit integers, output that value. Otherwise, output "`too large`".

Sample Input 1

```
3
4 3 2
```

Sample Output 1

```
262144
```

Sample Input 2

```
3
2 100 100
```

Sample Output 2

```
too large
```

Sample Input 3

```
3
1 10 10
```

Sample Output 3

```
1
```

Sample Input 4

```
7
7 3 1 6 2 4 5
```

Sample Output 4

```
343
```