# Discarding Bad Grades

Timelimit: 1 sec

## Problem description

You are about to graduate within the scheduled time and your examination regulations allow you to discard some of your grades in order to improve your grade average. What a great feeling! Since there have been so many complaints with the ASTA, you may now partially discard grades, so that you can always use all of the allowed credit points.

Find out which fractions of which grades you have to discard to achieve your optimal final average grade. Here we find ourselves in the grading system that is used at RWTH. This means that 1.0 is the best and 4.0 is the worst passing grade. Moreover, you are never allowed to discard *all grades*.

Using floating point arithmetic is very dangerous for this task. You can use integer arithmetic instead (by first multiplying the grades by 100 and turning them into integers).

## Input

The input consists of:

- One line with two integers $n$ ($1 \leq n \leq 10000$) and $c$ ($1 \leq c \leq 10000$) that describe the number of exams that you took in total, and the number of credits that you are allowed to cancel.
- One line with $n$ integer $c_1, \ldots, c_n$ ($1 \leq c_i \leq 10$) where $c_i$ is the number of credits for exam $i$.
- One last line with $n$ floating point numbers $g_1, \ldots, g_n$ ($1.0 \leq k_i \leq 4.0$ with a precision of 0.1) where $g_i$ is the achieved grade for exam $i$.

## Output

Output one floating point number, the optimal average grade that can be achieved after canceling. Provide the solution as a floating point number rounded down to two decimals (e.g. 1.25 if the average grade is 1.2593453234).

## Sample input/output

| Input | Output |
|---|---|
| `8 10`<br>`6 8 4 4 8 6 7 4`<br>`1.0 1.3 3.7 1.7 2.0 1.3 2.3 2.0` | `1.54` |

You are allowed to discard 10 credit points. The best possibility is to discard the third grade and 6 points of the seventh grade. This leaves

$$\left\lfloor \frac{6 \cdot 1.0 + 8 \cdot 1.3 + 4 \cdot 1.7 + 8 \cdot 2.0 + 6 \cdot 1.3 + 1 \cdot 2.3 + 4 \cdot 2.0}{6 + 8 + 4 + 8 + 6 + 1 + 4} \right\rfloor = 1.54.$$