

Sale!

Time Limit: 1 Second
Memory Limit: 256 MB

Aggrovector loves playing video games and he spends hundreds of hours playing video games every month! As a computer science student, Aggrovector wants to use his expertise to help him save money buying video games on Steam. In this year's Black Friday, Aggrovector found that many games on Steam are on sale, so he wants to use this chance to buy many video games he wants to play.

Specifically, Aggrovector has n video games in his cart, and the original price of the i -th game is p_i dollars. During the sale, Aggrovector will receive k coupons, and applying a coupon on the i -th game will lower the price of the game from p_i to p'_i dollars. Aggrovector decides to spend at most c dollars buying the video games, and he wants to find out the maximum number of games he can buy by applying the coupons optimally.

Input

The first line of input contains three integers n , k and c ($1 \leq n, k \leq 10^5$, $1 \leq c \leq 10^9$) - number of games in the cart, number of coupons, and the budget.

The second line contains n integers p_1, \dots, p_n ($1 \leq p_i \leq 10^9$) - the original price of each game.

The third line contains n integers p'_1, \dots, p'_n ($1 \leq p'_i \leq p_i$) - the discounted price of each game if a coupon is applied to the game.

Output

Output a single integer denoting the number of games Aggrovector can buy given his budget.

Sample Inputs

```
5 2 5
1 2 3 4 5
1 1 1 1 1
```

Sample Outputs

```
4
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