

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  $a = \{a[1], a[2], \dots, a[N]\}$ , 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  $h = \{h[1], h[2], \dots, h[N]\}$ . If  $i^{th}$  friend is invited to the party, and he finds that there are  $p$  other friends, then he will eat  $a[i] + p \cdot h[i]$  mangoes.

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

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

$$\begin{aligned} &= (a[2] + (3-1) \cdot h[2]) + (a[4] + (3-1) \cdot h[4]) + (a[5] + (3-1) \cdot h[5]) \\ &= (5 + 2 \cdot 40) + (2 + 2 \cdot 20) + (4 + 2 \cdot 30) \\ &= 85 + 42 + 64 \\ &= 191 \end{aligned}$$

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,  $a[1], a[2], \dots, a[N]$ , which represent the initial appetite of friends. In next line there are again  $N$  space separated integers,  $h[1], h[2], \dots, h[N]$ , representing the happiness factor for friends.

## Output

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

## Constraints

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

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

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

## 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 explained 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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