

Cheerio Contest 2 P2 - Cereal Boxes

Time limit: 1.0s **Memory limit:** 256M

Farmer Bob is buying cereal boxes at his local grocery store, which are priced in the following way:

- The first M cereal boxes cost C dollars each
- For every M boxes purchased, the price of any subsequent boxes is increased by I dollars

Bob only has Q dollars to spend. What is the maximum number of cereal boxes he can buy?

Constraints

For all subtasks:

- $1 \leq M, C, I \leq 10^9$
- $1 \leq Q \leq 10^{12}$

Input Specification

The only line of input contains four integers M, C, I and Q .

Output Specification

Output the maximum number of cereal boxes Bob can buy.

Sample Input 1

```
2 1 3 35
```

Sample Output 1

```
7
```

Explanation for Sample 1

The prices of the cereal boxes Bob can buy are 1, 1, 4, 4, 7, 7 and 10 dollars respectively.

Sample Input 2

1 15 1 10

Sample Output 2

0