Mangoes

It's the time of the year when fresh mangoes are available. Bob has a very good day at his school today and decides to treat some of his friends with mangoes. There are N people in his friend circle, and he has M mangoes. Initial appetite level of the friends is represented by an array $a = \{a[1], a[2], ..., a[N]\}$, where $a[1]$ represents appetite level of first friend, $a[2]$ represents appetite level of second friend, and so on. Apart from this, each friend has a happiness factor which is represented by an array $h = \{h[1], h[2], ..., h[N]\}$. If i^{th} friend is invited to the party, and he finds that there are p other friends, then he will eat $a[i] + p*h[i]$ mangoes.

Thus, if k friends, indexed $b = \{b_1, b_2...b_k\}$, are invited to party, then total number of mangoes consumed will be $(a[b_1]+(k-1)*h[b_1]) + (a[b_2]+(k-1)*h[b_2]) + ... + (a[b_k]+(k-1)*h[b_k])$.

For example, if there are $N = 5$ friends whose initial appetite is represented by $a = \{2, 5, 3, 2, 4\}$ and happiness factor is represented by $h = \{30, 40, 10, 20, 30\}$. Suppose Bob invites $k = 3$ friends, indexed $\{2, 4, 5\}$, then total number of mangoes eaten will be

```
= (a[2]+(3-1)*h[2]) + (a[4]+(3-1)*h[4]) + (a[5]+(3-1)*h[5])
= (5+2*40) + (2+2*20) + (4+2*30)
= 85 + 42 + 64
= 191
```

Bob is wondering what is the maximum number of friends he can invite to his treat, so that, their hunger can be completely satisfied.

Note: It is not necessary that all mangoes have to be consumed.

Input

The first line contains two space separated integers, N M, where N is the number of friends, and M is the number of mangoes Bob has. Then in next line follows N space separated integers, $a[1], a[2],..., a[N]$, which represent the initial appetite of friends. In next line there are again N space separated integers, $h[1], h[2],..., h[N]$, representing the happiness factor for friends.

Output

Print the maximum number of friends which Bob can invite to his treat.

Constraints

$1 \leq N \leq 5 * 10^4$

$1 \leq M \leq 2.5 * 10^{15}$

$1 \leq a[i], h[i] \leq 10^6$, where $i \in [1, N]$

Sample Input #00

```
5 200
2 5 3 2 4
30 40 10 20 30
```

Sample Output #00

```
3
```

Sample Input #01

```
2 100
3 4
1 2
```

Sample Output #00

```
2
```

Explanation

Test Case #00: This case is explaned in the statement.

Test Case #01: We can call both people. They will consume $(3 + 1 * 1) + (4 + 1 * 2) = 4 + 6 = 10$ mangoes. Hence, only 10 mangoes are consumed.

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