

D2. Magic Powder - 2

time limit per test: 1 second
memory limit per test: 256 megabytes

The term of this problem is the same as the previous one, the only exception — increased restrictions.

Input

The first line contains two positive integers n and k ($1 \leq n \leq 100\,000$, $1 \leq k \leq 10^9$) — the number of ingredients and the number of grams of the magic powder.

The second line contains the sequence a_1, a_2, \dots, a_n ($1 \leq a_i \leq 10^9$), where the i -th number is equal to the number of grams of the i -th ingredient, needed to bake one cookie.

The third line contains the sequence b_1, b_2, \dots, b_n ($1 \leq b_i \leq 10^9$), where the i -th number is equal to the number of grams of the i -th ingredient, which Apollinaria has.

Output

Print the maximum number of cookies, which Apollinaria will be able to bake using the ingredients that she has and the magic powder.

Examples

| | |
|---------------------------------|------|
| input | Copy |
| 1 1000000000 1 1000000000 | |
| output | Copy |
| 2000000000 | |

| | |
|---|------|
| input | Copy |
| 10 1 1000000000 1000000000 1000000000 1000000000 1000000000 1000000000 1000000000 1000000000 1000000000 1000000000 1 1 1 1 1 1 1 1 1 1 | |
| output | Copy |
| 0 | |

| | |
|-------------------------|------|
| input | Copy |
| 3 1 2 1 4 11 3 16 | |
| output | Copy |
| 4 | |

| | |
|-------------------------------|------|
| input | Copy |
| 4 3 4 3 5 6 11 12 14 20 | |
| output | Copy |
| 3 | |

Codeforces Round 350 (Div. 2)

Finished

Practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

| Submission | Time | Verdict |
|---------------------------|-------------------|------------------------|
| 179825099 | Nov/07/2022 00:34 | Accepted |
| 179824785 | Nov/07/2022 00:27 | Accepted |
| 179824652 | Nov/07/2022 00:24 | Wrong answer on test 2 |
| 179478763 | Nov/06/2022 01:11 | Accepted |
| 179477229 | Nov/06/2022 00:40 | Accepted |

→ Problem tags

binary search implementation *1500

No tag edit access

→ Contest materials

Codeforces Round 350

Tutorial