Time Limits

Your Chief Judge needs help! He needs to set the time limit for a problem in the problem set. He has *n* solutions written by his judges. He knows how long each runs in the contest environment, in milliseconds. He wants to set the time limit to be *at least s* times the slowest solution from his judges, but as small as possible, and he wants it to be an integral number of seconds. Can you help him?

Input

Each input will consist of a single test case. Note that your program may be run multiple times on different inputs.

Each test case will begin with a line containing two space-separated integers *n* ($1 \le n \le 100$) and *s* ($1 \le s \le 20$), where *n* is the number of solutions from judges, and *s* is the multiplying factor.

The next line will contain *n* space-separated integers *m* ($1 \le m \le 2{,}000$), which are the number of milliseconds it takes for some judge's solution to run in the contest environment.

Output

Output a single integer, which is the time limit to set for this problem. It should be in seconds, and the smallest time that is at least *s* times the slowest judge's solution.

Sample Input

Sample Input	Sample Output
2 5 200 250	2
3 4 47 1032 1107	5