Maximize the Cookies

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

One Sunday morning you decided to bake cookies. To bake a single cookie you need total n no of ingredients, and amount you have of i-th ingredient is denoted by b_i.

To bake a cookie you need minimum a_i amount of i-th ingredient and you need all the n ingredients.

You also have k units of magic ingredient,where each unit can be used as any one of the i-th$(1 \leq i \leq n)$ ingredients.

Print the maximum no of cookies you can bake using all the ingredients and magic ingredient.

Input

The first line contains two space separated integers $n(1 \leq n \leq 10^5)$,the number of ingredients and $k(1 \leq k \leq 10^9)$,the amount of magical ingredient .

The next line contains n space separated integers $a_1, a_2, ..., a_n(1 \leq a_i \leq 10^9)$,where a_i is the amount of i-th ingredient you need to bake a cookie.

The next line contains n space separated integers $b_1, b_2, ..., b_n(1 \leq b_i \leq 10^9)$,where b_i is the amount of i-th ingredient you have.

Output

Print the maximum no of cookies you can bake using all the ingredients.

Example

standard input	standard output
4 3 4 3 5 6 11 12 14 20	3