

Maximize Profit



Crypto Bank provides n crypto currencies, each of which has a fixed conversion rate with respect to dollar. The conversion rate w.r.t dollar is not subject to change over time. But as you may have imagined, the conversion rate between each pair of crypto currencies may change over time, due to internal issues or relationship between the states.

Ron has m bitcoins with him. The conversion rate of a bitcoin w.r.t dollar is k . You are given the conversion rates of every other crypto currency with respect to bitcoin. You are also given the conversion rate of these crypto currencies w.r.t dollar. You have to find the currency, that Ron can buy with m bitcoins, such that the total value in dollars is maximized.

Note that, Ron cannot buy crypto currency in fractions and Ron can own only one type of crypto currency at the end of the transaction.

Input Format

In the first line, you are given three integers - n , m and k , where n is the number of currencies excluding bitcoin, m is the amount of bitcoins Ron has and k is the conversion rate of bitcoin w.r.t dollar.

In the next line, you will be given n integers(a_i), the i^{th} of which denotes the conversion rate of the i^{th} crypto currency w.r.t dollar.

In the third line, you will be given n integers (b_i), the i^{th} of which denotes the number of units Ron can buy with one bitcoin, *i.e.* Ron can buy b_i units of i^{th} crypto currency with 1 bitcoin.

Constraints

- $1 < n, m, k < 101$
- $1 < a_i < 1001$
- $1 < b_i < 1001$

Output Format

In a single line, you have to output the maximum value in dollars that you can have. It is guaranteed that the answer will fit into a 32-bit integer.

Sample Input 0

```
5 10 3
2 3 4 1 5
1 3 2 4 5
```

Sample Output 0

```
250
```

Explanation 0

If you keep the bitcoins you have, then the value in dollars is 30. If you decide to buy the 1st currency, then you can have $10 * 1 = 10$ units of that currency, and the value in dollars is $10 * 2 = 20$. Similarly, the values in dollars of the 2nd, 3rd and 4th currency that you can buy are 90, 80, and 40 respectively. If you decide to buy the 5th currency, then you can have a total value in dollars of 250. This is greater than any other value and therefore the output is 250.

Sample Input 1

```
10 1 1000
1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 3 2 1 1
```

Sample Output 1

```
1000
```

Explanation 1

The total value in dollars of the bitcoin is $1 * 1000 = 1000$. This is greater than the value in dollars of any other currency which are 10, 18, 24, 28, 30, 30, 21, 16, 9 and 10 respectively. Therefore, the output is 1000.