

Problem CYCLING2: Cycling 2

Andreas and Michael are very ambitious amateur cyclists. They keep telling me that in a group of cyclists, alternating who is leading may save energy or even let the group cycle faster. Out of curiosity I looked up the formula behind that effect.

The speed V_{group} of a group of X persons is determined as follows: $V_{group} = W^{\sqrt{X}} \cdot V_{slowest}$, where $V_{slowest}$ is the speed of the slowest cyclist in the group and W is a given wind factor.

Given the speed of each of N cyclists as well as the wind factor W , can you calculate for me the speed of the fastest possible subgroup that can be formed?

Input

The input starts with one line containing N and W ($1 < N < 100\,000$; $1.0 \leq W \leq 1.2$) where N is the total number of cyclists and W the wind factor as described above. The second line contains N integers specifying the speeds of every single cyclist each between 1 and 10 000, inclusive.

Output

Print the speed of the fastest possible group. Your output must have an absolute or relative error of up to 10^{-5} .

Sample Input 1

```
5 1.2
8888 10000 8334 8334 123
```

Sample Output 1

```
12001
```

Sample Input 2

```
3 1.023
42 42 42
```

Sample Output 2

```
43.6872
```

Sample Input 3

```
5 1
7 32 7 14 1
```

Sample Output 3

```
32
```