C. MrBeast's Golden Feastables Giveaway

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

MrBeast is about to hit a historic milestone 500 million subscribers on YouTube! Although he hasn't reached it yet, he is already planning an insane giveaway: **gold-plated Feastables chocolate bars** for his fans.

He has same width n giant chocolate bars in his factory(different in length). He wants to cut these bars into **equal-sized** pieces to give away to k lucky fans.

- Each fan must get exactly one piece.
- All pieces must have the same length.
- The length of each piece should be **as large as possible.**

You need to determine the **maximum possible length** of each piece so that at least k pieces can be obtained.

Input

The first line contains two integers n and k ($1 \le n, k \le 10^6$) — number of chocolate bars and number of fans.

The second line contains n integers $a_1, a_2, ...a_n$ ($1 \le a_i \le 10^9$) — the length of the i_{th} chocolate bar.

Output

Output one real number, maximum length of pieces you can get. The answer will be considered correct if the relative or absolute error does not exceed 10^{-9}.

Example

standard input	standard output
4 11 802 743 457 539	200.500000000000000