Team Work

Time limit: 1 sec

In the algorithm design class, a group project is assigned to a group of students. Each group has **N** members, each is equally competence. The project consists of **M** subtasks. A subtask is so simple that it can be done by one student. Moreover, one student can work on one subtask at a time.

To streamline the work process, the students are encourage to submit the work as soon as possible and there will be a bonus when all subtasks are finished. The bonus depends on the average submission time of all subtasks. The smaller the average, the better the bonus are given to the group of the student.

We have to distribute these **M** subtasks to each student, assuming that we know how much time each subtask take. Remember that each student is equally competence, everyone uses the same time to solve a particular subtask and everyone will submit the subtask as soon as it is finished. For simplicity, assume that we spend no time in switching between subtask. For example, if we schedule one team member to work on 3 subtasks taking time 3, 5, 7 units in this order, that member will submit the work at time unit 3, 8, 15, respectively.

You have to calculate the minimum average time of subtask submission.

Input

- The first line of input contains two integers **N** ($1 \le N \le 100$) and **M** ($1 < M < 100,000$)
- The next line contains **M** positive integers that indicates the time it takes to complete each subtask. Each subtask won't take more than 1000 time unit.

Output

The output must contain exactly one line containing the minimum average submissions time of all subtasks. The output should have 3 fractional digit.

Example

Input	Output
1 4 3 9 4 2	8.500
3 10 4 3 2 4 1 2 5 3 4 5	6.100